

The effects of green human resource management, green organizational culture and green service innovation on environmental performance

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Abstract

The issue of environmental challenges is creating the need for business to adopt green human resource management (GHRM) practices and activities with environment management. GHRM has the capacity to enhance green culture and green service innovations in the organization lead to achieving environmental performance and business sustainable. The aim of this study is to test the relationship of green human resource management, green organizational culture, green service innovation and environmental performance. Data were collected from 375 hotels in Thailand for testing. The path modelling is performed using structural equation modeling (SEM). The results reveal that green human resource management has a significant and positive effect on green organizational culture. Green human resource management and green service innovation can have a significant and positive effect on environmental performance. Green organizational culture has a significant and positive effect on green service innovation. Furthermore, this study verifies green service innovation mediates the positive relationship between green organizational culture and environmental performance. Through findings this study green human resource management practices that contribute to green organizational culture and that predict to achieve green service innovation in the organization.

Index Terms— Green human resource management, Green organizational culture, Green service innovation, Environmental performance

I. INTRODUCTION

The topic of green human resource management (GHRM) has attracted considerable attention during this last decade [1]. Sustainability environmental, social, and economic performance is today considered a key responsibility that firm have toward society, particularly in activities directed at protecting the environment [2,3]. The adoption of GHRM practices has an impact to improved firm performance [4]. GHRM practice activities such as green recruitment and selection, green training and development, green performance management, green pay and reward [5,6,7,8]. Firms are more willing to adopt green human resource management as a critical strategy for implementing green practices that enhance environmental performance and achieve sustainable development [9,10,11]. [12] found that GHRM practices support the green organizational culture, and that green organizational culture is positively mediate the relationship between GHRM practices and environmental performance.

In recent years [13] found that green organizational culture positively effects on green innovation and competitive advantage. Green innovation is defined as innovations in product innovation or process innovation, that impact on environmental management [14].

Environmental problems and natural resources imbalances are changing organizations environmental management. The current companies should concern operations to include environmental management activities those innovative and sustainable to create innovations and environmental performance [15]. The HR function can help the diver of environmental sustainable development, green innovative practices can raise resource productivity efficiently and decrease pollution effectively. Green innovation has been an important green strategy of firms in the environmental era [16,17].

The goal of research is to fill these knowledge gaps the effect of various green human resource management, green organizational culture and green service innovation on environmental performance. The purpose of the study is developing a research model showing how GHRM and green organizational culture affects the environmental performance through green service innovation. The objectives of this research are threefold: First, GHRM positively influences green organizational culture, second GHRM and green organizational culture leads to green service innovation, which enhances the hotel environmental performance and finally GHRM and green organizational

culture positively influences hotel environmental performance

The next sections of this article outline the literature review, research methods, results, discussion and conclusions and finally recommendations.

II. LITERATURE REVIEW

A. Green human resource management (GHRM)

GHRM refers to Strategic HRM practices in creating and involves implementing environmental business strategies to promote environmental sustainability in the organization [8,18,19]. GHRM using perspectives from balance between Human Resource Management policies, systems, practices and activities with environmental management [20]. GHRM practice activities such as green recruitment and selection, green training and development, green performance management, green pay and reward to the overall organizational green management mission and objectives. [5,6,7,8,21].

Green HRM and green organizational culture

Human resource management should create green organizational culture because it critical resource of the values, beliefs, and behaviors of employees through the processes of hiring, training, appraisal, and incentive systems [22]. GHRM involves the systemic, planned alignment of typical Human Resource Management Practices effectively to successfully achieve with the organizations environmental goals through favorable employee attitudes and behaviors. GHRM practices can help in promoting environment management and tool for implementation of the environmental management in the organization [19,20]. Green culture provides the sharing of green values all employees to involved through leading the organizational green management and sustainability. The environmental awareness issue has implications for the HR function to integrated environmental management and practices into HRM activities [23]. Furthermore, [12] found that GHRM practices support the green organizational culture, and that green organizational culture is positively mediate the relationship between GHRM practices and environmental performance. A green organizational culture can therefore be defined as the value, beliefs, and behaviors of organizational employees concerning the natural environment [12].

Hypothesis 1. GHRM has a positive effect on green organizational culture.

Green HRM and green service innovation

Green innovation is defined as innovations in products or processes, that reduce the environmental impacts of all firm business activities that save energy, prevent pollution, waste recycling to impact on environmental management. Furthermore, green innovation increase firms enhance competitive advantage. [14]. Environmental challenges led to the initiation changing contemporary organizations management. The current society mostly concern with the consumption and efficient management of natural resources have the capacity to create innovations and beneficial outcomes for the environment and society [15]. The HR function can become the diver of environmental sustainable development, green innovative practices can raise resource productivity efficiently and decrease pollution effectively.

Green innovation has become one of the most important green strategies in firms under the environmental era [16,17]. As firms adopt to encourage product, process, design, and technology innovation to create strategies for society that will enable operational activities on the natural environment to human future. GHRM provide an opportunity for assess efforts, initiatives and improvements concerning the natural environment for sustainable growth of business [17]. Some researchers [24,25]. suggest that HRM performance relationship the green innovation and firm environmental performance.

Hypothesis 2. GHRM has a positive effect on green service innovation.

Green HRM and environmental performance

Green human resource management practices offer an essential practical way for organizations to develop human capital that can enhance the environmental objectives through the recruitment, training, appraisal, and incentive system of an environmentally conscious workforce performance and sustainable development of the firm [8,26]. Several past studies suggest that green human resource management has a significant positive impact on environment performance [8,27,28].

Hypothesis 3. GHRM has a positive effect on environmental performance.

B. Green organizational culture

Green human resources management practices require a culture based on the corporate ecological thinking, these investments in environmental practices are expected to affect environmental impact of organizations and enhance their performance [29,30]. The culture of an organization is perceived, value, beliefs, behavior and attitude of organizational employee harmful operational activities on the natural environment problems [12,31,32,33].

Green organizational culture and green service innovation

Green organizational culture can enhance the potential implications of green innovation because the value of green innovation activities. Green organizational culture helps organizational employees perceived green practices and achieving of green innovation performance [34]. Several authors have attempted to revealed that a positive relationship with green organizational culture and green innovation [13,35,36].

Hypothesis 4. Green organizational culture has a positive effect on green service innovation.

Green organizational culture and environmental performance

Green human resource management enhances to improve environmental performance become a cultural value activity commitment regarding green practices and supported by all organizational employees in the quest to achieve environmental performance goals [19,37,38,39]. Furthermore, there are positive green organization culture influences on the environmental performance [33,38].

Hypothesis 5. Green organizational culture has a positive effect on environmental performance.

C. Green service innovation

Innovation is seen as an important tool for businesses to increase their market shares and enabling competitive

advantage, economic development in the long run. A successful innovation of new product or process development that improve the market position to attracts the customers and enable competitive advantage [39,40,41]. The development of green innovation activities has become necessary for companies to adopt to change managerial mindsets and strategies in business model transform environmental management to lead low impact of ecological [42,43]. Green service innovation is certainly a hot issue in terms of environmental management. Previous study found that innovation positively influences firm performance [44].

Green service innovation and environmental performance

Service innovation capability impacts the environmental performance of firms to have higher with the more innovative ideas and make meaningful contribution to achieve their business goals [14,19,25]. Furthermore, [24,25,35] suggests that Green innovation positively influences environmental performance. [16] found that green service innovation positively influences firm performance.

Hypothesis 6. Green service innovation has a positive effect on environmental performance.

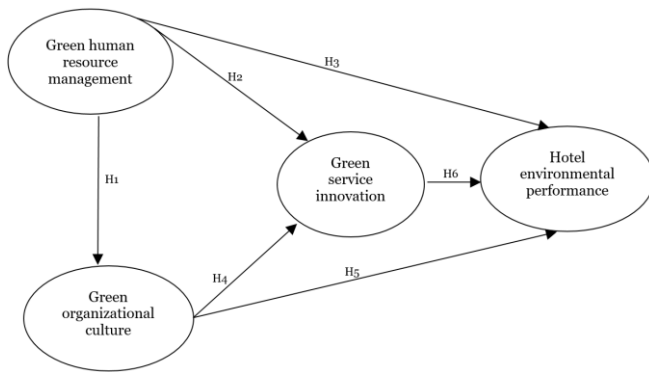


Figure 1. Research framework

III. RESEARCH METHODS

A. Sample and data collection

The data for this study are collected through and online survey which is initially sent 912 hotels (such as HR Managers, General Manager and chooses 3 - 5 stars' hotel in Thailand). The unit of analysis in this study is business level. Finally, 393 responses are received, out of which, 18 hotels were incomplete answers; which represents an effective response rate of 41.12% (375 responses). The sample questions were presented using a five Likert scale and scores ranging from 1 (Strongly disagree) to 5 (strongly agree).

B. Measurement

Green human resource management (GHRM). The author adopted fourteen items GHRM scale from [1,2,19,23,27,47]. The sample items were “Attracting and hiring candidates with knowledge, skills, attitudes, and behaviors that conforms to environmental management;” “Including environmental criteria in the recruitment process;” “Our company has integrated training to create the emotional involvement of employees in environment management;” “We use green performance indicators in our performance management system and appraisals;” and “Our

company relates employees’ workplace green behaviors to reward and compensation;”

Green organizational culture (GOC). The author adopted six items GOC scale from [1,19,47]. The sample items were “Our company offered practices for employees to participate in green suggestion schemes;” “Our company has environment-oriented policies in management and specific environmental tasks;” and “Our company has a clear developmental vision, mission, and value to guide the employees’ actions in the environmental management.”

Green service innovation (GSI). The author adopted nine items GSI scale from [46,48]. The sample items were “Our company has frequently offered new practices in selling products/services for the environment;” “Our company has frequently offered new practices in developing new product/service for the environment;” and “Our company has frequently innovated extends products/services based on its concern for the environment.”

Hotel environment performance (HEP). The author adopted eight items HEP scale from [24,27,28,39]. The sample items were “Our company reduced overall costs;” “Our company reduced waste within the entire value chain process;” “Our company reduced environmental impact by establishing partnerships;” and “Improved its position in the marketplace.”

Table 1. Convergent validity results.

Constructs	Variable	Factor loading	Cronbach's α	CR	AVE
Green human resource management	GHRM1	0.783	0.923	0.770	0.565
	GHRM2	0.793			
	GHRM3	0.828			
	GHRM4	0.844			
Green organizational culture	GOC1	0.852	0.900	0.863	0.560
	GOC2	0.889			
	GOC3	0.779			
	GOC4	0.746			
	GOC5	0.630			
	GOC6	0.704			
Green service innovation	GSI1	0.802	0.912	0.835	0.717
	GSI2	0.693			
Hotel environmental performance	HEP1	0.771	0.874	0.738	0.587
	HEP2	0.706			
	HEP3	0.691			

Table 2. Structural model goodness of fit indices.

Fit index	Value	Critical (acceptable) value	Acceptability
Chi ² /df	5.56	Chi ² /df <6	Yes
RMSEA (root means square error of approximation)	0.042	0.03-0.08	Yes
NFI (normal fit index)	0.953	> 0.9	Yes
CFI (comparative fit index)	0.960	> 0.9	Yes
GFI (goodness of fit index)	0.949	> 0.9	Yes
SRMR (standardized root mean square residual)	0.046	< 0.05	Yes

IV. RESULTS

Confirmatory factor analysis and structural equation modeling were employed to verify the hypotheses of the research framework.

A. Results of the measurement model

Table 1 shows a summary of the reliability analysis results. The Cronbach alpha was used to test the reliability of the model in this study and it ranges from 0.874 to 0.923. The Cronbach alpha values were higher than 0.7 for all constructs, indicating adequate reliability and consistency in the data. All factor loadings are greater than 0.6, and was higher than the standard value suggested by [49]. The values of CR were 0.770, 0.863, 0.835 and 0.738, all were higher than 0.7, respectively. [50] suggests that AVE value larger than 0.5 to indicate that the latent variable has convergent

validity. The AVEs and construct reliability values, showing that AVEs of the four constructs were 0.565, 0.560, 0.717 and 0.587, respectively. AVE for each scale is more than 0.5, confirming that all measures had convergent validity. The convergent validity of all constructs was assessed through suggests the acceptability. The scores indicated adequate reliability and validity. The goodness of fit indices of the structural model are shown in Table 2. All values are acceptable value, and this model passed the test.

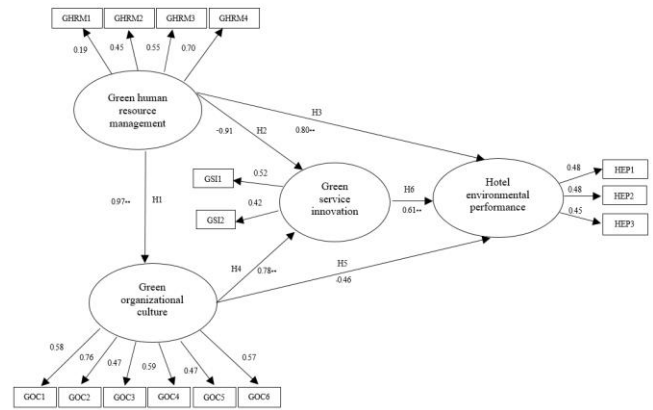
B. Structural model results

Table 3 lists the effects of factors based on the structural equation modeling example. Table 4 lists the results of structural model, and Figure 2 illustrates the results of the complete model in this study. The overall fit measures of the full model in structural equation modeling, as displayed in Figure 2, the fit of the model is acceptable (GFI =0.949, RMSEA = 0.042, NFI = 0.953, and CFI = 0.960). According to the results presented in Table 4 and Figure 2, two Part coefficient estimates (H2 and H5) is not statistically significant. Consequently, H1, H3, H4 and H6 were supported, as presented in Table 4. Thus, the green service innovation completely mediates the relationship between the green organizational culture and hotel environmental performance. According to these findings, companies should increase their green service innovation to enhance their environmental performance.

Table 3. Effects of factors based on the structural equation modeling example

Path	Effect	Coefficients	t-value
H1: GHRM → GOC			
Direct effect	0.97		21.48**
Indirect effect	--		--
Total effect	0.97		21.48**
H2: GHRM → GSI			
Direct effect	-0.91		-39.96
Indirect effect	1.59		20.87**
Total effect	0.68		5.20**
H3: GHRM → HEP			
Direct effect	0.80		15.51**
Indirect effect	-0.02		-0.31
Total effect	0.77		7.77**
H4: GOC → GSI			
Direct effect	0.78		55.05**
Indirect effect	--		--
Total effect	0.78		55.05**
H5: GOC → HEP			
Direct effect	-0.46		-8.92
Indirect effect	1.69		11.56**
Total effect	1.23		7.93**
H6: GSI → HEP			
Direct effect	0.60		11.81**
Indirect effect	--		--
Total effect	0.60		11.81**

Note: * $p < .01$.



GFI=0.94, RMSE=0.042, NFI=0.953, CFI=0.960

Note: * $p < 0.05$.; ** $p < .01$.

Figure 2. The results of the full model

Table 4. The results of the structural model.

Hypothesis	Proposed effect	Path coefficient	Results
H1	+	0.970**	H1 is supported
H2	-	-0.912	H2 is not supported
H3	+	0.802**	H3 is supported
H4	+	0.784**	H4 is supported
H5	-	-0.460	H5 is not supported
H6	+	0.609**	H6 is supported

Note: ** $p < .01$.

V. DISCUSSIONS AND CONCLUSIONS

This study investigated interplay of green human resource management, green organizational culture and green service innovation on environmental performance. The research results supported the hypotheses model by the generated findings of the study and previous studies of GHRM to impact green organizational culture [12] GHRM affects environmental performance [12,24,39] green organizational culture affects green service innovation [13] and green service innovation affects environmental performance [24,25]. Furthermore, this study verifies green service innovation mediates the positive relationship between green organizational culture and environmental performance. Through findings this study green human resource management practices that contribute to green organizational culture and that predict to achieve green service innovation in the organization.

VI. RECOMMENDATIONS

A. Practices Theoretical implications

The results of this study have three main implications to advance theory, First, the study contributes to HRM theory, the empirically tested GHRM influences the green organizational culture. The findings found that GHRM positively influences the green organizational culture, the findings suggest that the firm can enhance green organizational culture related to the GHRM adopting. Human Resource Management (HRM) practices and organizational culture is key to successful organizational development. [51]. The purpose of green human resource management practice measures is to train employees to develop the level of abilities, skills and green knowledge and motivate them to use those skills and abilities with organizational goals. These training and incentives control by top managers of the organization will finally become part of the culture of the organization [52].

Second, the study found that green organizational culture positively affects green service innovation and promote environmental performance. Results of this study contributions to organizational culture theory. Previous studies indicate that green organizational culture has a positive effect on green innovation and competitive advantage [13]. The organizational culture theory can explain that green service innovation and environmental performance. Results of this study that green service innovation mediated the link between green organizational culture and environmental performance. [12] found that green organizational culture positively mediates the relationship between GHRM practices and environment performance. Green organizational culture is the main determinant for green organization and competitive advantage. In addition, green innovation acted as a full mediator of the effects of green organizational culture on competitive advantage. Especially, green organizational culture predicted green innovation, which in turn predicted competitive advantage [13].

Third, this study significantly theory and suggests that green human resource management practices that contribute to green organizational culture and that predict to achieve green service innovation in the organization.

B. Research Practical implications

First, the finding suggests that investing in GHRM is an important to enhance green organizational culture. The firms should provide GHRM practices, such as recruitment and selection, training and development, performance appraisal and reward system, which can enhance the green organizational culture. Therefore, firms should adopt GHRM to promoting environment management. GHRM should create green organizational culture to involves employee attitudes and behaviors leading the organizational green management.

Second, the finding indicate that green organizational culture positively and significantly affect environmental performance through green service innovation. Green organizational culture enhances to increase the capability of green service innovation activity, which important to achieve environmental performance goals. Green organizational culture should develop environmental practice to enhance implications of green service innovation. Therefore, the study offers numerous practical implications for firm and policy makes on how to attain environmental performance through green human resource management, green organizational culture and green service innovation.

C. Research limitations and further research directions

Future research can study other context industries. Second, the present research found that green human resource management can positively affect green organizational culture and contributes to achieve green service innovation in the organization. In the future researches, it is recommended green organizational culture to mediator between green human resource management and green service innovation.

REFERENCES

- [1] Paillé, P., Valéau, P., & Renwick, D. W. (2020). Leveraging green human resource practices to achieve environmental sustainability. *Journal of Cleaner Production*, 260, 1-12.
- [2] Longoni, A., Luzzini, D., & Guerzi, M. (2018). Deploying environmental management across functions: the relationship between green human resource management and green supply chain management. *Journal of Business Ethics*, 151(4), 1081-1095.
- [3] Yong, J. Y., Yusliza, M. Y., Ramayah, T., & Fawehinmi, O. (2019). Nexus between green intellectual capital and green human resource management. *Journal of cleaner production*, 215, 364-374.
- [4] Guerzi, M. and Carollo, L. (2016). A paradox view on green human resource management: insights from the Italian context, *International Journal of Human Resource Management*, 27(2), 212-238.
- [5] Tang, G., Chen, Y., Jiang, Y., Paille, P., & Jia, J. (2018). Green human resource management practices: scale development and validity. *Asia Pacific Journal of Human Resources*, 56(1), 31-55.
- [6] Pellegrini, C., Rizzi, F., & Frey, M. (2018). The role of sustainable human resource practices in influencing employee behavior for corporate sustainability. *Business Strategy and the Environment*, 27(8), 1221-1232.
- [7] Galpin, T., Whittington, J. L., & Bell, G. (2015). Is your sustainability strategy sustainable? Creating a culture of sustainability. *Corporate Governance*. 15, 1, 1-17.
- [8] Renwick, D. W., Redman, T., & Maguire, S. (2013). Green human resource management: A review and research agenda. *International Journal of Management Reviews*, 15(1), 1-14.
- [9] Ren, S., Tang, G., & Jackson, S. E. (2018). Green human resource management research in emergence: A review and future directions. *Asia Pacific Journal of Management*, 35(3), 769-803.
- [10] Guerzi, M., Longoni, A., & Luzzini, D. (2016). Translating stakeholder pressures into environmental performance—the mediating role of green HRM practices. *The International Journal of Human Resource Management*, 27(2), 262-289.
- [11] Chen, Y. S. (2008). The driver of green innovation and green image—green core competence. *Journal of business ethics*, 81(3), 531-543.
- [12] Roscoe, S., Subramanian, N., Jabbour, C. J., & Chong, T. (2019). Green human resource management and the enablers of green organisational culture: Enhancing a firm's environmental performance for sustainable development. *Business Strategy and the Environment*, 28(5), 737-749.
- [13] Gürlek, M., & Tuna, M. (2018). Reinforcing competitive advantage through green organizational culture and green innovation. *The service industries journal*, 38(7-8), 467-491.
- [14] Chen, Y. S., Lai, S. B., & Wen, C. T. (2006). The influence of green innovation performance on corporate advantage in Taiwan. *Journal of business ethics*, 67(4), 331-339.
- [15] Severo, E. A., Perin, M. M. S., De Guimarães, J. C. F., & Taufer, E. (2020). The relationship between sustainable innovation and product or service innovation: a survey in companies in Rio Grande do

- Sul. Product and sustainable. doi:10.1108/REGE-05-2019-0058
- [16] Chen, Y. S., & Chang, C. H. (2013). Utilize structural equation modeling (SEM) to explore the influence of corporate environmental ethics: the mediation effect of green human capital. *Quality & Quantity*, 47(1), 79-95.
- [17] Mishra, R. K., Sarkar, S., & Kiranmai, J. (2014). Green HRM: innovative approach in Indian public enterprises. *World Review of Science, Technology and Sustainable Development*, 11(1), 26-42.
- [18] Cohen, E., Taylor, S., & Muller-Camen, M. (2012). HRM's role in corporate social and environmental sustainability [SHRM Foundation's Effective Practice Guidelines Series].
- [19] Chaudhary, R. (2019). Green human resource management in Indian automobile industry. *Journal of Global Responsibility*, 10(2), 161-175.
- [20] Haddock-Millar, J., Sanyal, C., & Müller-Camen, M. (2016). Green human resource management: a comparative qualitative case study of a United States multinational corporation. *The International Journal of Human Resource Management*, 27(2), 192-211.
- [21] Jackson, S. E., Renwick, D. W., Jabbour, C. J., & Muller-Camen, M. (2011). State-of-the-art and future directions for green human resource management: Introduction to the special issue. *German Journal of Human Resource Management*, 25(2), 99-116.
- [22] Amini, M., Bienstock, C. C., & Narcum, J. A. (2018). Status of corporate sustainability: A content analysis of Fortune 500 companies. *Business Strategy and the Environment*, 27(8), 1450-1461.
- [23] Mashala, Y. M. (2018). Green Human Resource Management and Environmental Sustainability in Tanzania: A Review and Research Agenda. *International Journal of Academic Multidisciplinary Research*, 2(12), 60-68.
- [24] Singh, S. K., Del Giudice, M., Chierici, R., & Graziano, D. (2020). Green innovation and environmental performance: The role of green transformational leadership and green human resource management. *Technological Forecasting and Social Change*, 150, 119762.
- [25] Rehman, S. U., Kraus, S., Shah, S. A., Khanin, D., & Mahto, R. V. (2021). Analyzing the relationship between green innovation and environmental performance in large manufacturing firms. *Technological Forecasting and Social Change*, 163, 120481.
- [26] Álvarez Jaramillo, J., Zartha Sossa, J. W., & Orozco Mendoza, G. L. (2019). Barriers to sustainability for small and medium enterprises in the framework of sustainable development—Literature review. *Business Strategy and the Environment*, 28(4), 512-524.
- [27] Obeidat, S. M., Al Bakri, A. A., & Elbanna, S. (2020). Leveraging “green” human resource practices to enable environmental and organizational performance: Evidence from the Qatari oil and gas industry. *Journal of Business Ethics*, 164(2), 371-388.
- [28] Paillé, Pascal, Yang Chen, Olivier Boiral, and Jiafei Jin. (2014). "The impact of human resource management on environmental performance: An employee-level study." *Journal of Business Ethics* 121, no. 3: 451-466.
- [29] Zaid, A. A., Bon, A. T., & Jaaron, A. A. (2018). Green human resource management bundle practices and manufacturing organizations for performance optimization: a conceptual model. *International Journal of Engineering & Technology*, 7(3.20), 87-91
- [30] Fernández, E., Junquera, B., & Ordiz, M. (2003). Organizational culture and human resources in the environmental issue: a review of the literature. *International Journal of Human Resource Management*, 14(4), 634-656.
- [31] Schein, E. H. (2010). *Organizational culture and leadership* (Vol. 2). John Wiley & Sons.
- [32] Firoz, N. M., & Abinakad, M. (2016). Food Safety and Ethics in Foreign Markets. *Conflict Resolution & Negotiation Journal*, 2016 (4).
- [33] Hadjri, M. I., Perizade, B., & Farla, W. (2019, October). Green human resource management, green organizational culture, and environmental performance: An empirical study. In *2019 International Conference on Organizational Innovation (ICOI 2019)* (pp. 138-143). Atlantis Press.
- [34] Chang, C. H. (2015). Proactive and reactive corporate social responsibility: antecedent and consequence. *Management Decision*, 53(2), 451-468.
- [35] García-Machado, J. J., & Martínez-Ávila, M. (2019). Environmental Performance and Green Culture: The Mediating Effect of Green Innovation. An Application to the Automotive Industry. *Sustainability*, 11(18), 4874.
- [36] Pinar, R. İ. (2016). The Mediating Role of Green Organizational Culture between Sustainability and Green Innovation: A Research in Turkish Companies. doi: 10.20944/preprints201611.0122.v1
- [37] Dangelico, R. M. (2015). Improving firm environmental performance and reputation: The role of employee green teams. *Business Strategy and the Environment*, 24(8), 735-749.
- [38] Afum, E., Agyabeng-Mensah, Y., & Owusu, J. A. (2020). Translating Environmental Management Practices into Improved Environmental Performance via Green Organizational Culture: Insight from Ghanaian Manufacturing SMEs. *Journal of Supply Chain Management Systems*, 9(1), 31-49.
- [39] Kim, Y. J., Kim, W. G., Choi, H. M., & Phetvaroon, K. (2019). The effect of green human resource management on hotel employees' eco-friendly behavior and environmental performance. *International Journal of Hospitality Management*, 76, 83-93.
- [40] Calantone, R., Garcia, R., & Dröge, C. (2003). The effects of environmental turbulence on new product development strategy planning. *Journal of product innovation management*, 20(2), 90-103.
- [41] Lin, R. J., Tan, K. H., & Geng, Y. (2013). Market demand, green product innovation, and firm performance: evidence from Vietnam motorcycle industry. *Journal of Cleaner Production*, 40, 101-107.
- [42] Chiou, T. Y., Chan, H. K., Lettice, F., & Chung, S. H. (2011). The influence of greening the suppliers and green innovation on environmental performance and competitive advantage in Taiwan. *Transportation Research Part E: Logistics and Transportation Review*, 47(6), 822-836.
- [43] Borghesi, S., Cainelli, G., & Mazzanti, M. (2015). Linking emission trading to environmental innovation:

- evidence from the Italian manufacturing industry. *Research Policy*, 44(3), 669-683.
- [44] Chang, C. H., & Chen, Y. S. (2012). The determinants of green intellectual capital. *Management decision*, 50(1), 74-94.
- [45] Love, J. H., Roper, S., & Hewitt-Dundas, N. (2010). Service innovation, embeddedness and business performance: Evidence from Northern Ireland. *Regional studies*, 44(8), 983-1004.
- [46] Chen, Y. S., Lin, Y. H., Lin, C. Y., & Chang, C. W. (2015). Enhancing green absorptive capacity, green dynamic capacities and green service innovation to improve firm performance: An analysis of structural equation modeling (SEM). *Sustainability*, 7(11), 15674-15692.
- [47] Pham, N. T., (2019). Green human resource management and corporate environmental performance in the hotel industry. Doctoral thesis summary, Tomas Bata University in Zlín, Czechia.
- [48] Lin, Y., & Chen, H. (2018). Critical factors for enhancing green service innovation. *Journal of Hospitality and Tourism Technology*, 9(2), 188-203.
- [49] Hair, J.F., Anderson, R.E., Tatham, R.L., Black, W.C. (1998). *Multivariate Data Analysis*. Prentice-Hall Inc., Upper Saddle River.
- [50] Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18, 39-50.
- [51] Chinmulgund, A. (2021). Study of hrm practices and organizational culture. *International journal of modern agriculture*, 10(2), 707-714.
- [52] Sepahvand, R., Sepahvand, M., Arefnezhad, M., & Nazarpouri, A. H. (2020). The effect of green HRM practices on green innovation with the mediating role of green organizational culture. *Organizational Culture Management*. doi10.22059/JOMC.2020.292975.1007939