

THE EFFECT OF GREEN BEHAVIOR AND HRM ON ENVIRONMENTAL PERFORMANCE

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(Received 13th May 2024; revised 21st July 2024; accepted 29th July 2024)

Abstract. At this time, there has been an increasing emphasis devoted to the actions and behaviour of employees at their places of employment as a major factor of environmental issues. Because of this, organizations are starting to implement a wide variety of programs aimed at protecting the environment and implementing green approaches. Moreover, the factors that determine employees' green behaviour (EGB) and green human resource management (GHRM) still need further exploration. The current study gives an understanding by exploring the factors that influence green innovation (GI) and the environmental performance of organizations (OEP). This study data was acquired from 545 employees working in Malaysia's manufacturing sector using the quantitative research approach, and further, it was examined using PLS-SEM. In addition, it was determined that EGB, GHRM, and GI all had a significant positive relationship with OEP. It is important to note that (GI) also acts as a mediator in the interaction between EGB, GHRM, and OEP. Moreover, the association between GI and OEP has been investigated with moral credit serving as a moderator, and the findings confirmed the positive association. Looking at these relationships with OEP and GI to assess their mediation effects is a unique element of this study that significantly contributes to the existing body of research on EGB and GHRM. Furthermore, it provides directions for decision-makers on optimizing green employee behaviour and human resource management in their workplaces, ultimately leading to green innovation to improve organizational environmental performance.

Keywords: *employee green behavior, green human resource management, green innovation, moral credit, organizational environmental performance*

Introduction

Over the last several years, it has been noticed that the most significant sources of environmental issues are damaging human actions that cannot be disregarded (Al-Swidi et al., 2021). Various organizations have begun implementing environmentally friendly efforts to shape human activities according to the environment (Jyoti, 2019). While they tended to focus on improving environmental challenges' technical and administrative aspects, they strictly restricted human activities that damage the environment (Matthews et al., 2015). As a result, they recognized and commended those employees who exhibit pro-environmental conduct while working for an organization. Since workers spend considerable time at work, their pro-environmental conduct and environmentally conscious activities are rewarded. Personnel with this mindset strive to maximize the beneficial impact of workplace activities on the organizational environment's overall performance impact of workplace activities on the organizational environment's performance (Kim et al., 2019). These resources also support organizations engaged in initiatives involving the conservation of natural resources and environmental preservation (McKinley et al., 2017).

Pro-environmental employee behaviour, known as "green behaviour," is based on workers' environmentally aware efforts and interest in minimizing environmental hazards by regulating energy usage, decreasing waste, and recycling materials, among other activities (Ansari et al., 2021; Cheema et al., 2020a). In addition, it can be defined as a sequence of environmentally beneficial operations that are carried out to assist the organization in achieving its environmental protection objective. There is also evidence of the assessment of green employee behaviour in the workplace, which has been reported in various studies. Employee green behaviour in the workplace promotes organizations to develop green innovations (Syafri et al., 2021; Cai et al., 2020), and Almeida and Coelho (2019) have shown that environmentally conscious employees contribute to the enhancement of a corporation's image. This is because employees are vital to the organization and have direct contact with customers. When an organization creates a work environment that is considerate of environmental concerns, the organization's innovations always contribute to the advancement of environmental objectives (Süßbauer and Schäfer, 2018).

Empirical data is lacking on the link between GHRM, green innovation, and the overall environmental performance of manufacturing businesses. GHRM refers to activities meant to positively influence the environment and the environment's influence on the firm. Furthermore, it is connected with the environmental strategy of an organization (Sobaih et al., 2020). The environmental management objectives of manufacturers are integrated into human resource management, such as staff selection and recruitment, orientation and development, remuneration, and empowerment (Omarova and Jo, 2022). Green innovation is manufacturing environmentally friendly products, services, and processes via adopting environmentally aware organizational practices. Product design includes using greener and lighter raw materials, eco-design concepts, and reducing pollution, water, energy, and other raw material usage (Imran et al., 2021). Environmental performance is measured by the green outcomes businesses achieve due to green actions to reduce or eliminate negative environmental consequences (Singh et al., 2020). Research on human resource management and organizational innovation by Waheed et al. (2019) has concluded that human resource management substantially impacts product and service innovation. Therefore, organizations that use green innovation are more likely to achieve good results (Huang and Li, 2017), which helps to decrease negative environmental effects while simultaneously improving corporate environmental performance (El-Kassar and Singh, 2019). Certain statistics support these assertions, but no evidence exists, especially in the industrial sector.

Despite the growing interest in understanding the relationship between green employee behavior, green human resource management (HRM), green innovation, moral credit, and organizational environmental performance, there is a lack of research on how the mediating role of green innovation and the moderating role of moral credit can influence the relationship between green employee behavior, green HRM, and organizational environmental performance. Specifically, there is a need for research that explores how green innovation can mediate the relationship between green employee behavior, green HRM, and organizational environmental performance (Sobaih et al., 2020), and how moral credit can moderate the relationship between green innovation and organizational environmental performance, thereby enhancing or inhibiting the positive effects of green innovation and organizational environmental performance. This research gap is important because it can provide new insights into the mechanisms that

link employee green behavior, green HRM, green innovation, moral credit, and OEP, which can help organizations develop effective strategies for promoting environmental sustainability.

This research investigates the direct effect of green employee behaviour (EGB), GHRM, green innovation as a mediating variable, and moral credit employed as a moderator on the relationship between green innovation and organizational environmental performance (OEP). It makes many important contributions to the canon of current literature. First, it validates direct and indirect links between EGB, GHRM, GI, and MC with OEP. Secondly, the results provide credence to the notion that EGB, GHRM, GI, and MC collectively perform a positive role in the process of OEP. Thirdly, the present study provides light on the function of green innovation as a mediator between EGB, GHRM, and OEP. Fourthly, it was shown a positive and substantial association between the variables. Fifthly, the research demonstrates that the proposed framework applies to understanding Malaysia's organizations involved in manufacturing. In conclusion, it has been stated that study on green employee behaviour is still in their infancy, especially in developing nations (Mousa and Othman, 2020). This paper intends to give an empirical examination of this topic in Malaysia. Furthermore, in the present study, the theoretical framework is explained through the RBV theory.

Literature review and hypothesis development

Theoretical foundation

The resource-based view (RBV) theory can be used to explore the relationship between green employee behavior, green human resource management (HRM), green innovation, moral credit, and organizational environmental performance (Amjad et al., 2021). The RBV theory suggests that organizations can gain a competitive advantage by leveraging their unique resources and capabilities to create value for their stakeholders. In the context of environmental sustainability, green employee behavior and green HRM can be seen as valuable resources that can help organizations improve their environmental performance (Rehman et al., 2022). Furthermore, green employee behavior can be defined as employee actions that promote environmental sustainability, such as reducing energy consumption, minimizing waste, and promoting sustainable practices (Hameed et al., 2020). Moreover, green HRM refers to implementing HRM practices that support environmental sustainability, such as training programs on environmental sustainability, rewards for green behavior, and integrating environmental sustainability into job descriptions and performance evaluations (Anwar et al., 2020).

The mediating role of green innovation can be seen as a key mechanism through which green employee behavior and green HRM can influence organizational environmental performance. Green innovation involves creating and implementing new technologies, processes, and products that are environmentally sustainable (Song and Yu, 2018). By encouraging and supporting green employee behavior and green HRM, organizations can stimulate the development of green innovation, which can lead to improved environmental performance. The moderating role of moral credit can also influence the relationship between green innovation and organizational environmental performance. Moral credit refers to an organization's reputation or image for behaving ethically and responsibly (Rozeboom, 2016). Organizations perceived as socially responsible are more likely to be given the benefit of the doubt when facing challenges

or crises. This means that the positive effects of green innovation on environmental performance may be enhanced for organizations with high levels of moral credit, while the negative effects may be mitigated. Overall, the RBV theory suggests that green employee behavior and HRM can be valuable resources for organizations seeking to improve their environmental performance (Rehman et al., 2023). The mediating role of green innovation and the moderating role of moral credit can further enhance the positive effects of these resources on environmental sustainability.

Employee's green behavior

The green behaviour of employees in the workplace includes recycling, waste management and reduction, energy usage, and any other action meant to lessen the negative impact on the environment (Al-Swidi et al., 2021). Generally, every activity that benefits the environment is called green behaviour (Ansari et al., 2021). Its purpose is to minimize the amount of harm produced by organizational behaviours. Green behaviour, defined as purposeful efforts by workers to innovate inside the organization, helps improve the organization's environmental performance (Malik et al., 2021). Green innovation is fully dependent on the context in which it is implemented and can be used to assess the conduct of environmentalists (Buhl et al., 2016). When these environmental habits are evaluated in the context of an employee's employment, they are referred to as "green behaviour" on the part of the employee. It is not sufficient for firms to concentrate alone on improving their environmental performance and reducing the negative effect of their organizational and production operations; they must also urge their people to adopt environmentally conscious behaviours (Dixon et al., 2015). According to Christensen et al. (2020), the increasing trend of establishing green organizations depends on implementing environmental methodologies, ideas, processes, and traditions into their operations at the operational level. This is achieved by implementing changes in the actions and choices of the organization's senior executives. Policies and organizational structures are developed to assist employees in making the environment a greener and cleaner place to live. Every effort, from the top management to the lowest-level personnel, contributes to realizing the institution's environmental commitment.

Voluntary and task green behaviour are the two different types of green behaviour that can be seen among employees (Norton et al., 2015). Chaudhary (2020) defined it as green behaviours executed within organizational restrictions and the scope of needed job activities. Further, task green behaviour can be described as behaviours that have been explicitly documented and designated as a component of a job explanation. Employee green behaviour that is voluntarily undertaken and goes above and beyond organizational requirements has been termed voluntary employee green behaviour (Dumont et al., 2017).

Employee green behaviour and green innovation

Organizational workplace green behaviour focuses on the individual behaviour that probably contributed to the long-term sustainable development of an organization's environment. Such behaviour includes properly storing office supplies, maintaining open communication channels, and sharing environmental stewardship information among employees within an organization (Farooq et al., 2021). Employees and executives at all levels of the firm, from entry-level positions to executives, can improve

their environmental stewardship by adopting an environmental responsibility perspective. In the green innovation field, scholars have claimed the significance of green employee behaviour (Yeşiltaş et al., 2022). Employees that adopt a "green" approach can particularly and considerably improve the results of green innovation (Fernández et al., 2006). This is in response to the rising requirement to find appropriate management behaviour explicitly indicating green innovation (Begum et al., 2022). Given that top management in an organization serves as a good example of successfully engaging colleagues' related actions, top management can engage workers in green innovation attempts to a greater extent (Cai et al., 2020). Top management, in particular, can persuade their subordinates to perform tasks in a manner comparable to the approach in which they do them (Yang et al., 2020).

Employee green behaviour indicates an awareness of the environment and concern for others (Norton et al., 2015). "Green behaviour" refers to task-related and voluntary green activity. Performing formal green tasks that are a necessary component of an employee's performance evaluation is called task green behaviour. In contrast, voluntary green behaviour demonstrates an employee's willingness to go above and beyond the requirements of their official job and is not acknowledged in the employee's or supervisor's performance evaluation (Paillé and Boiral, 2013). Employee green behavior, task green behavior, and voluntary green behavior can all significantly impact the development of green innovation within an organization. Employee green behavior refers to the environmentally sustainable actions and practices that employees engage in while performing their job duties. Task green behavior, on the other hand, focuses on the specific environmentally sustainable actions and practices required to complete a particular task or project. Voluntary green behavior refers to environmentally sustainable actions and practices that employees voluntarily engage in, outside their job duties. All three forms of employee green behavior can contribute to developing green innovation within an organization. Employee green behavior can create a culture of environmental sustainability within the organization, which can stimulate the development of new environmentally sustainable products, services, and processes (Ones and Dilchert, 2013). Task green behavior can help identify areas where environmentally sustainable practices can be integrated into organizational processes, leading to the development of more sustainable practices and products (Chaudhary, 2020). Voluntary green behavior can also stimulate innovation by generating new ideas for environmentally sustainable practices and products that can be implemented within the organization (Aboramadan, 2022). The following hypotheses are suggested below.

H1: Employees' green behaviour is positively related to green innovation.

H1a: Task green behaviour is positively related to green innovation.

H1b: Voluntary green behaviour is positively related to green innovation.

Employee green behaviour and organizational environmental performance

Lavy and Littman-Ovadia (2017) demonstrated how the organizational citizenship behaviour of workers might contribute to increased productivity. For example, employees who adhere to organizational citizenship behaviour support one another in performing their given tasks and responsibilities. The same applies to people who frequently attend meetings and can share knowledge with their co-workers. In any sector, an employee with unique abilities can use those abilities to improve an organization's capacity to adapt quickly and effectively to a changing environment.

However, a recent study by Qiu et al. (2019) examined employees' organizational citizenship behaviour and observed that it directly impacted their level of customer satisfaction. Several studies have shown that organizational citizenship behaviour is one of the key factors influencing an organization's environmental performance (Cheema et al., 2020b; Alt and Spitzack, 2016). According to Hameed et al. (2020), employees should collaborate with the organization to reduce waste and improve environmental performance as a whole, as suggested by those who hypothesized that environmentally responsible behaviour could aid in the implementation of an effective management system for preserving and restoring the environment while also enhancing performance.

Significant research suggests that employee green behavior, task green behavior, and voluntary green behavior are related to organizational environmental performance. Employee green behavior, such as recycling, reducing energy consumption, and advocating for sustainable practices within the workplace, can directly impact an organization's environmental footprint (Fawehinmi et al., 2020). Furthermore, when employees actively promote sustainability within the workplace, it can lead to reduced waste, lower energy consumption, and increased compliance with environmental regulations (Abdulghaffar, 2017). Additionally, employees who are engaged in green behavior may be more motivated and productive, leading to benefits beyond just environmental performance. Task green behavior, which involves incorporating sustainable practices into job-specific tasks, can also impact an organization's environmental performance. Karmoker et al. (2021) argued that manufacturing processes that use eco-friendly materials and energy-efficient technologies can reduce an organization's carbon footprint, while logistics processes that minimize transportation and packaging waste can help to reduce emissions and waste. Voluntary green behavior, such as participating in environmental volunteer activities or advocating for environmental protection, can also positively impact organizational environmental performance. Employees who are committed to sustainability both inside and outside of work are more likely to bring a sense of environmental responsibility and awareness to the workplace, which can lead to more sustainable practices and better environmental performance (Ren et al., 2021). Organizations that prioritize and incentivize green behavior among their employees are more likely to achieve their sustainability goals, improve their environmental performance, and create a culture of sustainability that benefits both the organization and the environment. The following assumptions are provided regarding the above discussion:

H2: Employee green behaviour is positively related to organizational environmental performance.

H2a: Task green behaviour is positively related to organizational environmental performance.

H2b: Voluntary green behaviour is positively related to organizational environmental performance.

Green HRM

GHRM refers to human resource management strategies that have an environmental and ecological effect on the business and are integral to its environmental strategy (Roscoe et al., 2019). It is also associated with organizational innovation (Song et al., 2020). Organizations that use green innovation to expand their organizations are prosperous (Albort-Morant et al., 2018). Previous research has indicated that

organizations that practice green innovation stay ahead of their competitors (Imran et al., 2021) due to the potential of green resources and capabilities to detect consumer needs swiftly and decisively, as well as to contribute substantial resources to the organization, green resources and capabilities are advantageous (Sobaih et al., 2020). According to research results, human resource management has a considerable and positive influence on product and service innovation (Jimenez-Jimenez and Sanz-Valle, 2008). Moreover, Song et al. (2020) revealed that green HRM favours the green innovation of a business.

Green HRM strategies address organizations' economic and environmental implications during a time of growing environmental consciousness and the development of natural resources (Ansari et al., 2021); they are also known as HRM techniques that are environmentally friendly. GHRM is related to an effective environmental strategy and green activities for workers (Roscoe et al., 2019). We contend that GHRM is an essential component of sustainable human resource management (HRM) literature and represents environmentally responsible management practices. The green HRM effort connects human resource management strategies to environmental activities (Ahakwa et al., 2021). In order to reduce environmental pollution in the workplace, green HRM must reflect the organization's organized environmental protection orientation and require management to document overall organizational activities that encourages employees to engage in environmentally conscious behaviour (Singh et al., 2020). Green HRM entails establishing human resource systems linked with the organization's environmental management objectives, such as compensation, training and development and recruiting and selection (Cheema and Javed, 2017).

Green HRM and green innovation

According to Carballo-Penela and Castromán-Diz (2015), organizations must create proactive methods to deal with environmental challenges in light of the rising pressure from environmental laws and regulations. GHRM has been a significant method for implementing green practices that enhance environmental performance and promote sustainable development in recent years (Ren et al., 2018). Consequently, substantial research has been undertaken to establish how and when GHRM impacts environmental performance, providing the business with competitive advantages (Hameed et al., 2020). According to the results of Guerci et al. (2016), for instance, GHRM impacts the link between stakeholder pressure and environmental performance. However, few studies have studied the links between GHRM and green innovation

Green innovation can reduce environmental impacts while simultaneously achieving an organization's environmental goals and producing environmental benefits (Weng et al., 2015). Prior research has shown that human resource management may enhance employees' knowledge, skills, and abilities, fostering product and process innovation inside a business (Shipton et al., 2017). Based on this logic, we argue that GHRM has a favourable effect on green innovation. First and foremost, green hiring boosts an organization's competitiveness in environmental management since recruiting people more sensitive to green ideals will engage in more ecologically beneficial activities (Muisyo and Qin, 2021). Individuals with a high level of environmental awareness and competence may provide greater advantages for environmental management, which will assist firms in becoming more inventive with their green activities. In order to generate and sustain green innovation, businesses should seek out individuals that participate in

environmental initiatives on purpose (Fernando et al., 2016). Second, organizational training may provide workers with the information and tools to innovate and be more creative in the workplace (Chowhan, 2016). To be more precise, when a business promotes green training, which may help its personnel acquire environmental knowledge and skills (Yong et al., 2020), it can foster the creation of new ideas for green production or process innovation. Employees that get green training are better equipped to identify environmental issues and more inclined to engage in activities that foster green innovation.

On the other side, green incentive systems may help firms connect the behaviour of their workers with their environmental aims (Saeed et al., 2019). Even though green innovation is the aspect of environmental management that solves ecological issues, green performance management effectively boosts employee environmental commitment (El-Kassar and Singh, 2019). Thus, they tend to engage in ecologically innovative practices (El-Kassar and Singh, 2019). Moreover, recognizing environmental efforts and new ideas for environmentally friendly products or processes may assist in creating an organizational atmosphere that encourages creativity in the workplace (Horng et al., 2017). A human resource management study concludes that HRM systems may benefit product or process innovation (Chowhan, 2016), indicating that complementary HR practices can have a greater impact on innovation than employing distinct techniques. As a consequence, we analyze the three facets of GHRM practices together, as they all contribute in some manner to green innovation. Consequently, we propose the following hypothesis:

H3: GHRM is positively related to green innovation.

H3a: Green training is positively related to green innovation.

H3b: Green rewards are positively related to green innovation.

H3c: Green recruitment and selection are positively related to green innovation.

Green HRM and organizational environmental performance

Green GHRM is a term that refers to human resource management techniques that are focused on an organization's economic and environmental impacts during a period of increased awareness of environmental issues and the production of environmental assets (Rehman et al., 2021), and it is associated with an excellent ecological strategy and green tasks of employees (Roscoe et al., 2019). We assert that GHRM is an important element of environmental HRM literature and represents good environmental management practices. The GHRM is a platform for linking human resource management approaches to environmental management efforts (Ansari et al., 2021). As a result, GHRM reflects the organization's intended environmental protection direction on management to take note of organizational programmes and approaches that facilitate employees' participation in green behaviour to minimize environmental pollution at work (Singh et al., 2020). Developing human resource structures that support the organization's environmental management objectives, such as reward, training, development, and recruiting and selection, are all part of green HRM practices (Saeed et al., 2019). When it comes to improving green management performance in organizations, green training is one of the most crucial GHR initiatives. Environmental training is a very successful strategy for developing human resources (Wehrmeyer, 2017). The objective is to increase public knowledge of environmental concerns and attention to them, foster an aggressive approach toward greening projects, and enhance

waste reduction and energy conservation (Ahmad, 2015). In increasing the effectiveness of an environmental management system, Teixeira et al. (2016) said that environmental training is quite beneficial. These training courses must be adapted to manufacturing organizations' requirements to achieve considerable environmental advantages training (Yong et al., 2020). The study of more organizational scholars has shown strong and positive relationships between green training and environmental performance (Yusoff et al., 2020; Guerci et al., 2016).

Green recruitment and selection are part of the human resource management (HRM) process, incentivizing potential employers to implement GHRM efforts. The marketing efforts of environmentally conservative organizations aim to attract competent, well-known green practitioners who are similarly concerned with green practices and long-term sustainability challenges. Green employees appreciate organizations that consider environmental and social responsibility while doing their primary activities (Chaudhary, 2020). Organizations' job descriptions should include and communicate environmental concerns, and the job analysis process should communicate the needs of the chosen candidate (Pham and Paillé, 2019). When an organization aligns its compensation system with its green practices, it is called a green compensation system. It should develop green workplace activities, green lifestyle programs, and carbon emission reduction measures (Ahmad, 2015). Individuals must be paid for their contributions to developing environmentally friendly ideology; this compensation must be equitable (Mishra, 2017). This might be one of several various incentives organizations can utilize to acquire environmentally friendly capabilities. Among the types of environmental management (EM) bonuses available are financial-oriented EM awards (such as premiums or cash payments) as well as non-financial EM rewards (such as vacation, gifts, study leave bonuses), acknowledged EM (for example, external roles and regular lounges), and constructive EM rewards (Ahakwa et al., 2021; Rawashdeh, 2018). In light of the above debate, the following hypotheses are provided as consideration:

H4: GHRM is positively related to organizational environmental performance.

H4a: Green training is positively related to organizational environmental performance.

H4b: Green rewards are positively related to organizational environmental performance.

H4c: Green recruitment and selection are positively related to organizational environmental performance.

The mediating role of green innovation

Green innovation refers to developing and implementing new technologies, processes, and products that promote environmental sustainability (Xu et al., 2022). Green innovation can directly impact organizational environmental performance by helping organizations reduce their environmental impact and achieve their sustainability goals. While Usman and Balsalobre-Lorente (2022) argued that developing energy-efficient technologies, renewable energy sources, or sustainable materials can help organizations reduce their carbon footprint, conserve natural resources, and minimize waste and waste pollution. Additionally, the implementation of green innovation can also lead to cost savings, improved efficiency, and increased competitiveness, which can benefit the organization beyond just environmental performance. Research has found that organizations that prioritize green innovation are more likely to achieve their

environmental goals and improve their environmental performance (Sahoo et al., 2023). By investing in research and development, implementing innovative technologies and processes, and collaborating with stakeholders to promote sustainability, organizations can create a culture of sustainability that benefits both the environment and the organization. Overall, the research suggests that green innovation can positively impact organizational environmental performance (Hussain et al., 2022). As a result, we recommend the following hypothesis in the manufacturing sector:

H5: Green innovation is positively related to organizational environmental performance.

Employee green behaviour is often regarded as the most important factor in attaining sustainable operations. Furthermore, organizational citizenship behaviour towards the environment has been intensively explored to better understand employees' psychological mechanisms when implementing an organization's environmental policies and practices (Cho and Yoo, 2021; Gilal et al., 2019). Masoudi and Shahin (2021) stated that such behaviour is voluntary and may not be explicitly acknowledged by the organization's formal incentive system since it is focused on benefitting the environment rather than the organization itself. Researchers have shown that employees eager to participate in environmentally friendly behaviour tend to recycle wastes, save energy, and contribute positively to the organization's overall green practices (Lu et al., 2017). This green corporate citizenship behaviour results in actions that enhance care about the environment and, in some cases, even the production of beneficial ideas regarding more environmentally friendly goods, services, and manufacturing processes (Awan et al., 2019). Trang et al. (2019) said that green behaviour is when someone comes up with new green ideas for saving the environment or improving the environment that can be turned into green practices. Despite the expected advantages, green employee behaviour is still a relatively under-explored subject in the organization literature (Zhang et al., 2019). Employee green behaviour is when this conduct is focused on the workplace and is important to individuals. Organizational workplace behaviour has evolved into employee green behaviour, which serves as a proxy for green innovation to provide more environmentally friendly services while reducing the organization's overall environmental impact (Cho and Yoo, 2021; Paillé and Raineri, 2015). But organizations must link their sustainability philosophy with an innovative attitude to generate green organizational initiatives and stimulate green creativity (Aboramadan and Karatepe, 2021). By recognizing the importance of green innovation and its role between employee task green behavior and organizational environmental performance, organizations can take a proactive approach to sustainability and work towards creating a more environmentally responsible workplace (Roscoe et al., 2019). This can benefit the environment and the organization's reputation, employee satisfaction, and bottom line.

Moreover, Aboramadan (2022) revealed that the role of green innovation between employee voluntary green behavior and organizational environmental performance suggests that green innovation may serve as a mechanism through which the positive effects of employee voluntary green behavior are translated into improved environmental performance at the organizational level. Similarly, when employees engage in voluntary green behavior, such as reducing energy consumption, waste production, or carbon emissions, they may inspire or encourage the development and

implementation of new green innovations within the organization. These innovations, in turn, can lead to further environmental improvements and enhanced organizational performance. In light of the above debate, we have proposed the following hypothesis.

H6: Green innovation mediates the relationship between employee green behaviour and organizational environmental performance.

H6a: Green innovation mediates the relationship between task green behaviour and organizational environmental performance.

H6b: Green innovation mediates the relationship between voluntary green behaviour and organizational environmental performance.

Using greener raw materials, making products with fewer materials, and using less water, energy, and other raw materials are all examples of green innovation. These are all factors organizations can do to make their products more environmentally friendly (Singh et al., 2022). Several earlier studies have shown that green innovation businesses are very competitive (Gürlek and Tuna, 2018), supported by current research. The GHRM helps improve green innovation and business performance (Rehman et al., 2021; Singh et al., 2020). According to a previous study, GHRM impacts green innovation (Song et al., 2020). Furthermore, according to their research, Feng and Chen (2018) indicate that strategic human resource management benefits product innovation in organizations with a developmental environment and a flat organizational structure. Furthermore, research suggests that the green recruiting and selection procedure should hire potential employees based on their environmental values rather than their previous work experience (Roscoe et al., 2019). The recruits will be able to perceive the ecological significance and perspectives of the organization (Renwick et al., 2016), and they will be able to draw on future employees' ideas about the environment (Mohanty et al., 2021). GHRM practices that promote environmental efficiency include green training and development, green rewards and compensation, and reimbursement (Singh et al., 2020). Specifically, we assert that green training programmes focused on advancing skills and institutionalizing eco-friendly goals, roles, and performance management system evaluations for people employed in green places of work, recycling, waste management, and energy conservation will help employees advance their careers and achieve their environmental goals (Singh et al., 2020). On the other hand, green innovation is associated with a strong environmental sustainability strategy that drives environmental performance (Asiaei et al., 2022). Green innovation is a deliberate strategy for achieving environmental performance. By developing environmentally friendly products and processes, organizations can significantly decrease their harmful effect on the environment while increasing business efficiency. This is achieved by reducing waste and costs and cutting costs, effort and resources. The result is a financial, environmental, and social achievement for the organization (El-Kassar and Singh, 2019).

The role of green innovation highlights the importance of taking a holistic approach to environmental sustainability. By investing in green training, offering green rewards, and recruiting and selecting employees committed to sustainability, organizations can foster a culture of sustainability and generate new ideas and innovations that help them achieve their environmental goals. Organizations can reap the benefits of improved environmental performance, higher efficiency, and increased competitiveness by converting these investments into green innovation. Considering the preceding

discussion, researchers believe that green innovation mediates the relationship between GHRM practices such as green training, green rewards, and green recruitment & selection with environmental performance. As a result, we recommend the following hypothesis:

H7: Green innovation mediates the relationship between GHRM and organizational environmental performance.

H7a: Green innovation mediates the relationship between green training and organizational environmental performance.

H7b: Green innovation mediates the relationship between green rewards and organizational environmental performance.

H7c: Green innovation mediates the relationship between green recruitment & selection and organizational environmental performance.

The moderating role of moral credit

The self-crediting process in which previous good action is seen as credit that may be utilized to participate in future activity without the risk of being discredited or detracting from one's positive self-image is called moral credit (Miller and Effron, 2010). Self-credit, for example, can be activated by moral activities (Ng and Yam, 2019), affirmations of racial justice (Effron et al., 2009), and the disclosure of financial interests (Ren et al., 2023). According to research, employees would take credit for green innovation on their own in at least three cases. Innovation is a moral act (Nunn and Avella, 2015). In contrast, environmental concerns have moral implications, as they induce the moral implications of one's behaviour and decision-making concerning responsible values, beliefs, and goals for the natural environment (Paillé et al., 2016). Employees who make positive environmental initiatives may assume they have earned 'credit' for their efforts. Employees leave with good thoughts about their efforts and a positive self-image due to their participation. Not all businesses engage in staff education or increase their environmental knowledge and abilities, although sustainable development is significant to their operations. Employees must be acquainted with the recycling system and convey environmentally friendly practices to convince others to implement green innovation in the organization. In addition to more extraordinary and more sophisticated cognitive talents than transitional professions, environmentally friendly 'green employment' demands higher and more complex cognitive abilities (Ren et al., 2018). As a result, employees who work in an innovative business are more inclined to take credit for morally commendable endeavours and to ascribe good contributions to their actions, as indicated in the following hypothesis (*Figure 1*):

H8: Moral credit moderate between green innovation and organizational environmental performance.

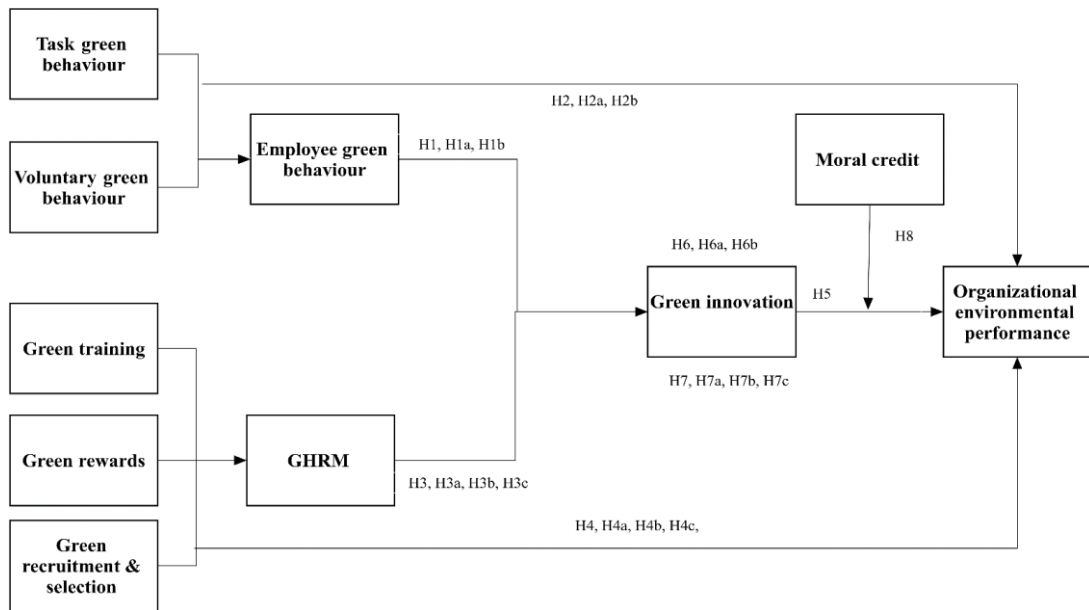


Figure 1. Conceptual framework.

Materials and Methods

Research population and sample

A quantitative survey research approach was used to evaluate the hypotheses' correlations. The questionnaire items were developed from previous research, and answers to numerous assertions were evaluated on a 5-point Likert scale to help establish the reliability and validity of the data (Hair Jr et al., 2014). We used a random selection process to find human resource managers in the organization located in eight states. Then we contacted them to advise them of the study's objectives, data-collecting procedures, and confidentiality of information. We were able to get the employees' e-mail addresses at their organizations with the assistance of this personnel. In January 2022, the confidential survey questionnaire was administered online. It comprised the following five measurement categories: employee green behaviour, green innovation, moral credit, organizational environmental performance, and GHRM. E-mails were sent out to a total of 700 employees. A total of 620 questionnaires were submitted for this study. After eliminating the 75 questions with inadequate or confusing replies, the remaining 545 questionnaires were deemed acceptable.

Measures

In this research, all latent variables were evaluated using measures that had been developed previously. The requirement to be met was to use well-developed scales with strong reliability and validity reports. More than 0.70 was assigned to the coefficient alpha value for each scale reported in the initial research. Table 1 describes the original scales and the authors' descriptions of each variable.

Table 1. Description of the items.

Constructs	No. of items	Authors
Organizational environmental performance	6	Al-Swidi et al. (2021)
Employee green behaviour		Bissing-Olson et al. (2013)
Task green behaviour	3	

Voluntary green behaviour	3	
GHRM		Tang et al. (2018)
Green training	3	
Green rewards	3	
Green recruitment & selection	3	
Green innovation	6	Chen et al. (2006)
Moral credit	5	Lin et al. (2016)

Results and Discussion

Partial least squares structural equation modelling (PLS-SEM) was used on the data to verify the study's postulated model once it had been evaluated (Hair et al., 2012). Because it is based on composites rather than factors, it has been determined to be acceptable. PLS-SEM was particularly selected to analyze the research model because it is detailed below. First, most of the constructs studied in applied science research are design constructs, meaning that the composite measurement model, variance-based SEM, best suits them (Henseler, 2017). Secondly, PLS-SEM predicts the model based on composites, which enables it to provide accurate estimations while also allowing the merging of explanatory and prediction approaches for exploratory study (Sarstedt and Cheah, 2019). Third, although covariance-based and variance-based modelling have been used in past studies (Ting et al., 2019), PLS-SEM is recommended to avoid estimation bias due to the unidentified nature of the data because it does not entail the normality of the data (Shmueli et al., 2019). Even though it is possible to employ PLS-SEM to carry out multi-group analysis (Ramírez-Correa et al., 2019), in this study, the analyses were carried out using the SmartPLS version 3.3.7.

Measurement model

Two kinds of validity and reliability, while the fourth verify the reflective constructs. According to the results of this study, the maximum possible factor loading for determining the factor loadings for each item is 0.963, and the lowest possible is 0.664. (Figure 2). Consequently, the criterion for the reliability of each item has been reached. Internal consistency criteria were employed in the analysis for calculating the value of Cronbach's alpha in the preceding section. Composite reliability (CR) has superseded Cronbach's alpha as the preferred measure of dependability due to several considerations. For instance, CR is suggested above Cronbach's alpha since it delivers less biased findings. In addition, CR is an appropriate option for internal consistency reliability since Cronbach's alpha measured across all items has factor loadings that are either less than 0.50 or more than 0.50. Alternatively, when calculating CR, the researchers removed any entries with a value less than 0.50. The CR method, a unique way to assess internal consistency, is favoured when utilizing confirmatory factor analysis. Cronbach's alpha is the preferred measurement for exploratory factor analysis. CR was employed to guarantee the internal consistency and reliability of the research. According to the study done by Hair Jr et al. (2014), CR must be more than 0.60. According to Table 2, both the greatest CR value, 0.970, and the lowest CR value, 0.905, are more than the 0.60 threshold value. Nunnally and Bernstein (1978) state that Cronbach's alpha should be equal to or higher than 0.60. Table 2 indicates that Cronbach's alpha values of all variables are above the threshold value. This work estimates convergent validity to determine the AVE value, and the 0.50 threshold value specified by Hair Jr et al. (2014) is used. Table 2 reveals that the maximum AVE, 0.916, and the minimum AVE, 0.686, are more than the threshold level, 0.50.

Table 2. Assessment of measurement model, convergent validity.

1st order constructs	2nd order constructs	I	L	CR	α	AVE	R ²
Task green behaviour	-	TGB1	0.867	0.905	0.842	0.760	
		TGB2	0.871				
		TGB3	0.876				
Voluntary green behaviour	-	VGB1	0.880	0.919	0.868	0.791	
		VGB2	0.905				
		VGB3	0.883				
-	Employee green behavior	EGB1	0.955	0.955	0.905	0.913	
		EGB2	0.956				
Green training	-	GT1	0.853	0.906	0.845	0.764	
		GT2	0.892				
		GT3	0.877				
Green rewards	-	GR1	0.921	0.929	0.886	0.815	
		GR2	0.909				
		GR3	0.877				
Green recruitment & selection	-	GRS1	0.874	0.914	0.858	0.779	
		GRS2	0.896				
		GRS3	0.878				
-	GHRM	GHRM1	0.953	0.970	0.954	0.916	0.92
		GHRM2	0.963				
		GHRM3	0.955				
Green innovation	-	GI1	0.888	0.935	0.917	0.707	
		GI2	0.877				
		GI3	0.808				
		GI4	0.866				
		GI5	0.824				
		GI6	0.777				
Moral credit	-	MR1	0.851	0.917	0.885	0.689	
		MR2	0.848				
		MR3	0.664				
		MR4	0.884				
		MR5	0.883				
Org. Environmental performance	-	OEP1	0.858	0.929	0.908	0.686	0.81
		OEP2	0.784				
		OEP3	0.808				
		OEP4	0.823				
		OEP5	0.840				
		OEP6	0.852				

Notes: I=Item; L=Loadings.

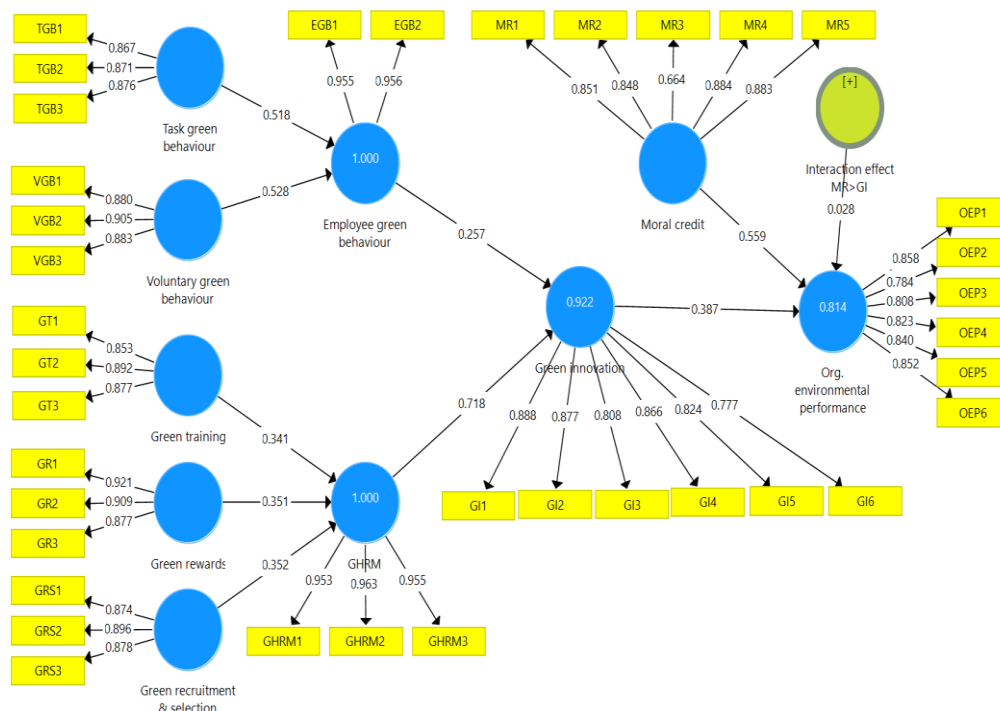


Figure 2. Measurement model.

Discriminant validity has been proven if there is a lower correlation between several distinct variable indicators. It is a term that refers to the extent to which the individual items of several constructs diverge from one another. Whenever the square root of the AVE value of the variable is larger than its corresponding squared inter-constructs correlation with all of the other constructs, discriminant validity can be confirmed (Fornell and Larcker, 1981). Discriminant validity can be inferred from the fact that the initial value is greater than the latter one. The conclusions drawn from the Fornell-Larcker criterion can be seen in Table 3. Researchers used conventional metrics to calculate discriminant validity (Fornell and Larcker, 1981). Within the scope of our investigation, we additionally validate the discriminant validity of conventional matrices. For example, compare the AVE to the squared correlation, or compare the AVE square root to the correlation.

Table 3. Discriminant validity Fornell-Larcker criteria.

	EGB	GHRM	GI	GRS	GR	GT	MC	OEP	TGB	VGB
EGB	0.956									
GHRM	0.923	0.957								
GI	0.920	0.925	0.841							
GRS	0.872	0.916	0.728	0.883						
GR	0.912	0.864	0.643	0.583	0.903					
GT	0.871	0.906	0.676	0.463	0.888	0.874				
MC	0.920	0.898	0.795	0.647	0.895	0.841	0.830			
OEP	0.899	0.890	0.837	0.651	0.858	0.850	0.786	0.828		
TGB	0.935	0.882	0.805	0.534	0.868	0.836	0.817	0.654	0.872	
VGB	0.857	0.884	0.795	0.734	0.878	0.830	0.792	0.762	0.828	0.890

Note: Values that are highlighted have higher rankings in the respective column.

Structural model and testing of hypotheses

The first portion of this section is dedicated to identifying the requirements for assessing models, including content, discriminant, convergent validity, and reliability. SmartPLS 3.3.7 was used in this investigation section to examine the previously provided hypotheses in the relevant literature. The PLS-SEM research advocated proceeding to a structural model after the measurement model. The structural model would assess the significance of path coefficients and test hypotheses (Imran and Jingzu, 2022). The bootstrapping method tests hypotheses exhibiting causal relationships between model components. Using a sample size of 545, the path coefficients' significance is determined to test the hypotheses (Hair Jr et al., 2017). As illustrated in *Figure 3* and *Table 4*, we have eight primary hypotheses and fifteen sub-hypotheses, with 14 hypotheses including direct hypotheses and nine hypotheses containing indirect hypotheses (mediating and moderating). Evidence supports each of the fifteen direct relationships of the hypotheses and all of the indirect (including mediation and moderation) hypotheses. For instance, *Table 4* shows that EGB and GHRM with dimensions are positively associated with green innovation (GI) and organizational environmental performance (OEP) as (H1, H1a, H1b; $\beta=0.257$, $p<0.000$, $t\text{-value}=4.145$, $\beta=0.133$, $p<0.000$, $t\text{-value}=4.142$, $\beta=0.136$, $p<0.000$, $t\text{-value}=4.092$, H2, H2a, H2b: $\beta=0.100$, $p<0.004$, $t\text{-value}=2.886$, $\beta=0.052$, $p<0.004$, $t\text{-value}=2.883$, $\beta=0.053$, $p<0.004$, $t\text{-value}=2.866$) and supported H1, H1a, H1, H2, H2a, H2b. In addition, Hypotheses H3 and H4, together with their respective sub-hypotheses, are shown to have a positive association with GI and OEP (H3, H3a, H3b H3c; $\beta=0.718$, $p<0.000$, $t\text{-value}=11.565$, $\beta=0.245$, $p<0.000$, $t\text{-value}=11.621$, $\beta=0.252$, $p<0.000$, $t\text{-value}=11.689$, $\beta=0.252$, $p<0.000$, $t\text{-value}=11.076$, H4, H4a, H4b, H4c; $\beta=0.278$, $p<0.000$, $t\text{-value}=5.161$, $\beta=0.095$, $p<0.000$, $t\text{-value}=5.183$, $\beta=0.097$, $p<0.000$, $t\text{-value}=5.197$, $\beta=0.098$, $p<0.000$, $t\text{-value}=5.137$) and supported H3, H3a, H3b, H3c, H4, H4a H4b H4c. Furthermore, GI has a significant positive influence on OEP ($\beta=0.387$, $p<0.000$, $t\text{-value}=5.257$), which provided statistical evidence for hypothesis 5 is supported.

Table 4. Direct and indirect hypothesis relationships.

Hypothesis	Paths	β value	S. D	T-values	P- values
H1	EGB -> GI	0.257	0.062	4.145	0.000
H1a	TGB -> GI	0.133	0.032	4.142	0.000
H1b	VGB -> GI	0.136	0.033	4.092	0.000
H2	EGB -> OEP	0.100	0.035	2.886	0.004
H2a	TGB -> OEP	0.052	0.018	2.883	0.004
H2b	VGB -> OEP	0.053	0.018	2.866	0.004
H3	GHRM -> GI	0.718	0.062	11.565	0.000
H3a	GT -> GI	0.245	0.021	11.621	0.000
H3b	GR -> GI	0.252	0.022	11.689	0.000
H3c	GR & S -> GI	0.252	0.023	11.076	0.000
H4	GHRM -> OEP	0.278	0.054	5.161	0.000
H4a	GT -> OEP	0.095	0.018	5.183	0.000
H4b	GR -> OEP	0.097	0.019	5.197	0.000
H4c	GR & S -> OEP	0.098	0.019	5.137	0.000
H5	GI -> OEP	0.387	0.074	5.257	0.000
H6	EGB -> GI -> OEP	0.100	0.035	2.886	0.004
H6a	TGB -> GI -> OEP	0.052	0.018	2.883	0.004
H6b	VGB -> GI -> OEP	0.053	0.018	2.866	0.004
H7	GHRM -> GI -> OEP	0.278	0.054	5.161	0.000
H7a	GT -> GI -> OEP	0.095	0.018	5.183	0.000
H7b	GR -> GI -> OEP	0.097	0.019	5.197	0.000
H7c	GR & S -> GI -> OEP	0.098	0.019	5.137	0.000
H8	MR > GI -> OEP	0.028	0.012	2.391	0.017

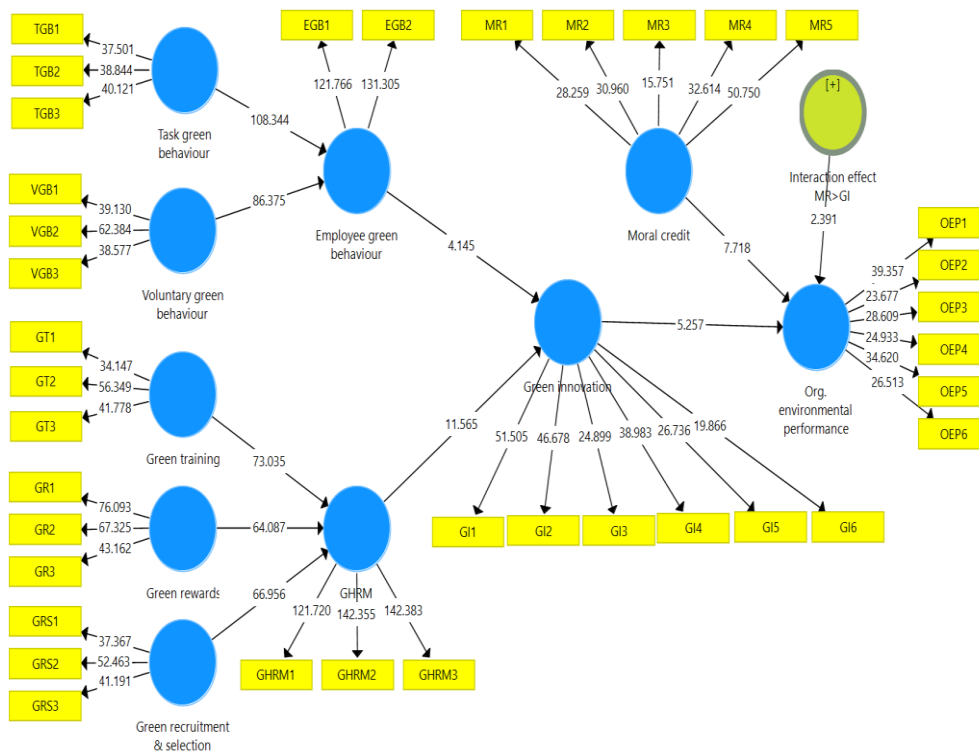


Figure 3. Structural model.

Moreover, mediating relationship of GI with EGB, GHRM and OEP, ($\beta=0.100$, $p<0.004$, $t\text{-value}=2.886$, $\beta=0.052$, $p<0.004$, $t\text{-value}=2.283$, $\beta=0.053$, $p<0.004$, $t\text{-value}=2.866$; H7, H7a, H7b, H7c, $\beta=0.276$, $p<0.000$, $t\text{-value}=5.161$, $\beta=0.095$, $p<0.000$, $t\text{-value}=5.183$, $\beta=0.097$, $p<0.000$, $t\text{-value}=5.197$, $\beta=0.098$, $p<0.000$, $t\text{-value}=5.137$) and supported H6, H6a, H6b, H7, H7a, H7b, H7c. While moral credit (H8) significantly and positively moderates the association between GI and OEP shown by ($\beta=0.028$, $t=2.391$, $p<0.017$), this finding ultimately gives support to the hypothesis that H8 is acceptable. In this respect, each hypothesis proposed in this investigation was confirmed (Table 4). Moreover, Figure 4 shows that moral credit strengthens the positive and significant relationship between green innovation and organizational environmental performance

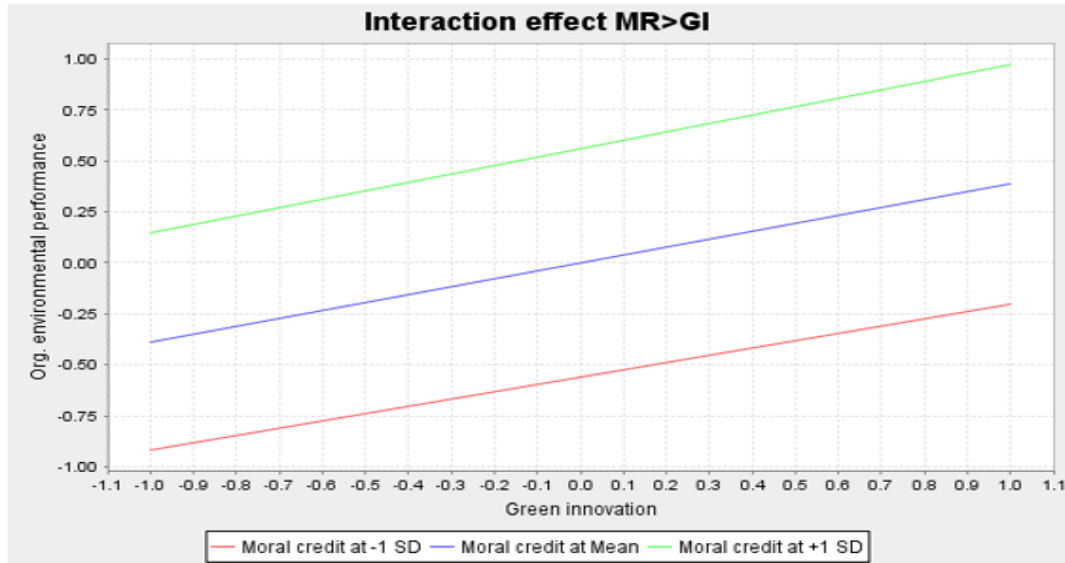


Figure 4. Moderating effect of moral credit.

Predictive relevance (Q2)

To ascertain whether or not the model is predictive, several researchers have proven that it is important to compute Q2 (Stone, 1974). In SmartPLS, Q2 is determined using the blindfold approach. It is suggested by Chin (1998) that Q2 is bigger than zero (0). Cohen et al. (2013) state that a Q2 value between 0.02 and 0.015 suggests a moderate impact, whereas a Q2 value between 0.15 and 0.35 indicates a reasonably high predictive relevance. It was found that Q2=0.548 for organizational environmental performance and Q2=0.644 for green innovation had a greater predictive significance. Therefore, the results of this research suggest that external factors may provide significant insight into endogenous variables.

Effect size (f2)

Some researchers suggest calculating the impact size f2 of each route in the structural model to get an accurate estimate of the R2 value for endogenous factors (Ringle et al., 2012). According to Cohen (2013), the value of R2 within 0.02-0.13 is deemed weak, 0.13-0.26 moderate, and greater than 0.26 substantial. The R2 values of green innovation (0.922) and OEP (0.814) are considered substantial in this study. An exogenous variable's f2 value may be used to gauge how much of an effect it has on an endogenous variable. Cohen (2013) suggests that an f2 between 0.05 and 0.15 indicates a minor influence, an f2 between 0.15 and 0.35 indicates a medium effect, and an f2 more than 0.35 indicates a substantial effect. Table 5 shows that GI (0.153) has a moderate influence on OEP and that the effect size of the moderating variable MC (0.075) on OEP is similar (0.332). The impact of EGB on GI is also less than that of GI (0.127). When compared to GHRM, however, the impact on GI is more pronounced (0.985).

Table 5. The effect size (f2) of the model.

	GI	OEP
EGB	0.127	-
GHRM	0.985	-

G.I	-	0.153
MC	-	0.332

This study's positive and significant effects of employee green behavior and green HRM on organizational performance suggest that organizations recognize the value of environmental sustainability and invest in strategies to support it. Organizations can realize various benefits by prioritizing environmental sustainability and promoting environmentally responsible behavior among employees, including reduced costs, improved reputation, and enhanced competitiveness. It is worth noting that the positive effects of employee green behavior and green HRM may depend on various factors, including implementing specific green practices. Therefore, organizations need to adopt a comprehensive and integrated approach to environmental sustainability that considers all of these factors and involves all stakeholders in the organization. Overall, the confirmation of the positive and significant effects of employee green behavior and green HRM on organizational performance is a promising sign that organizations are recognizing the importance of environmental sustainability and taking steps to support it. By continuing to invest in these strategies, organizations can achieve improved environmental performance and reap the many benefits associated with sustainable business practices. Additionally, this study also shows that green innovations, such as the development of sustainable products and services, contribute to an organization's competitive advantage and enhance its environmental performance. Finally, ethical credit, an organization's reputation for ethical and socially responsible behavior, enhances its legitimacy and stakeholder support, thereby increasing environmental performance. Promoting and integrating these factors into the organization's operations can lead to improved environmental performance and demonstrate its commitment to sustainability. Moreover, the study's questions have been verified.

The findings shed light on the fact that EGB results in a considerable improvement in environmental performance. The findings are consistent with what Farooq et al. (2022) found, which is that EGB boosts the performance of organizations. In addition to that, EGB has a positive association with green innovation. In measuring green innovation, the researchers gave EGB very little regard; however, the present study's findings demonstrate that EGB cannot be neglected when assessing the environmental performance of organizations. GHRM significantly impacts the performance of an organization's environmental initiatives. These results, aligned with those (Hameed et al., 2020; Jabbar and Abid, 2014), indicate that GHRM is essential in enhancing an organization's environmental performance. It has been shown in the research that GHRM is very dependent on the organizational workplace. This is because GHRM is often seen as the effect of a developing economy (Yusliza et al., 2019). In addition, the findings shed light on the fact that GHRM is a crucial factor in green innovation. The results are comparable to those found in the research conducted by Song et al. (2020) in that GHRM enables businesses to build environmental skills that ultimately result in a competitive advantage.

Meanwhile, green innovations make a substantial contribution to improved environmental performance. The results are consistent with Singh et al. (2020), who that green innovation considerably improves the environmental performance of businesses. Finally, green innovation strongly influences the relationship between EGB, GHRM, and the environmental performance of organizations. According to the findings of this research, green innovation has both a direct and an indirect impact on OEP.

Additionally, there is a direct as well as an indirect influence that green innovation has on the environmental performance of organizations. Through this research, we were able to show that GI protects OEP while also being connected with moral credit. This research shows that the association between GI and OEP positively influences moral credit. Furthermore, the findings of this research demonstrated that moral credit considerably enhances the performance of the organizational environment.

Past studies on GHRM, employee green behaviour, green innovation, and environmental performance employed stakeholder theory, ability motivation-opportunity theory, and contingency theory. For instance, scholars use the stakeholder theory to examine how GHRM affects environmental performance (Malik et al., 2021). Also, other studies examined the connection between green innovation and environmental performance using the ability motivation-opportunity theory (Singh et al., 2020). In addition, the previous scholars also tested the association between organizational environmental performances using the contingency theory (Chavez et al., 2021). In light of the natural RBV theory, this study adds to the body of literature by identifying the relationships between green employee behaviour, GHRM, green innovation, moral credit, and environmental performance. This investigation offers a novel approach by assessing study constructs via the prism of empirical data. Academics, lawmakers, and organizational managers may benefit from the many contributions made by this study. Finding a connection between EGB, GHRM, MC, and OEP and the mediating influence of green innovation is one of the accomplishments of this work. Consequently, the current research adds significantly to the disciplines mentioned above. The current study is the first to build a research model that simultaneously considers EGB, GHRM, GI, moral credit, and organizational environmental performance, according to the results of the most diligent researchers. This study indicated that EGB, GHRM, MC, and green innovation have a major role in predicting the environmental performance of organizations; additional research is needed in these areas. In addition, this study contributes significantly to the present literature by establishing the relationship between external constructions and endogenous constructs; consequently, this model offers a solid foundation for future research. This study adds to the growing body of literature on environmental performance by examining the measures employed by EGB, GHRM, MC, and green innovation in manufacturing businesses to assess environmental performance. Meanwhile, current research recognizes the relevance of how manufacturing businesses manage their EGB, GHRM, MC, and green innovations in attaining environmental success.

The results of this research have significant implications for those in managerial and policymaking positions and business executives. The current study model's objective is to provide manufacturing organizations with a method for learning about the impact of EGB, GHRM, MC, and green innovation on environmental performance. In the most recent few years, a lot of attention has been focused on the phenomena of environmental performance by both practitioners and scholars. In addition, they are capable of making use of the existing research model of environmental performance in emerging economies to cut down on pollution, save energy, cut down on waste and emission, improve the organization's reputation, save water, and eventually cut down on fossil fuel-based material, chemicals, and aspects that lead to an improvement in environmental performance. In addition, the EGB, GHRM MC, and GI should be the

primary focus areas for the decision-making process of manufacturing corporate managers attempting to evaluate environmental performance.

Conclusion

This study intends to evaluate the relationship between EGB, GHRM, and organizational environmental performance in the Malaysian manufacturing sector, emphasizing the mediating function of green innovation. EGB and GHRM are seen as organizational resources with the potential to substantially contribute to the growth of OEP (Al-Swidi et al., 2021). According to the results of Gill et al. (2021), an organization's environmental performance has a beneficial effect on EGB. In addition, EGB is recognized as a crucial element in enhancing organizational performance. GHRM studies OEP and indicates that GHRM increases organizational environmental performance in the Malaysian manufacturing sector, according to this study. The results indicate that GHRM directly impacts the environmental performance of organizations, which is consistent with the findings of the past study that GHRM greatly enhanced the environmental performance of businesses (Gilal et al., 2019). In addition, the EGB and GHRM significantly impact green innovation. In addition, this study found that environmentally responsible innovation is a major predictor of the environmental performance of firms. In conclusion, green innovation has significantly mediated the link between EGB, GHRM, and firms' environmental performance.

Despite the results and relevance of the research, this study has a few limitations in coverage that may be solved by future research. First, since this was a cross-sectional study, the researchers cannot be assured that EGB, GHRM, MC, and GI have the same effects over a longer period in manufacturers. In light of this, future researchers may utilize the same study structure to decide if the outcomes of their studies conflict or not. This study collected data from Malaysian manufacturing companies; future research might gather data from small and medium-sized firms (SMEs) to compare the results. In addition, the EGB, GHRM, MC, and GI contribute to investigating this research's environmental performance. In the future, researchers will be able to determine whether or not there is a link between EGB and environmental performance by utilizing green capabilities and CSR as mediating factors with RBV theory. This research was conducted among Malaysian manufacturer's representative of a certain culture. Additionally, future scholars will expand upon this work. It will be possible to test the same research framework in both emerging and prosperous nations to compare and contrast the results.

Acknowledgement

This study is self-funded.

Conflict of interest

The authors confirm that there is no conflict of interest involve with any parties in this research study.

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