



Green Human Resource Management, Top Management Commitment, Green Culture, and Green Performance of Malaysian Palm Oil Companies

Mohammad Imtiaz Hossain^{1*}, Teh Boon Heng¹, Chong Lee Lee¹, Tze San Ong^{2,3},
Md. Tariqul Islam²

¹Faculty of Management, Multimedia University, Jalan Multimedia, 63100, Cyberjaya, Selangor, Malaysia

²School of Business and Economics, Universiti Putra Malaysia, 43400, Serdang, Selangor, Malaysia

³Department of Business Administration, Daffodil International University, Daffodil Smart City, 1207, Dhaka, Bangladesh

Abstract. Examining the impact of green human resource management (GHRM), top management commitment (TMC), and green culture (GC) on green performance (GP) of Palm oil companies (POCs) in Malaysia is the aim of the study. A self-administered structured questionnaire was adapted to collect data. SPSS and Smart-PLS software analyzed the 165 firms' usable responses. The empirical results found significant positive impacts of GHRM, TMC, and GC on GP. The outcome offers valuable insights into the knowledge domain and practices of GHRM and how it affects the GP of POCs. Moreover, the observed results highlight the importance of GC and TMC in implementing green procedures to create positive GP. To the researchers, no study has explored the relationship between GHRM, TMC, GC, and GP using empirical data from Malaysian POCs. Moreover, this research's findings enrich the researchers, academicians, and practitioners practically and theoretically.

Keywords: Green culture; Green performance; Green human resource management; Sustainability; Top management commitment

1. Introduction

Currently, palm oil is the world's leading vegetable oil, with annual production and consumption of over 45.3 million tonnes, accounting for nearly 60% of the worldwide vegetable oil business on the international market (Abdul-Hamid et al., 2020). In Malaysia, domestic consumption of crude palm oil increased gradually between 2,204,000 tonnes in 2010 and 3,654,000 tonnes in 2018 (Khin, 2022). Around 15 million hectares of oil palm have been cultivated globally in the last several years (Begum et al., 2019). Numerous consumer products are made with palm oil. Global palm oil corporations are now insisting stakeholders to maintain social, economic, and environmental sustainability (Khin, 2022).

Malaysia is the world's second-largest producer (32% of total production) and exporter (37% of total exports) of palm oil globally (MPOB, 2017). Malaysia's most significant export destinations for palm oil are India, the European Union (EU), China, Pakistan, and the United States of America (USA). Despite its dominance, the palm oil business in Malaysia faces negative environmental consequences (Hossain et al., 2022; Ong et al., 2021; Ong et

* Corresponding author's email: 1211404831@student.mmu.edu.my, Tel.: +60-1111828659; Fax: 03-83125052, doi: [10.14716/ijtech.v13i5.5818](https://doi.org/10.14716/ijtech.v13i5.5818)

al., 2020). POCs produce 100 times more pollution than municipal sewage. The toxic effluent contains high biochemical oxygen demand, chemical oxygen demand, empty fruit bunches, palm pressed fibers, palm kernel cake, and liquid discharge. Without appropriate treatment, these discharges will contaminate the encompassing surrounding (Kamyab et al., 2018). Sungai Kundang, Sungai Langat, and Sungai Tongod are facing severe water pollution because of POCs wastage (Free Malaysia Today, 2020; Malaysiakini, 2020). Moreover, the production departments in the POCs have also been accused of unsustainable HRM, such as forced child, undocumented, and/ or mistreated labor issues (Ahmad et al., 2022).

Despite having strict regulatory bodies, certifications, and codes of practices, sustainability is critical for Malaysian manufacturing firms (Hossain et al., 2020), especially for POCs, to handle significant environmental challenges. To address environmental concerns, businesses must embrace GHRM practices. To combat environmental issues, industry, academia, and policymakers increase focus on green projects (Kraus et al., 2020). (Moktadir et al., 2019) and (Mamun, 2019) investigated numerous antecedents, including GC and TMC, to GHRM implementation (Ghouri et al., 2020). They also concluded that organizational culture is the most influential behavioral element. The wastewater technologies are expensive and require a skilled workforce for maintenance (Kamyab et al., 2016). The extended period for gaining payback demotivated the investors to invest in green technologies (Sharvini et al., 2022; Sofyan et al., 2021). Thus, Government and policymakers can play a critical role in determining the most appropriate regulations for reducing POCs environmental impact (Marditama et al., 2021). Today, sustainable business strategies (Heryani et al., 2022; Sehnem et al., 2019) assist organizations to focus on creating value by producing green products (Stål & Corvellec, 2018).

To embrace green initiatives and ensure the required workforce, the companies recruit employees committed to sustainability (Pellegrini et al., 2018; Ogiemwonyi et al., 2020). As a result, the employees must embrace a "green culture" mindset as culture significantly impacts implementation any green initiative (Masri & Jaaron, 2017), and firms have to produce eco-friendly products and services. GC is the process by which humans inside an organization share their values, assumptions, symbols, norms, and views about how they should behave eco-friendly (Waheed et al., 2021; Hossain et al., 2022). Aldrin and Yunanto (2019) assert that organizational culture reflects the firm's vision. GHRM techniques are critical to implementing the firm's green vision by embracing sustainability. Yusliza et al. (2019) have mentioned attracting investors and potential employees are two primary reasons for implementing GHRM. The current study examines the influence of GHRM and GC on GP in Malaysian POCs.

2. Literature Review

2.1. Theoretical Underpinning

Ability–Motivation–Opportunity (AMO) theory considers an underpinning theory for this study. This theory describes the relationship between HRM practices and employee engagement which influences organizational performance (Kim et al., 2015; Hooi et al., 2021). In this study context, training on sustainability enhances the capability of the employees and management. Then with the green reward, leadership motivates an employee and develops green culture. While these initiatives work together, it creates opportunities both for organizations and individuals.

2.2. Hypotheses Development

Green practices would increase GP (Ong et al., 2020). According to (Olsthoorn et al., 2001), GP refers to assessing a business's interaction with the environment. GP demonstrates the effective green behavior of persons who act following their environmental awareness and convictions (Roscoe et al., 2019). Moreover, actions and practices to promote environmental sustainability by reducing pollution, planting trees, and reusing waste are activities of GP (Jackson et al., 2011). GHRM utilizes employees related parts of the company to promote green practices through enhancing employee understanding and commitment to eco-friendly practices (Roscoe et al., 2019). Such programs entail embracing GHRM that increase efficiency, are cost-effective, and minimize employee turnover and other benefits. GHRM encompasses green job analysis and responsibilities, green appraisal, green recruitment, green rewards, green selection, and green training and development (Yusliza et al., 2019). Successful implementation of GHRM depends on both employees and management's commitment toward green (Khalid et al., 2021). GHRM fosters GP as greening an organization influences the supply chain, production, waste management, culture, values, strategies, and employee behaviors (Benevene & Buonomo, 2020).

H₁: Green human resource management influences positively and significantly green performance.

According to (Digalwar et al., 2013), TMC provides a strategic direction to improve GP, and they are responsible for identifying and determining the strategies to implement and effectively conveying them throughout the organization. TMC's presence enables businesses to implement their green efforts (Spencer et al., 2013) efficiently. This is because the top management can enforce the organization, including workforce practices, and follow policies that align with the firm's goals and objectives. Due to this enforcement, consumers will develop consciousness among employees to adopt these green practices in day-to-day practices and organizational operations to accomplish environmental goals. Additionally, formalizing the "greening" of HRM processes will establish more explicit criteria for their practical application across all levels of the organization. TMC plays a critical role in implementing organizations' green efforts, as they allocate resources and make the required decisions to effect change inside the company (Bansal & Roth, 2000). This is consistent with (Colwell & Joshi, 2013) assertion that higher TMC for sustainability encourages green practices.

H₂: Top management commitment influences positively and significantly green performance.

In organizations, GC is a culture in which individuals demonstrate a solid commitment to the environment through their ethics or values, principles or beliefs, and behaviors (Roscoe et al., 2019). Values refer to what organizational members regard as moral and ethical concerning the environment (Chang & Lin, 2015). Beliefs describe how organizational members perceive what is right and wrong and what is not acceptable in the setting (Roscoe et al., 2019). Values and beliefs influence organizational members' behavior toward the environment (Chang & Lin, 2015). This green ideology, in which organizational members' values, ideas, and behaviors are pro-environmental, gradually grows into everyday routines, eventually forming green culture. The triple bottom line perspective suggests that a green culture-practiced organization prioritize the planet without sacrificing the people and profit components. GC acts as a substantial role in ensuring green performance (Naruetharadhol et al., 2021; Roscoe et al., 2019). Undeniably, the strength of GC is contingent upon employees agreeing on their assessment of the

situation they find themselves in (Pellegrini et al., 2018). Thus, a concrete GC can emerge when organizational stakeholders act accordingly to their environmental principles, attitudes, and behaviors (Roscoe et al., 2019; Hooi et al., 2021).

H₃: *Green culture influences positively and significantly green performance.*

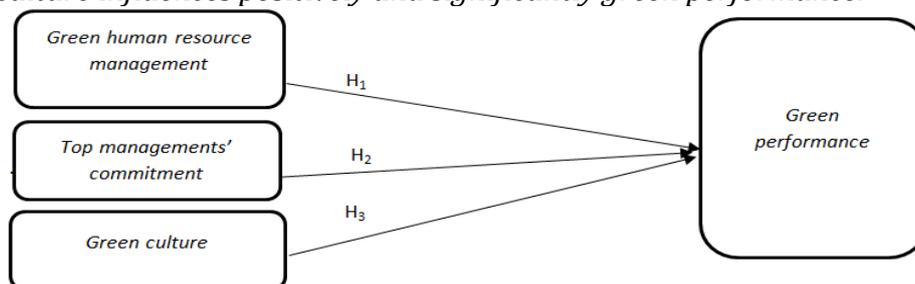


Figure 1 Proposed framework developed by authors

3. Methods

The present study is a quantitative correlational study. We distributed self-administered close-ended questionnaire to 300 palm oil organizations in Malaysia using a random sampling technique. The organization is the unit of analysis. We considered one response from one organization. The respondents were then requested to share the questionnaire with their respective human resources directors, senior managers, or managers as they have higher knowledge and implement green strategies. We enclosed a cover letter mentioned the study's goal, and instructions with the questionnaire. We collected 165 completed questionnaires, thus response rate was 55.0 percent. The researcher collected data from November 2021 to January 2022, thus, this study is a cross-sectional study. Five-point Likert scale was applied, ranging from strongly disagree (1) to agree (5) to measure the variables. GHRM, TMC, GC, and SP measurements were adapted from previous studies (Bansal & Roth, 2000; Jackson et al., 2011; Colwell & Joshi, 2013) respectively. We conducted a pilot study using 20 samples to fine-tune the instrument before using the larger sample. Three academicians (Business faculties) and three industry players (Managers from palm oil companies) checked the questionnaire thoroughly. The reliability test verifies the questionnaire's reliability. Since the Cronbach's alpha coefficient of all constructs (GHRM= 0.90, TMC= 0.95, GC= 0.81, GP=0.89) are higher than 0.70, the constructs are reliable. Data were analyzed using the SPSS (v.26) and SmartPLS (v.3.3.9) software to assess the relationship between constructs. SPSS software was used to conduct the data screening, data cleaning, demographic profile analysis, and correlation analysis. Smart-PLS software was utilized to assess the construct reliability, validity, structural model, and to test hypotheses.

4. Results and Discussion

4.1. Demographic Analysis

The respondents consisted of 85.0% male and 15.0% female. 13.8% respondents were between 21- 26 years old, 35.6% were from 27–32 age groups, 18.4% were from 33–38 years old, 9.2% were from 39–44 age categories. Moreover, 12.6% respondents were from 45–50 age groups, and 10.3% were found higher than 50 years old. Considering the working experience factor, 12.6% of respondents found working for less than a year in the respective company, and 55.2% have been working for 1–5 years. Moreover, 21.8% and 8.0% have worked for 6–10 years and 11–15 years respectively.

4.2. Correlation Analysis

The results of the correlation analysis revealed that all the correlational values among the variables were above 0.75. The Pearson Correlation Coefficient for most variables is between ± 0.01 to ± 0.9, which confirms that all the variables are correlated. GHRM (0.947), TMC (0.930) and GC (0.764) have a strong relationship with GP.

4.3. Construct Validity and Reliability

The validity and reliability of the construct were determined through Cronbach’s Alpha (CA), Composite Reliability (CR), and Average Variance Extracted (AVE). The statistical outcome revealed that all the value of CA (GP= 0.9, GHRM= 0.907, TMC= 0.949, GC= 0.960), CR (GP= 0.910, GHRM=0.911, TMC=0.950, GC= 0.958), and AVE (GP= 0.72, GHRM= 0.73, TMC= 0.831, GC= 0.852).

4.4. Discriminant Validity

We assess the discriminant validity of the construct through Heterotrait-Monotrait Ratio (HTMT). The values of HTMT were within 0.829 to 0.693 and cross-loading values were above 0.7.

4.5. Assessment of Structural Model

The good fit of the model was evaluated through the Coefficient of Determination (R2), and the value was 0.903 (90%). Cohen’s f2 has been used to analyze the effect size of the predictor variables, and the values indicated that GHRM (0.67) has a high effect on GP, whereas TMC (0.048) and GC (0.11) have a low effect on GP. Q2 value (0.71), the model has predictive relevancy. The VIF values in the present study were within 5.5 to 3.2, which indicate the non-existence of multicollinearity.

4.6. Hypothesis Test

Table 1 Multiple regressions

Hypothesized Path	Standardized Beta	T Statistics	P Values	Result
GHRM-> GP	0.158	2.173	0.000	Accepted
TMC -> GP	0.506	7.130	0.000	Accepted
GC -> GP	0.185	3.041	0.000	Accepted

The regression analysis (Table 1) confirmed that all the independent variables significantly and positively influenced on outcome variable as GHRM (T= 2.173, p < 0.05), TMC (B=7.130, p<0.05), GC (B=3.041, p<0.05). Hereafters, H1, H2, and H3, were accepted.

4.7. Theoretical and practical implications

The study investigated the relationship between GHRM, TMC, GC, and GP. This research established empirical evidence for positive connections between all factors. The empirical study reveals that the sub-dimensions of constructs influence on GP. The sub-constructs for GC are management style, communication on green issues, green-related knowledge, information exchange, and ensuring accountability. For TMC the items are establishing an environmental vision, strategic planning, monitoring of environmental activities, resources allocation, reviewing environmental performance. GHRM’s sub-constructs are green performance assessment, green recruitment, green rewards. Our study emphasizes a developing country, Malaysia. Thus, our study fills the contextual gap mentioned by (Renwick et al., 2013) who urged research on GHRM in developing Asian countries. To our knowledge, current study is the first attempt to test the relationship between GHRM, TMC, GC, and GP in palm oil industry context. Integrating TMC with the A-

M-O theory offers a significant contribution as the previous study focused only on the employee perspective, but this study considers the managerial level.

Our research includes several practical contributions to HR managers and top management. A significant result of TMC suggests organizations to forward building an eco-friendly work environment. Green initiatives should begin with senior management; those will assist organizations in meeting their sustainability goals. TMC to sustainability is vital and plays a crucial role in developing sustainable behavior. Top management should promote and support green initiatives to instill a sense of ownership in employees and lay the groundwork for continuing the green activities themselves. Second, Top management should emphasize aligning their commitment with GHRM principles to realize the organization's environmental goals. Managers should remember that implementing GHRM practices in a GC will be successful only if management is motivated for low carbon performance.

5. Conclusions

This study has identified in the literature review and empirical analysis that GHRM, TMC, and GC significantly impact GP. A-M-O theory provided the theoretical background for the novel model. Past studies mainly focused on different industries apart from the vital palm oil industry. The findings will assist other companies in other geographies to take lessons and re-strategize existing policies and practices. While our empirical outcomes are robust and noteworthy, we must acknowledge a few limitations. The study faced constraints during data collection period due to COVID's immense restrictions. We assume that inclusion of additional factors can make the model more complex and exciting. Additionally, the framework could be developed and considered, including other sectors and geography, to undertake a cross-country study, which will increase the generalization of the results. Additionally, this study's data-gathering phase occurred at a single point, and longitudinal research is possible. Finally, we incorporated subjective measures (self-assessment) into our questionnaire, albeit adapted from earlier research. Despite the limitations addressed, we believe, integrating additional GHRM activities and experimentally analyzing how one GHRM activity complements the others under various scenarios will enhance the applicability of the current study's model. Recognize that green activities should be examined on various levels, both individual and institutional levels. Since this research did not consider interacting combined relationships of variables, moderating or mediating variables, future studies can include green governance, green talent management, green technology adoption, green investment, organizational structure, and other variables with this current framework to get exciting results. Furthermore, we assume incorporating longitudinal responses from other industries or developing multiple case studies can provide interesting findings.

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