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Enhancing the Performance of Employee Through Green HRM: Evidence from the Export-Oriented Teak Furniture Sector in Central Java

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Abstract

Purpose – This study aimed to examine how Green Organizational Culture (GOC), Green Performance Management (GPM), Green Pay and Reward (GPR), and Green Involvement (GI) relate to Employee Performance (EP), with Organizational Citizenship Behavior for the Environment (OCBE) serving as a mediating variable. The research focused on the export-oriented teak furniture sector in Central Java, Indonesia.

Methodology – The research population consist all employees working in export-focused teak wood furniture companies across Central Java. Using a modified Slovin's formula with a 6% margin of error and considering field efficiency, 115 employees were selected from a total population of 160. The study applied proportional stratified random sampling to ensure representative coverage of worker groups. Data analysis was conducted using Structural Equation Modeling (SEM).

Findings – The results demonstrated that OCBE plays an indirect mediating role, significantly strengthening the positive effects of GOC, GPM, GPR, and GI on EP. OCBE itself had a direct and significantly positive influence on employee performance. In contrast, direct effects revealed that GOC and GPR negatively impacted EP, while the direct influences of GPM and GI were not statistically significant.

Originality This study contributes novel insights by focusing on a labor-intensive, natural-resource-dependent industry that remains underexplored in human resource management research. By positioning OCBE as a mediating factor, the study enhances understanding of how environmentally oriented employee behaviors facilitate the translation of sustainable HR practices into improved performance. The variables examined have not been studied within export-oriented teak furniture companies in Central Java, reinforcing the study's originality and contextual relevance.

1. Introduction

Amid growing global demanded for environmental sustainability, the role of Human Resource Management (HRM) in promoting pro-environmental behavior became increasingly vital. Green Human Resource Management (GHRM) had been recognized as a strategic approach to support sustainability agendas by managing the workforce in alignment with environmental principles (Renwick et al., 2013; Dumont et al., 2017). However, the implementation of GHRM remained largely confined to modern industrial sectors in developing countries, while labor-intensive, natural resource-based sectors in developing nations had yet to be significantly reached by such initiatives (Jabbour & Santos, 2008).

Environmental issues have become a global concern. Companies increasingly required to be attentive to environmental issues. The current orientation of companies is no longer solely focused on profit but also on the impact they have on the environment. As noted by Jabbour and Santos (2008), organizations were increasingly pressured to adopt sustainable practices in response to stakeholder demands. Green Human Resource Management (GHRM), as defined by Renwick, Redman, and Maguire (2013), integrated environmental management into HRM to promote sustainability and improved environmental awareness in the workplace. Green Human Resource Management (GHRM) integrated environmentally friendly HRM practices which could yield greater efficiency and enhanced environmental awareness in the workplace. According to Opatha & Arulrajah (2014), GHRM was defined as the process of making employees more environmentally aware through the use of 'green' human resource policies and practices. It had main aims to improve the interests of individuals, society, and the environment.

Ahmad (2015) analyzed GHRM practices that included green recruitment and selection, green training and development, green performance, green pay and reward, and green involvement within organizations. The study explored how GHRM could contribute to environmental sustainability and corporated performance, as well as how these policies were implemented in practice. The study demonstrated that GHRM significantly enhanced organizational sustainability performance, such as reducing emissions, improving energy efficiency, and better waste management. The implementation of GHRM raised environmental awareness among employees and encouraged their involvement in environmentally friendly practices, which contributed to improve performance.

Research on the impact of GHRM practices on environmentally conscious employee performance was also conducted with employee respondents in manufacturing companies in China by Roscoe et al. (2019). The results of the study concluded that GHRM practices had a positive and significant effect on the performance of environmentally aware of employees in manufacturing companies in China. Consequently, these companies strove to enhance their GHRM in order to boost employee's performance, thereby increasing the company's additional value.

Meanwhile, Liu et al. (2021) explored that the relationship between GHRM and Green Organizational Identity, as well as how these two factors influenced Organizational Citizenship Behavior for the Environment (OCBE) within organizations.

Empirical results indicated that GHRM had a significant positive influence on Green Organizational Identity, meaning that those who implemented GHRM practices were more likely to develop a strong identity related to sustainability. Green Organizational Identity positively contributed to OCBE, as employees with a strong green organizational identity which were more inclined to exhibit environmentally friendly behaviors. Employee environmental values had function as a moderating variable, such as the environmental values of employees strengthened the influence of GHRM on OCBE.

Khan et al. (2025) examined the effect of GHRM practices, on green innovative work behavior in the hospitality sector. The results showed that GHRM practices - such as green recruitment, training, performance evaluation, green compensation, engagement, and green perceived organizational support also were shown to significantly increase environmentally friendly employee with innovative behavior in the hospitality sector in China and Pakistan. Another study by Abdullahi et al. (2024) revealed that Green HRM practices were proven to contribute directly and significantly to the improvement of organizational environmental performance, such as resource conservation and waste reduction. A study conducted by Hien (2025) showed that GHRM was proven to positively and significantly affect the sustainable performance of manufacturing companies in Vietnam. Green organizational culture, green performance management, and green training were the most impactful GHRM factors in improving sustainable performance. Green recruitment and green reward system contributed moderately but remained significant. The research showed that employee awareness and involvement in green activities were important factors in bridging GHRM policies with sustainable performance outcomes.

Delphinus & Mwita (2024) conducted a GHRM study and proved that green recruitment & selection, green training & development, green performance management, and green compensation management significantly improved organizational environmental performance-including waste reduction, efficient resource use, and better waste management. Literature review which conducted by Rizqulloh et al. (2024) examined various studies that addressed the relationship between GHRM and corporated environmental performance. The research lightly highlighted the following two GHRM practices as key contributors to environmental performance, namely Green training and Green involvement. These two practices consistently had a significant positive impact on Corporate Environmental Performance. The results of Le &Tham's (2024) study concluded that GHRM practices positively influenced GHRM's Sustainable Corporate Performance, which was proven to improve the company's performance in the long run, and it was indicated by the improvement of economic, social, and environmental performance.

Previous studies on Green Human Resource Management (GHRM) in relation to company performance predominantly focused on overall GHRM practices within manufacturing companies that utilized chemical-based raw materials. However, environmental risks were not limited to such industries alone. Other sectors—such as manufacturing operations that relied on natural raw materials, like teak wood—also posed potential environmental threats. In response to this research gap, present study focused on an export-oriented teak furniture company which obtained green certifications, indicating compliance with sustainable sourcing and environmentally responsible export production. These certifications included the Timber Legality Verification System (SVLK), ISO 9001 for quality management, ISO 14001 for environmental management, and the V-Legal Document for export compliance under SVLK. This was especially relevant to be given to countries outside Indonesia which showed the increase of concern for environmental sustainability in recent years, growing awareness of environmental preservation worldwide. This study, grounded in empirical data, investigated the significance of various “green” variables—namely Green Organizational Culture, Green Performance Management, Green Pay and Reward, and Green Involvement on employee's performance. It examined both direct effects and indirect effects through a mediating variable which reflected pro-environmental or sustainability oriented behavior, specifically Organizational Citizenship Behavior for the Environment (OCBE). Previous studies had mostly analyzed the influence of green HRM at the level of organizational performance, this study explored how much influence the company's green policy could foster

individual green awareness. Furthermore, the green awareness was explored for its influence on employee's performance.

This study contributed to the literature and the practice of Green Human Resource Management (GHRM) in several key ways: (1) Addressing a Research Gap: Previous research on GHRM largely focused on chemical-intensive manufacturing industries. However, other sectors, such as the teak wood furniture industry which also posed significant environmental risks, including natural resource exploitation (e.g., deforestation), waste production, and high consumption of energy and water. This study highlighted that such impacts could be mitigated through compliance with environmental certifications, such as the Timber Legality Verification System (SVLK), ISO 9001 for quality management, and ISO 14001 for environmental management. (2) The teak furniture industry which examined in this study targeted export markets such as Europe and the United States, where environmental regulations and consumer awareness were increasingly strict. The company which was analyzed, demonstrating commitment to sustainable and environmentally friendly practices, as shown by certifications such as SVLK and V-Legal, which ensured legality and sustainability in sourcing and production. (3) This research adopted a multi-dimensional GHRM framework by examining the influence of four key components, Green Organizational Culture (GOC), Green Performance Management (GPM), Green Pay and Reward (GPR), and Green Involvement (GI) on employee's performance whether directly or mediated by Organizational Citizenship Behavior for the Environment (OCBE).

A relevant yet neglected sector was the export oriented teak wood furniture industry in Central Java, which relied heavily on natural resources and manual labor, while facing increase pressure to meet international environmental standards. This industry held significant potential in the export in economy field but also posed environmental risks due to raw material exploitation and waste production. Therefore, the adoption of environmentally friendly HRM practices was not only relevant but also urgent (Pham et al., 2019). Unfortunately, the implementation of GHRM in traditional industries remained very limited—especially in work environment with low environmental awareness and lacking strong sustainability systems (Yusliza et al., 2020). Moreover, although several studies had identified a positive relationship between GHRM and organizational performance (Jabbour et al., 2010; Tang et al., 2018), few of them specifically examined their impact on employee's performance individually, particularly through behavioral pathways.

In this context, organizational citizenship behavior toward the environment (OCB-E) became essential, as it could be served as a bridge between GHRM policies and employees' tangible contributions to sustainability (Boiral & Paillé, 2012). Some studies such as Paillé et al. (2016) had shown that OCB-E could mediate the relationship between corporate environmental policies and pro-environmental performance, yet such research still causes concern, especially within Indonesia's traditional manufacturing sector. Therefore, this study was both relevant and urgent, as it explored how GHRM practices could enhance employee's performance through pro-environmental behavior at the individual level in a largely understudied or neglected industrial context.

1.1. Green Organizational Culture (GOC)

Green Organizational Culture (GOC), often referred to as eco-friendly culture, pro-environment culture, green awareness, and sustainability culture, Triple Bottom Line (TBL), sustainability culture, and more broadly, corporating social responsibility was also used to describe it (Tahir et al., 2019). Many researchers had adapted the definition of organizational culture to be applied to green organizational culture (Gürlek & Tuna, 2018). For example, Norton et al. (2015)

focused their study on 'pro-environmental organizational culture and climate' that Schein's definition of organizational culture could be used to define green organizational culture as a framework to understand the concept. Definitions which used by other researchers were also similar to Schein's approach in defining green organizational culture (Umrani et al., 2022).

GOC encompassed shared beliefs, values, norms, symbols, and social stereotypes regarding the organization's environmental management, shaping the standard behaviors expected of individuals (Chang, 2015). Symbolism which related to environmental management and protection within Green Organizational Culture (GOC) shaped the perceptions and behaviors of organizational members (S. Ahmad, 2015; Umrani et al., 2022).

García-Machado & Martínez-Ávila (2019) conducted research on mediating effect of green innovation on the relationship between GOC and environmental performance in automotive sector in the State of Mexico. The findings provided empirical evidence which GOC had related to a direct impact on environmental performance. The implementation of GOC in operation and strategy showed a significant improvement in environmental performance, including efforts to reduce emissions, conserve energy, and manage waste more effectively. In automotive industry context, green innovation played a crucial role, as this sector which significantly impacted on the environment, particularly in terms of emissions and resource usage. Some inovations, such as the development of electric vehicles or the use of eco-friendly materials were keys to improve environmental performance. Overall, the empirical results of this article highlighted the importance of GOC and green innovation in enhancing organizational environmental performance, especially in the automotive industry, which was closely related to global environmental issues.

Imran et al. (2021) conducted research on how GOC influenced organizational performance by statistically investigating and exploring the research model and its mediating role in environmental performance and green innovation, which had previously received limited attention. The findings revealed that environmental performance and green innovation fully mediated the relationship between GOC and organizational performance.

Chandra et al. (2021) examined the effect of GOC on organizational performance and green competitive advantage, which mediated by green innovation. This study demonstrated a direct, positive, and significant effect of GOC on green innovation, green competitive advantage, and organizational performance. Indirectly, GOC, through green innovation, it had a positive and significant impact on green competitive advantage and organizational performance. It happened because GOC was oriented toward green innovation, which enhanced the efficiency of resource, reducing waste, and lowering operational costs, ultimately it had a contribution to total organizational performance improvement.

Subramanian & Suresh (2022) conducted a study to understand the causal relationship between factors influencing Green Organizational Culture (GOC) in small and medium manufacturing enterprises (SMEs), as those were considered significant contributors to environmental pollution. This research also aimed to conduct a driving power and dependency analysis to identify the most and least significant factors of GOC. The study identified eight factors through an extensive literature review and validated them with some experts. The Total Interpretive Structural Modeling (TISM) approach was used to determine the interactions among identified factors and to develop a structural hierarchy. Subsequently, the Cross-Impact Matrix Multiplication Applied to Classification (MICMAC) analysis was used to assess driving power and dependency strength of each factor.

This study found that the factors of 'Top management commitment and support for eco-friendly practices and workforce greening,' 'Strength of internal regulations for environmental systems,' and 'Organizational mission including environmental concern' were observed as the most

significant factors. 'An environment which creates work-life balance' and 'An environment that encourages eco-friendly attitude and behaviors' which identified as highly dependent on other factors.

In 2023, two GHRM researchers, Aggarwal & Agarwala (2023), identified a relationship between GHRM and environmental performance. This study focused on the mediating role of three dimensions of GOC—degree, diffusion, and depth—in the relationship between GHRM and environmental performance, which had not yet been explored in empirical literature. The findings showed that the parallel mediation results confirm that the 'degree' dimension of GOC plays a significant mediating role in the relationship between GHRM practices and environmental performance. The other two GOC dimensions, 'diffusion' and 'depth,' did not have a significant mediating role in this relationship. The results indicated that the GHRM practices which adopted by companies helped to build a GOC that supported sustainability, and this culture in turn strengthens efforts to improve environmental performance.

J. Ahmad et al. (2023) investigated the relationship between GHRM practices (green training and involvement, green recruitment, green performance management compensation, and green transformational leadership) on GOC and pro-environmental behavior, as well as the moderating roles of green social capital and green values. Some data were collected via surveys from 232 upper to middle-level managerial employees in medium to large companies, with data sourced from company lists at the Securities and Exchange Commission in Lahore, Rawalpindi, and Multan in Pakistan, using snowball sampling technique. The cross-sectional, and analysis was used as research design in this research and it was conducted using Smart PLS version 4. The findings revealed that green transformational leadership, green performance management and compensation, green training and involvement have a significant positive relationship with green organizational culture. Additionally, green social capital, green values, and green organizational culture have a significant impact on pro-environmental workplace behavior. This study identified the mediating effect of GOC in the relationship between green recruitment, green training & involvement, green performance management & compensation, green transformational leadership, and pro-environmental behavior. Overall, GOC creates a framework that promotes pro-environmental behavior through awareness, commitment, clear leadership and policies.

A study written by Onputtha et al. (2023) examined the impact of GOC on green transportation and sustainable performance. The sample consisted of 400 employees from Thailand's automotive industry, whose roles were related to transportation management at both managerial and operational levels. Purposive sampling was applied to collect data, using a questionnaire as the research instrument. Structural Equation Modeling (SEM) was used for data analysis.

The results of the study indicated that GOC had a direct positive impact on green transportation and sustainable performance, and green transportation had a direct positive impact on sustainable performance. It was due to the organization which established a vision, mission, and culture, as well as values related to environmentally friendly business operations for its members, and being able to set appropriate standard, principles, and guidelines for its members. Consequently, employees worked and managed transportation effectively, achieving sustainable performance, which included cost reduction, national and international competitiveness, pollution reduction, accident and risk reduction, improved brand image, as well as collaboration and satisfaction from stakeholders.

In 2023, Abbas et al. (2023) examined GHRM in relation to environmental and social performance. The respondents were 155 employees from hotels in Pakistan, using a survey method. The results indicated that Green HRM was positively related to organizational green

culture. Additionally, organizational green culture had a significant influence on environmental and social performance. Furthermore, organizational green culture fully mediated the relationship between green GHRM and performance. Finally, organizational green culture fully mediated the relationship between green GHRM and social performance. These results supported the findings of Roscoe et al. (2019), which showed that GOC was a strong predictor of enhancing employee productivity and promoting environmental management practices (García-Machado & Martínez-Ávila, 2019), as well as having a significant relationship with social performance (Harris & Crane, 2002; Isaksson & Woodside, 2016). In the article, GOC influenced social and environmental performance because a green culture within the organization created a work environment that encouraged pro-environmental behavior and social responsibility.

A research entitled *'How Green Performance Is Affected by Green Talent Management in Tourism and Hospitality Businesses: A Mediation Model'* by Alkhozaim et al. (2024) had investigated the impact of Green Talent Management (GTM) on Green Performance (GP), focusing on the mediating roles of GOC and OCBE. Several data were collected from employees of travel agencies in Saudi Arabia, with 1276 valid responses analyzed using partial least squares of structural equation modeling (PLS-SEM). The results showed that GTM positively influenced GP, GOC, and OCBE. The study also indicated that GOC and OCBE positively affected GP and mediated the relationship between GTM and GP. A strong GOC significantly influenced employee' behavior and organizational practices, which played a crucial role in enhancing environmental performance. This aligns with the findings of Abbas and Khan, and Al-Romeedy, which suggested that GOC fosters organizational capabilities, such as green innovation and sustainable supply chain management, which directly improved environmental outcomes and resilience to environmental challenges.

H_1: GOC had positive influence towards Employee Performance

H_6: GOC had positive influence towards Organizational Citizenship *Behavior* for the Environment (OCBE)

1.2. Green Performance Management (GPM)

Green Performance Management (GPM) is a process in which employees are encouraged to enhance their professional skills to reach the organization's goals and objectives. The presence of environmental awareness within the company will influence global business strategies, and this green performance management consisted of issues related to environmental matters and company policies. When HR managers integrated environmental performance into the Performance Management system, they protected environmental management from damage. Currently, some companies address GPM issues by establishing corporate environmental performance standard and implementing green information systems to obtain useful data on environmental performance (Srivastava & Shree, 2019).

In 2023, researchers, Nisar et al. (2023) examined the role of GHRM practices in achieving sustainable environmental performance in hotels in Malaysia, considering the important roles of employees' pro-environmental attitude, green behaviors, and perceptions of green workplace climate. Some data were collected from employees directly involved in implementing green practices in selected hotels. A survey questionnaire was used for data collection, and approximately 350 responses were received and subjected to be analysed using PLS-SEM.

The findings reveal that GHRM practices (green training and involvement, green performance management and compensation) positively and significantly influenced employees' pro-environmental attitude, which in turn encouraging green behavior. It was also found that employees' green behavior was a major contributor to drive sustainable hotel performance.

Through their research entitled *'Effects of Green Human Resource Management Practices on Green Innovation and Behavior,'* the researchers Shah & Soomro (2023) investigated the impact of GHRM practices on innovation behavior and employee behavior in the context of the automotive industry in Pakistan. This study was quantitative research, with cross-sectional data collected through a survey questionnaire. A total of 400 surveys were distributed, with 190 responses received. Structural Equation Modeling (SEM) analysis was used to ensure that there was a strong relationship between green performance management and improved environmental performance as well as innovation in organizations.

The empirical results of the study indicated that green performance management practices had a positive and significant impact on task-related green behavior and green innovation within organization. The use of green performance management encouraged employees to engage in behavior so that supporting environmental sustainability, both in formal task activities and voluntary initiatives. Furthermore, these practices played a crucial role in enhancing green innovation by encouraging employees to innovate in creating more environmentally friendly products and processes.

H_2: GPM had positif influence towards Employed Performance

H_7: GPM had positif influence towards Organizational Citizenship Behavior for the Environment (OCBE)

1.3. Green Pay and Reward (GPR)

Achieving the goals of organizational greening could be enhanced by rewarding employees for their commitment to environmental sustainability practices (Jabbour & de Sousa Jabbour, 2016). In this context, environmental performance could bring benefit from a Green Pay and Reward system if it focused on avoiding negative behaviors and promoting environmentally friendly behaviors (Zoogah, 2011).

This research by Saputro & Nawangsari (2021) had main aims to analyze the effect of green pay and gave rewards on employee's performance through Organizational Citizenship Behavior for the Environment (OCBE). Survey method with a quantitative approach were used in this research. The study was conducted at PT Andalan Bakti Niaga using non-probability sampling techniques, with a sample size of 80 people. The Structural Equation Modeling (SEM) with Partial Least Square (PLS) software were used as data analysis technique in this research. The results of this research indicated that green pay and rewards positively influenced OCBE. Employees felt that their efforts were appreciated through better compensation or rewards, which motivated them to contribute more. The implementation of green pay and rewards had helped to build an organizational culture that supported sustainability. Employees felt that the company valued the environment, leading them to be more engaged in behaviors that supported green initiatives, and became green values which applied in their daily behavior.

Green pay, which included incentives and performance-based environmental compensation, showed a significant positive influence on OCBE. In this case, employees who got incentives for environmentally friendly behavior were more likely to contribute to sustainability practices within the organization. Rewards related to sustainability also contributed to the enhancement of OCBE. When organizations gave reward to employees who demonstrated environmentally caring behavior, it was not only motivated individuals but also created a workplace culture that better supported green initiatives. This research showed that the combination of green pay and rewards had a greater synergistic impact on OCBE. If both elements were applied simultaneously, employees would feel more appreciated and motivated to engage in environmentally friendly activities.

Islam et al. (2023) studied the role of Green Human Resource Management (GHRM) practices (green recruitment and selection, green training, green performance management, green involvement, and green rewards) on the quit intention of millennial employees while working in three- to five-star hotels. Additionally, the study examined moderating role of the work environment in the relationship between GHRM practices and quit intention. The researchers collected 162 survey questionnaires from 200 distributed questionnaires among millennial employees who worked in hotels in Malaysia.

The findings highlighted that environmentally friendly pay and rewards had a significant positive impact on reducing quit intention, which indirectly supported employee's performance. These rewards, aligned with environmental sustainability goals, enhancing the commitment and loyalty of millennial employees to their organizations, thus improving their overall performance. However, moderating effect of work environment was found to be insignificant in strengthening this relationship. By providing environmentally-driven incentives, companies in the tourism industry could foster a more engaged and high-performing workforce, especially among millennials. This study was the first empirical research conducted to date regarding GHRM practices and quit intention among millennial employees in the hospitality industry literature.

A study conducted by Nisar et al. (2023) investigated that the role of green pay and reward practices in achieving sustainable environmental performance in hotels in Malaysia, considering the important roles of employees' pro-environmental attitude, green behavior, and perception of a green work climate. Some data which were collected from employees directly involved in the implementation of green practices in selected hotels. Survey questionnaire was used in data collection technique, and approximately 350 responses were received and analyzed using PLS-SEM.

Empirically, the results of the study showed that green pay (environment-based compensation) and rewards significantly enhanced employees' pro-environmental behavior. When employees were given incentives in the form of compensation and rewards related to green initiatives, they were more likely to engage in pro-environmental behavior, which ultimately contributed to be more sustainable hotel performance. This performance included not only reducing environmental impact but also improving operational efficiency and business reputation. When companies supported and rewarded pro-environmental behavior, employees who already had pro-environmental attitude tended to be more responsive, which ultimately improved the overall environmental performance of the hotel.

H_3: GPR had positive influence towards Employed Performance

H_8: GPR had positive influence towards Organizational Citizenship Behavior for the Environment (OCBE)

1.4. Green Involvement (GI)

Green Involvement (GI) was very important for the sustainable performance of organization. GI refered to the opportunities which provided to employees to learn and adopt green strategies to prevent pollution and other environmental issues. The more employees were engaged in and involved in environmental protection activities, the more their orientation their focus on environmental responsibilities would grow. Through involvement, employees could write newsletters, develop green teams and committees to address issues. This would enhance the quality of the organization's environmental activities and learning. GI aimed to develop a clear development-based vision in environmental management along with generating a shared learning environment for environmentally-oriented behavior. Furthermore, it facilitated the development of structured and unstructured (informal) communication routes to foster an organizational culture

that tended to support the environment. GI also enhanced values and problem-solving abilities regarding environmental issues by increasing awareness of practices in environmental management and developing a culture of environmental protection (Srivastava & Shree, 2019).

García-Machado & Martínez-Ávila (2019) found a mediating effect of green innovation in relation to the existing relationship between Green Organizational Culture (GOC) and environmental performance in the automotive sector of the State of Mexico. The research hypotheses were formulated after an extensive study of available literature and based on the resource-based theory and capabilities, specifically the Natural Resource-Based View (NRBV). This research design was non-experimental and cross-sectional with a confirmatory scope, applied to a sample of 157 observations. The proposed theoretical model was tested using PLS-SEM.

Empirical results indicated that Green Involvement (GI) had a significant impact on environmental performance, particularly through the mediating role of green innovation. It found that this involvement was positively related to the company's environmental performance and demonstrated that green innovation served as a strong mediator between green involvement and environmental performance. This meant that green involvement facilitated and encouraged green innovation, which in turn enhanced environmental performance. The study focused on the automotive industry, which was known as one of the sectors with significant environmental impacts. Its finding showed that automotive companies which were more engaged in green practices and environmental innovation tended to have better environmental performance. Overall, this research highlighted the importance of green involvement and green innovation in improving environmental performance and demonstrated how organizational culture could support this process within the context of the automotive industry.

Anwar et al. (2020) examined that the influence of Green Human Resource Management (GHRM) practices (green competency development practices, green motivation enhancement practices, and green employee involvement practices) on Organizational Citizenship Behavior for the Environment (OCBE) and its impact on environmental performance. Additionally, the mediating effect of OCBE between each GHRM practice and environmental performance was assessed. Some data were collected from September to November 2017 at two prestigious public research university campuses in Malaysia. Using a quantitative research design, a structured questionnaire was employed among the university's academic staff. A convenience sampling method was utilized to select respondents from both campuses, and Partial Least Squares (PLS) modeling techniques were used to analyze the data, which consisted of 122 respondents.

This study found that employees who were more engaged in green practices tended to exhibit better environmental citizenship behavior, contributing to higher environmental performance. It was also noted that OCBE served as a mediator between green involvement and environmental performance. This meant that involvement in green practices did not only directly affected performance but also enhanced positive behavior among employees. These findings had particular implications for higher institutions, where green practices could enhance the university's image and attracted the attention of stakeholders concerned with environmental issues. Overall, this research demonstrated that green involvement was not only beneficial for the environment but it could also be an important driver of organizational performance in the academic context.

On the other hand, Aboramadan (2022) investigated that the influence of Green Involvement (GI) on Organizational Citizenship Behavior for the Environment (OCBE). This study employed a quantitative approach using a structured questionnaire which distributed to some academic staffs in higher education institutions in Palestine. The number of respondents involved in this research was 208 employees, with a purposive sampling technique employed for selection. SEM-PLS was used as data analysis technique.

The empirical results showed that Green Involvement (GI) had a significant positive influence on Organizational Citizenship Behavior for the Environment (OCBE). This meant that the involvement in green initiatives increased employees' motivation to contribute more to behavior that support the environment. The analysis indicated that the influence of GI on OCBE was statistically significant, suggesting that organizations that enhanced employee involvement in sustainability aspects could encourage greater pro-environmental behavior.

Through the research which entitled *'Green HRM Practices and Knowledge Sharing Improve Environmental Performance by Raising Employee Commitment to the Environment'*, several researchers, including F. Ahmad et al. (2023), examined the moderating effects of green knowledge to investigate the relationship between GHRM practices (competence, motivation, and involvement) and environmental performance through employee commitment to the environment. Using previously validated metrics, an online survey also was conducted among 155 academic staff members from 25 universities in Pakistan that were ranked in the UI-Green Metric 2021 for having green campuses.

The research found that Green Involvement (GI) had a significant impact on enhancing environmental performance in companies through employee's engagement with pro-environmental goals. The implementation of GHRM practices that included employee's involvement in the organization's environmental policies directly increased employee' commitment to the environment. This commitment, in turn, strengthened employee' behaviors which supported overall environmental performance of the organization.

H_4: GI had positive influence towards Employed Performance

H_9: GI had positive influence towards Organizational Citizenship Behavior for the Environment (OCBE)

1.5. Organizational Citizenship Behaviour for the Environment (OCBE)

Aniqoh et al. (2022) analyzed the impact of green training, green performance management, and green employee' involvement on OCBE among employees at Waroeng Pohon. This study was descriptive and quantitative, using a saturated sampling method, which involved sampling for entire population. The sample consisted of 40 respondents. The data collection technique was conducted by distributing questionnaires to Waroeng Pohon employees. Hypothesis testing was conducted using Structural Equation Modeling (SEM) with analysis techniques based on Partial Least Squares (PLS).

The findings of this study showed that the green performance management (GPM) had a significant and positive effect on Organizational Citizenship Behavior for the Environment (OCBE). Specifically, green performance management involved sustainability-oriented performance assessments, where employees were evaluated based on their contributions to the company's environmental goals. This performance management approach included clear feedback, recognition, and rewards for employees' pro-environmental behavior. Employees who worked under a green performance management system were more likely to display voluntary behavior that supported the company's environmental initiatives. They did not only comply with established environmental standard but also engaged proactively in activities such as promoting waste management, energy conservation, and other green initiatives that contributed to sustainability.

Saputra et al. (2024) had main aims to analyze the influence of green training, green rewards, and green recruitment on Organizational Citizenship Behavior for the Environment (OCBE) among employees at Gembira Loka Zoo, Yogyakarta, Indonesia. The data collection method included field and literature reviews, as well as a questionnaire. Hypotheses testing showed that

the model had acceptable goodness of fit, with Hypotheses 2 and 3 were accepted ($P < 0.05$), while Hypothesis 1 was rejected ($P > 0.05$). This suggested that while green rewards and green recruitment positively impacted OCBE, green training did not show a significant effect in this specific context.

1.6. Employee Performance (EP)

Performance is the overall result of an individual over a certain period in carrying out tasks, meeting predetermined and mutually agreed-upon standard, target,, or criteria (Zainal & Basri, 2005). Employee performance was not merely information which used for promotion or salary determination in a company. Rather, it reflected how the company could motivate employees and develop a plan to address any decline in performance, ensuring such declines were prevented in the future.

The study which conducted by Dinka (2018) aimed to examine the relationship between Organizational Citizenship Behavior for the Environment (OCBE) and employee performance in Ethiopia, specifically in Dire Dawa. A stratified random sampling technique was used to select 114 employees as a representative sample for this study. A standard measurement scale adapted from Likert-scale questions was distributed to employees. Spearman's correlation was employed to test the relationship hypothesis, while percentages and graphs were used for descriptive analysis purposes.

The empirical results showed that OCBE had a significant positive influence on employee's performance at Dire Dawa University. Employees who displayed pro-environmental behaviors and contributed beyond their basic responsibilities tended to perform better in their tasks. This indicated that engagement in behavior that supported the organization had a direct impact on individual work outcomes. OCBE enhanced collaboration among employees, which contributed to more efficient and effective task completion. Employees who supported each other and worked together on sustainability initiatives could improve the overall performance of the team. Employees involved in OCBE tended to feel more satisfied with their jobs, which could contribute to increase motivation and improved performance.

Aiming to examine the influence of OCBE on employee's performance, Anwar et al. (2020) conducted a study in 2020. The findings of the study indicated that OCBE had a significant positive influence on environmentally friendly employee's performance on campus. In other words, the higher the level of OCBE, the better the environmentally friendly performance achieved by the university. This included waste reduction, energy efficiency, and the implementation of other environmentally friendly practices. Employees involved in OCBE demonstrated a higher level of awareness and commitment to sustainability, which in turn enhanced the effectiveness of existing environmental programs on campus. The analysis showed a significant relationship between OCBE and environmentally conscious in employee' performance, indicating that individual support and participation in behavior that supported the environment were crucial for achieving better and environmentally aware employee' performance.

A research conducted by Nureen et al. (2023) investigated how environmentally friendly supply chain management practices, environmental culture, top management commitment, and OCBE influenced employees' green performance. The study demonstrated that OCBE served as a crucial link in the relationship between Green Supply Chain Management (GSCM) and employees' green performance. Employees exhibiting OCBE could effectively assist in implementing green supply chain in management practices, such as waste reduction and more efficient resource use. Moreover, it encouraged employees to innovate and seek new ways to enhance processes and products which were more environmentally friendly, which ultimately could improve the

effectiveness of green supply chain strategies. With active support and participation from employees, green supply chain management practices could be implemented more successfully, leading to an overall improvement in employees' green performance.

A study which done by Alkhozaim et al. (2024) investigated that the impact of green talent management on green performance, focusing on the mediating role of Organizational Citizenship Behavior for the Environment (OCBE) on environmentally friendly employee's performance. Some data were collected from employees of travel agencies in Saudi Arabia, with 1,276 valid responses and they analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The study showed that Green Organizational Culture (GOC) and OCBE positively influenced green performance and mediated the relationship between green talent management and green performance. The research findings reported that OCBE significantly and positively affected employees' green performance. OCBE significantly enhanced green performance by motivating employees to engage in discretionary actions that supported sustainability initiatives.

H_{10}: OCBE had positive influence towards Employee Performance

2. Research Methods

The design of this research was quantitative and cross-sectional research. The unit of analysis in this study was the teak furniture industry for export purposes in Central Java, Indonesia. The population in the study consisted of 160 workers. The sample was determined using the Slovin formula, resulting in 115 samples. The sampling technique used is proportional stratified random sampling. This technique was used because the population contained heterogeneous elements that were proportionally stratified.

The scope of this research focused on the analysis and discussion of independent variables (X), namely Green Organizational Culture (X_1), Green Performance Management (X_2), Green Pay and Reward (X_3), Green Involvement (X_4), and Organizational Citizenship Behavior for the Environment (OCBE) (Z), while the dependent variable was Employee' Performance (Y). The measurement instrument for this study adopted items from established sources. Green Organizational Culture was measured using five items adapted from Pham et al. (2019), while Green Pay and Reward was measured using four items from the same source. Green Performance Management was assessed using six items adapted from Renwick et al. (2013), and Green Involvement was measured using five items from Dumont et al. (2017). OCBE was measured using 24 items which adapted from Podsakoff et al. (2000). Employee's Performance (Y) was assessed using 18 items from Koopmans et al. (2013). All items were rated using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Furthermore, several data were processed using descriptive and quantitative analysis. The quantitative analysis technique employed SEM (Structural Equation Modelling). Structural Equation Modelling (SEM) is an analytical technique that allows the simultaneous testing of a series of relationships. This relationship was established between one or more independent variables and one or more dependent variables. Each variable could take the form of factors or constructed to build from several indicators. SEM represented an integrated approach combining two analyses: factor analysis and path analysis.

3. Results and Discussions

3.1. Estimation toward Measurement Model (Validity and Reliability)

The following figure presents a structural model illustrating the relationships between green human resource management practices and employee performance. The model examines the effects of Green Organizational Culture, Green Performance Management, Green Pay and Reward, and Green Involvement on Employee Performance, both directly and indirectly through Organizational Citizenship Behavior for the Environment (OCBE) as a mediating variable. Each path in the model is accompanied by estimated coefficients and significance levels to indicate the strength and direction of the relationships among variables. Accordingly, the model provides a comprehensive depiction of the mechanisms through which environmentally oriented organizational practices influence employee behavior and performance**.**

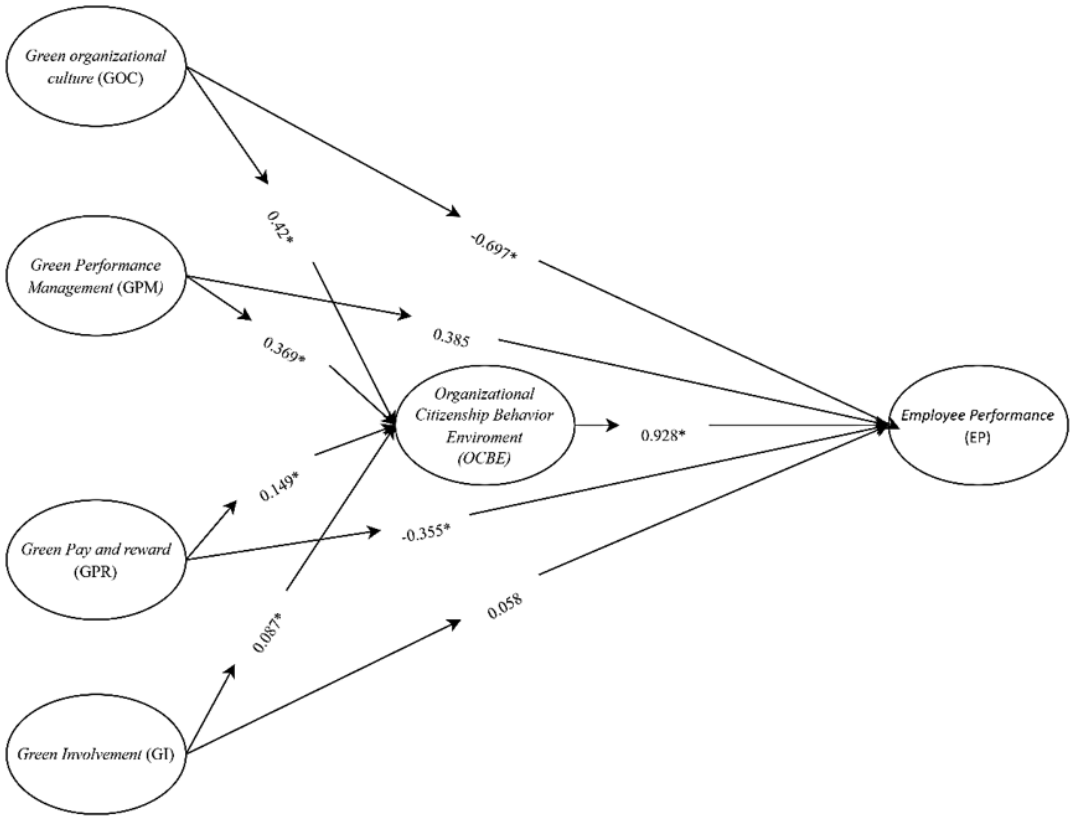

Figure 1. Research Framework

The researchers conducted tests on the tools used in this study to ensure the quality of research outcomes, verifying that the data obtained was valid and reliable. Some data which collected from a sample of 115 respondents were processed using the AMOS software. It was found that several question items were invalid due to having loading factor values below 0.5, including some items, namely $Z_{1.1}$, $Z_{3.2}$, $Z_{5.3}$, $Z_{3.3}$, $Z_{4.1}$, $Z_{4.2}$, $Z_{4.3}$, $Y_{1.3}$, $Y_{2.1}$, $Y_{2.2}$, $Y_{2.3}$, $Y_{3.2}$, $Y_{3.3}$, $Y_{3.4}$, $Y_{4.1}$, $Y_{4.2}$, $Y_{4.3}$, $Y_{4.4}$, $Y_{4.5}$, $Y_{4.6}$, and $Y_{4.7}$. These invalid items were excluded from the model, resulting in the following full model:

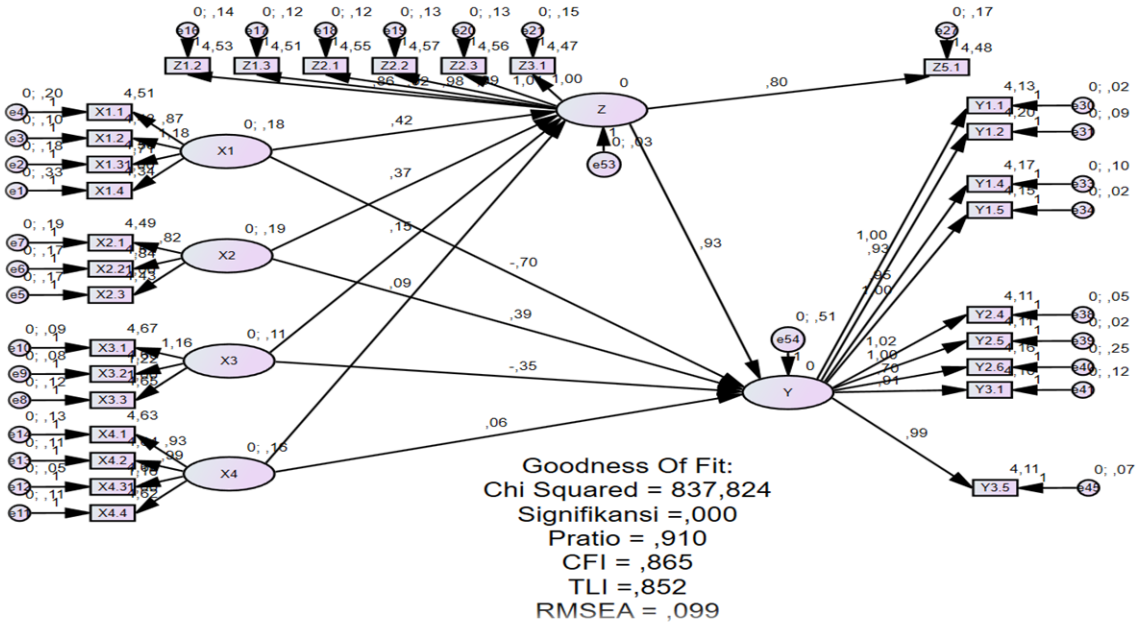

Figure 2. Measurement and Structural Model of the Study

The figure illustrates a structural equation modeling (SEM) framework that examines the relationships among four exogenous variables (X_1, X_2, X_3, X_4), one mediating variable (Z), and one endogenous outcome variable (Y), each measured by several indicators with relatively strong factor loadings. The arrows between the latent constructs represent the direction and magnitude of influence, showing how the four independent variables contribute differently to both Z and Y, while Z also exerts a notable effect on Y. The measurement model appears acceptable based on the indicator loadings, although the overall model fit is mixed: some indices approach acceptable thresholds (CFI = 0.865, TLI = 0.852), while RMSEA = 0.099 indicates room for improvement. Overall, the diagram depicts a moderately fitting SEM model that explores both direct and indirect effects on Y through the mediating role of Z.

Table 1. The Measurement Model Test (Validity and Reliability)

Variables	Indicators	Loading factor	Loading Factor Squared	Measuring error (1- loading factor kuadrat)	Construct Reliability
Green Organizational Culture	$X_{1.1}$	0.629	0.396	0.604	0.758
	$X_{1.2}$	0.837	0.701	0.299	
	$X_{1.3}$	0.579	0.335	0.665	
	$X_{1.4}$	0.592	0.350	0.650	
Green Performance Management	$X_{2.1}$	0.636	0.404	0.596	0.720
	$X_{2.2}$	0.673	0.453	0.547	
	$X_{2.3}$	0.727	0.529	0.471	
Green Pay and Reward	$X_{3.1}$	0.789	0.623	0.377	0.812
	$X_{3.2}$	0.813	0.661	0.339	
	$X_{3.3}$	0.700	0.490	0.510	
Green Involvement	$X_{4.1}$	0.718	0.516	0.484	0.871
	$X_{4.2}$	0.776	0.602	0.398	

Variables	Indicators	Loading factor	Loading Factor Squared	Measuring error (1- loading factor kuadrat)	Construct Reliability
Organizational Citizenship Behaviour for the Environment	$X_{4.3}$	0.898	0.806	0.194	0.809
	$X_{4.4}$	0.771	0.594	0.406	
	$Z_{1.2}$	0.583	0.340	0.660	
	$Z_{1.3}$	0.625	0.391	0.609	
	$Z_{2.1}$	0.656	0.430	0.570	
	$Z_{2.2}$	0.641	0.411	0.589	
	$Z_{2.3}$	0.655	0.429	0.571	
	$Z_{3.1}$	0.621	0.386	0.614	
	$Z_{5.1}$	0.511	0.261	0.739	
Employee's Performance	$Y_{1.1}$	0.988	0.976	0.024	0.984
	$Y_{1.2}$	0.929	0.863	0.137	
	$Y_{1.4}$	0.924	0.854	0.146	
	$Y_{1.5}$	0.987	0.974	0.026	
	$Y_{2.4}$	0.966	0.933	0.067	
	$Y_{2.5}$	0.985	0.970	0.030	
	$Y_{2.6}$	0.750	0.563	0.438	
	$Y_{3.1}$	0.906	0.821	0.179	
	$Y_{3.5}$	0.951	0.904	0.096	

Source: processed data

The results of validity and reliability tests (Table 1) indicated that all indicators were valid as they had loading factor values exceeding 0.05. Therefore, it could be concluded that the measurement indicators had meet the validity requirements, forming a cohesive measurement tool which accurately measured the same construct and effectively predicted the constructs it was intended to predict (Hair et al., 2010). The instrument's reliability test results, using construct reliability, demonstrated that the instrument was reliable, as indicated by the construct of reliability values exceeding 0.7.

3.2. Structural Equation Modeling Test

The results of the test using the AMOS program are shown in Figure 1. The evaluation of the goodness-of-fit criteria also can be seen in Table 2. The table summarizes the goodness-of-fit indices used to evaluate the SEM model, showing that the model achieves a generally moderate fit. The Chi-square value (837.824) exceeds the recommended cut-off, and the significance level ($p = 0.00$) indicates that the model does not perfectly fit the data; however, this is common in complex SEM models.

Table 2. Criteria Evaluation of Goodness of Fit Indices

Criteria	SEM Model	Cut off Value	Evaluation Model
Chi-square	837,824	< 394.6	Moderate fit
χ^2 significance probability	0.00	≥ 0,05	Moderate fit
PRATIO	0.910	≥ 0,90	Goodness of fit
RMSEA	0.099	≤ 0,08	Moderate fit
CFI	0.865	≥ 0,90	Moderate fit

Source: processed data

The PRATIO value of 0.910 meets the required threshold, suggesting strong parsimony and supporting the model's structural adequacy. Meanwhile, RMSEA = 0.099 is slightly above the ideal limit of 0.08, and CFI = 0.865 falls short of the ≥ 0.90 benchmark, meaning the model fits the data moderately well but could still be improved. Overall, these indicators collectively imply that the SEM model has acceptable but not optimal fit, and some model refinements may enhance its performance. In Table 2, it is a fact that the PRATIO criterion indicated a good fit, leading to the conclusion that the model was suitable to be used.

3.3. Direct Influence

The table 3 presents the path analysis results showing the direct effects of four exogenous variables (X_1, X_2, X_3, and X_4) on the mediator (Z) and the dependent variable (Y), along with their levels of statistical significance. The findings indicate that X_1, X_2, X_3, and X_4 have significant positive effects on Z. With respect to the dependent variable Y, only X_1 and X_3 exhibit significant direct effects, and notably, these effects are negative, suggesting that increases in X_1 and X_3 lead to a decrease in Y. Meanwhile, the effects of X_2 and X_4 on Y are not statistically significant.

Table 3. Parameter Estimates of the Structural Model (Path Analysis Results)

Path Analysis			Estimate	S.E.	C.R.	Plabel (two-sided)	Plabel (one-sided)
Z	<=	X_1	0.420	0.102	4.128	0.000	0.000***
Z	<=	X_2	0.369	0.091	4.070	0.000	0.000***
Z	<=	X_3	0.149	0.085	1.748	0.080	0.040**
Z	<=	X_4	0.087	0.067	1.309	0.190	0.095*
Y	<=	Z	0.928	0.587	1.582	0.114	0.057*
Y	<=	X_1	-0.697	0.342	-2.040	0.041	0.0205**
Y	<=	X_2	0.385	0.311	1.237	0.216	0.108
Y	<=	X_3	-0.355	0.253	-1.401	0.161	0.0805*
Y	<=	X_4	0.058	0.192	0.301	0.763	0.3815

Source: processed data

The effect of Z on Y is also positive and statistically significant, indicating a potential mediating role, although the statistical support for this mediation remains relatively weak. Overall, the results suggest that X_1 and X_2 are the most influential predictors of Z, whereas the relationships between the exogenous variables and Y tend to be weaker and less consistent. These findings further indicate that the mediating variable Z plays an important role in transmitting the effects of the exogenous variables to the dependent variable. The weak and inconsistent direct effects of several exogenous variables on Y imply that the underlying mechanism of influence is more likely to operate through Z rather than directly.

3.4. Pathways of Influence on OCBE (Z)

The GHRM variable as a whole had a significant positive effect on OCBE. It proved that the implementation of GHRM was very effective in increasing employee' awareness regarding environmental awareness (OCBE). Green Organizational Culture (X1) and Green Performance Management (X2) were the most dominant variables in increasing OCBE at an alpha of 10% (Prob < α = 10%). It indicated that a strong green organizational culture and green performance management would bring an increase in OCBE. Other variables, namely Green Pay and Reward (X3) and Green Involvement (X4), also had a positive and significant influence with alpha values of 5% and 10% respectively. Green Pay and Reward and Green Involvement had the smallest

influence among other variables. Despite their smaller influence, Green Pay and Reward and Green Involvement remained effective in increasing OCBE.

3.5. Pathways of Influence on Employee' Performance (Y)

OCBE (Z) had a significant positive effect on Employee Performance (Y) at an alpha of 10% (Prob < α = 10%). This indicated that employee' environmental awareness would contribute to improve employee' performance. The Green Organizational Culture (X_1) and Green Pay and Reward (X_3) variables had a significant negative effect on Employee Performance (Y) at alpha values of 5% and 10% respectively. Although both variables were effective in increasing OCB, excessive pressure placed on a green organizational culture without adequate infrastructure support would burden employees, disrupt focus, and impact employee' performance. On the other hand, incentives that considered unfair and overly complex would create competition, ultimately hindering employee' productivity. Green Performance Management (X_2) and Green Involvement (X4) did not have a significant effect on Employee Performance (Y). Although Green Performance Management and Green Involvement had a positive effect on OCBE, they did not influence employee performance.

3.6. Indirect Influence

Overall, all dimensions of Green Human Resource Management (GHRM) (Green Organizational Culture (X_1), Green Performance Management (X_2), Green Pay and Reward (X_3), and Green Involvement (X_4) had a positive indirect effect on Employee' Performance (Y), with Organizational Citizenship Behavior for the Environment (OCBE) (Z) acting as an effective mediating variable. Green Organizational Culture (X_1) => OCBE (Z) => Employee' Performance (Y): 0.390. It showed the largest indirect influence among other variables. Green organizational culture was effective in increasing environmental values and encouraging OCBE behavior, which would ultimately improve the employee' performance.

Table 4. Squared Multiple Correlations (R^2) for the Endogenous Variables

	X_3	X_2	X_1	X_4	Z	Y
Z	0.00	0.00	0.00	0.00	0.00	0.00
Y	0.139	0.342	0.390	0.081	0.00	0.00

Source: processed data

Green Performance Management (X_2) => OCBE (Z) => Employee' Performance (Y): 0.342. The Green Performance Management approach, such as setting green goals and green feedback, encouraged employees to participate in OCBE, which in turn improved overall employee' performance. An organized system for green performance was essential to foster OCBE behavior that impact performance. Green Pay and Reward (X_3) => OCBE (Z) => Employee Performance (Y): 0.139. Although it did not directly improve the employee' performance, green pay and reward could enhance performance through its ability to encourage OCBE behavior. Providing recognition for environmentally friendly behavior could also motivate employees to be more active in environmental awareness, which would ultimately improve employee performance. Green Involvement (X_4) => OCBE (Z) => Employee' Performance (Y): 0.081. The weakest, but positive, indirect influence. Although opportunities for involvement in Green Involvement could increase the employee' environmental awareness and affected performance, its impact was not as strong as

the others. Without a strong management system or cultural support, "involvement" alone might not be effective enough.

3.7. The Impact of Total GHRM and OCBE on Employee Performance

Organizational Citizenship Behavior for the Environment (OCBE) had a very strong and positive total influence on Employee' Performance (Y) with a value of 0.928. It was the largest influence in the overall model, indicating that employees' environmental awareness behavior was effective in improving their overall performance. Green Performance Management (X2) => Employee Performance (Y): 0.728. Green performance management practices did not only encourage OCBE but also directly and totally improve overall employee' performance. Clear and focused green performance management could enhance employee' focus, motivation, and effectiveness.

Table 5. Direct Effects Matrix (Structural Path Coefficients)

	X_3	X_2	X_1	X_4	Z	Y
Z	0.149	0.369	0.420	0.087	0.00	0.00
Y	-0.216	0.728	-0.307	0.139	0.928	0.00

Source: processed data

Green Involvement (X_4) => Employee Performance (Y): 0.139. Overall, Green Involvement improved the employee' performance. Although its indirect influence through OCBE tended to be weak (0.081), there was a slight additional positive direct effect or reinforcing mediation which made total positive influence. Green Pay and Reward (X_3) => Employee' Performance (Y): -0.216. Despite having a positive indirect influence on performance through OCBE (0.139), its total influence was negative. This meant that the negative direct impacted the green pay and reward systems, such as confusion, perceptions of unfairness, or demotivation, outweighs their indirect benefits.

Green Organizational Culture (X_1) => Employee Performance (Y): -0.307. Similar to Green Pay and Reward, although Green Organizational Culture was the strongest driver of OCBE and OCBE, it was very good for performance, its total influence on Employee' Performance was negative. An overly strong green organizational culture could create additional task burdens, unconscious shifts in priorities, or employee' resistance, ultimately reducing efficiency and disrupting its focus on primary tasks.

3.8. The Advantages and Comparison in this study

One of the key strengths of this study was the finding that OCBE had a significant positive effect on rmployee' performance in organizations implementing sustainability practices. Compared to previous studies, this result was consistent with the findings of Thamrin et al. (2024), who reported that communication and employee' involvement could enhance performance through OCB. Similarly, Putra et al. (2024) also found that OCB could improve employee' performance by increasing commitment and work motivation. These findings contributed to the growing body of literature on the relationship between employees' environmental behavior and their performance outcomes.

Green Performance Management (GPM) could enhance employee' performance indirectly through the mediation of OCBE, highlighting the importance of mediation mechanisms in

understanding the impact of green policies on performance, it was not merely as direct relationships. This finding aligns with the study by Aniqoh et al. (2022), which reported that GPM had a positive and significant effect on Organizational Citizenship Behavior for the Environment (OCBE). That study emphasized the role of green training, performance management, and employee' involvement in fostering pro-environmental behavior among employees. Moreover, a research written by Hutabarat & Sulistyaningsih (2025) also found that GHRM significantly affected employee' performance (EP), both directly and indirectly through OCBE as a partial mediator. OCBE strengthened the impact of GHRM policies on EP, as pro-environmental behavior such as energy conservation and waste management which contributed to the operational efficiency of organizations. Similarly, Lie et al. (2021) demonstrated that Green HRM practices positively influenced OCBE, which in turn improved employee' performance.

However, Green Organizational Culture (GOC) and Green Pay and Reward (GPR) showed direct negative effects on performance, indicating possible issues in implementation. These findings contrasted with Nusraningrum (2024), who found that green organizational culture could enhance the relationship between green training and employee' performance.

Meanwhile, GPM and Green Involvement (GI) did not directly affect performance, likely due to limited resources and lack of organizational support. Not all green strategies led to positive outcomes; their effectiveness depended heavily on implementation in practice. These results differed from those of Nusraningrum (2024), who found a positive effect of GPM on employee' performance.

This study provided a strong foundation for future research, particularly those employing longitudinal designs and more comprehensive methodologies. It revealed the complex relationship between green management strategies and employee' performance through pro-environmental behavior (OCBE), as well as a critical analysis of the challenges in implementing green strategies within organizations. Furthermore, it offered valuable insights for both academics and practitioners who sought to understand the dynamics of green HRM implementation.

4. Conclusions

The study showed that GOC, GPM, GPR, and GI significantly enhanced OCBE, which then improved employee performance, while their direct effects on performance varied and were sometimes negative or non-significant, with GPM showing the strongest indirect influence through OCBE. These findings answer the research objective by confirming that green HRM practices shape OCBE and ultimately contribute to better performance outcomes in the company. The results imply that strengthening environmental values, improving communication, and aligning systems with sustainability goals can meaningfully encourage employees to adopt eco-friendly behaviors and contribute to operational efficiency. Based on these insights, future studies should incorporate moderators such as organizational commitment or managerial support and consider broader contextual factors to deepen the understanding of these relationships. Practical recommendations include providing adequate resources, offering green-based rewards, and consistently reinforcing green culture across organizational levels. However, the study is limited by its cross-sectional design, narrow performance indicators, and the exclusion of other contextual variables, indicating the need for more comprehensive and longitudinal research in the future.

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