




Green human resource management and green creativity: Examining the role of green motivation in human resource management strategy

 **Sri Wahyu Lelly Hana Setyanti**^{1*}

 **Diah Yulisetiarni**²

^{1,2}Department of Management, Faculty of Economics and Business, Universitas Jember, Indonesia.

¹Email: lelyhana.feb@unej.ac.id

²Email: diahyuli@unej.ac.id



(+ Corresponding author)

ABSTRACT

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This study examines the influence of green Human Resource Management (HRM) practices on green creativity within Indonesia's banking sector, with a specific focus on the mediating role of green motivation in HRM strategy. Employing a quantitative approach, the research utilizes SmartPLS 3.0 software and Partial Least Squares Structural Equation Modeling (PLS-SEM) to test the proposed hypotheses and assess the indirect effect of green HRM on green creativity via green motivation. Data was collected from 200 banking sector employees using quota sampling. The results demonstrate that green HRM strategies significantly enhance green creativity among employees. Furthermore, green motivation was identified as a mediating mechanism linking green HRM practices to green creativity. This study underscores the critical role of green HRM strategies particularly green HRM initiatives and motivational factors in fostering green creativity within Indonesia's banking industry. The findings offer significant theoretical and practical contributions by demonstrating how strategic implementation of green HRM practices can promote environmental sustainability in the banking sector. Practically, this study provides actionable insights for organizational stakeholders, highlighting how integrating green HRM policies with motivational mechanisms can effectively enhance green creativity among banking professionals.

Contribution/Originality: The escalating environmental crisis has created undeniable pressures on global economic systems, making ecological considerations imperative for sustainable development. This paradigm shift demands innovative environmental solutions where green human resource management (HRM) emerges as a critical driver of organizational eco-innovation. Our study makes a substantive contribution by examining the mediating role of green motivation in the relationship between green HRM practices and green creativity within the banking sector—a previously underexplored nexus in sustainable business literature.

1. INTRODUCTION

Environmental challenges have emerged as a critical global concern in contemporary discourse (Amrial, Muhammad, & Muhamad, 2017). Achieving sustainable development requires focused attention and the coordinated engagement of multiple stakeholders. Governments, corporations, environmental organizations, academic institutions, technology firms, civil society groups, and individual citizens must collaborate to align their objectives and perspectives. Such multi-stakeholder cooperation is essential to balance present and future societal needs while advancing long-term environmental and socio-economic goals (Arroyo & Carrete, 2019). Sustainability refers to

systematic organizational efforts aimed at conserving natural resources while promoting the regeneration and circular utilization of materials to minimize ecological degradation (Awan, Sroufe, & Kraslawski, 2019; Joshi & Dhar, 2020).

Current environmental issues are a significant concern. Carbon dioxide and other greenhouse gas emissions are probably increase dramatically as a result of this sector's exponential growth (Bhutto, Farooq, Talwar, Awan, & Dhir, 2021) which can happen anywhere even in a banking setting. While economic advancement has generated significant societal benefits, it has concurrently precipitated environmental degradation, diminishing ecological integrity and threatening long-term sustainability. This paradigm has elevated climate change mitigation particularly carbon emission reduction to a priority concern in international discourse (Chang & Hung, 2021). Indonesia currently holds the position of sixth-largest global greenhouse gas emitter, a status resulting from complex interrelated factors. This necessitates the establishment of optimal environmental governance frameworks. The natural resource-based view (NRBV) of the firm posits that long-term corporate viability fundamentally depends on ecological systems, suggesting that only organizations integrating environmental sustainability into core strategic planning will maintain competitive advantage (Maitlo et al., 2022). The integration of technology across banking operations presents both opportunities and challenges. As a critical financial intermediary, the banking sector plays a pivotal role in financing development initiatives and economic growth projects (Beka & Abazi-Alili, 2024).

Banking needs to offer top-notch services (Gonu, Agyei, Richard, & Asare-Larbi, 2023). Key considerations emerge from an environmental perspective. According to Ogbeibu, Jabbour, Gaskin, Senadjki, and Hughes (2021) radical advances in technology and the unstoppable acceleration of climate change drive enterprises to make sure their staff is always using innovation. Environmental innovation represents a critical imperative for both national development and organizational strategy to attain sustainability objectives (Al-Ghazali & Afsar, 2021). The Indonesian banking sector, particularly State-Owned Enterprise (SOE) banking, constitutes a primary area of interest for this study. Globally, nations such as Indonesia prioritize human resource (HR) quality as a cornerstone of development. In this context, HR must evolve to align with the demands of remote work dynamics (Saleh, Omar, Milhem, & Ateeq, 2024). Indonesia's human index competitiveness score is ranked 47th in the world based on data from the Institute for Management Development (IMD). Indonesia's human resource (HR) readiness score, which measures the availability of skills and competencies, currently stands at 42.3 (Rainer, 2024). Green Human Resource Management (GHRM) serves as a pivotal driver for organizational development aligned with environmental sustainability, including within the banking sector. The integration of green creativity within corporate practices is fundamental to achieving this objective.

Green creativity emerged conceptually from the broader construct of workplace creativity, which is characterized by employees generating novel, imaginative, and implementable ideas to address organizational challenges (Jia, Liu, Chin, & Hu, 2018). Green creativity constitutes a critical phase in green service innovation, serving as the foundational element for organizational sustainability initiatives. This creative process enables the development of environmentally-conscious solutions that align with ecological and business objectives (Tuan, 2020). Contemporary societal priorities increasingly emphasize environmental protection and community welfare, compelling corporations to demonstrate strict compliance with ecological regulations, policies, and stakeholder concerns (Al-Ghazali & Afsar, 2021). Green creativity serves as a catalyst for improving both financial and environmental performance in organizations. By fostering innovative approaches, it facilitates the implementation of sustainable practices and regulations, thereby enhancing the efficacy of environmental management systems (Riva, Magrizos, & Rubel, 2021). From a pro-environmental management standpoint, an organization's green creative climate is operationally defined by three constitutive dimensions: (1) the adequate allocation of resources toward green innovation initiatives, (2) the institutionalization of continuous learning mechanisms for

environmental adaptation, and (3) the systematic recognition and reward of employees' ecologically-conscious work outputs and behaviors (Aboramadan, Kundi, & Farao, 2021).

Green human resource management (GHRM) is a critical determinant of green creativity alongside other influencing factors. In contemporary discourse, the interplay between sustainable HR practices and environmental stewardship has become inextricably linked (Pham, Tučková, & Jabbour, 2019). Green human resource management (GHRM) has emerged as a pivotal organizational strategy for achieving corporate sustainability objectives (Zihan & Makhbul, 2024). An organization can encourage the necessary attitudes and behaviors in its workers (Kusumawijaya & Astuti, 2024) such as green creativity by implementing green HRM. Furthermore, we posit that this relationship is mediated by employees' green commitment a psychological state reflecting their willingness to engage in organizational environmental initiatives which is enhanced through green human resource management (GHRM) practices (Alnaqbi, Mohd-Shamsudin, & Alshurideh, 2024). Green human resource management (GHRM) aligns with the tenets of soft HRM by fostering employee awareness of sustainability principles and nurturing organizational social responsibility. This dual focus yields mutual benefits for both corporate entities and broader societal stakeholders (Yin, 2023).

Another significant factor is green motivation. Low project performance often results from the greater challenges associated with delivering green projects compared to non-green projects. Therefore, it is essential to explore motivation to overcome these obstacles and enhance delivery performance (Olanipekun, Xia, Hon, & Darko, 2018). Green motivation refers to an internal or external impetus that drives individuals or organizations to adopt and implement environmentally sustainable choices, behaviors, or activities aimed at minimizing their negative environmental impact and promoting ecological sustainability. This motivation arises from an awareness of the necessity to protect the environment and support global conservation efforts (Akhtar, Khan, Atlas, & Irfan, 2022; Febrian & Solihin, 2024). Green motivation encompasses not only environmental welfare but also cognitive considerations, including financial incentives or rewards (Flores & Jansson, 2022).

This research exhibits several distinctions from previous studies. The identified research gap can be categorized into two areas: differences in research subjects and previous research findings. Past studies indicate the existence of a gap in this area. Green HRM emerges from the integration of human resource management and environmental management. This approach emphasizes enhancing employee engagement and deepening the understanding of sustainability, aligning well with the principles of HRM (Yin, 2023). This research is supported by Ahmed et al. (2021); Kim, Kim, Choi, and Phetvaroon (2019) and Ojo (2022) who explain that green HRM influences green motivation. GHRM, which primarily focuses on HRM practices related to environmental preservation of the environment, the ecological impacts of enterprises (Jia et al., 2018) and can support green creativity. This is further supported by Abualigah, Koburtay, Bourini, Badar, and Gerged (2023); Ofosuhene (2024); Sidney, Wang, Nazir, Ferasso, and Saeed (2022) and Sugiarto and Huruta (2023). Green HRM has an effect on green creativity.

Moreover, research gaps arise from variations in the research subjects. Green creativity, recognized as an essential skill for generating innovative and practical concepts for environmentally friendly products, has attracted considerable interest from environmentally conscious organizations (Jiang et al., 2020) so it requires environmental-based motivation to achieve it. According to Bhutto et al. (2021); Chen, Jiang, Li, and Gao (2021) and Ma, Ali, Shahzad, and Khan (2025) green creativity can be applied in manufacturing environments. Then the research conducted (Joshi & Dhar, 2020) on green creativity can be applied in the Indian handicraft sector. Research by Aboramadan et al. (2021) can be applied in the services sector (Aeknarajindawat & Jermsittiparsert, 2019) which can be applied in manufacturing in Thai. In addition, research by Akhtar et al. (2022) and Febrian and Solihin (2024) developed research in institutions and a city.

This research was conducted to introduce novel insights or improvements. It has identified weaknesses, gaps, and underexplored areas in prior studies. Consequently, this research aims to deliver more comprehensive results.

For example, research conducted by Maitlo et al. (2022) gathered information solely from the automobile sector situated in Liaoning province, China. According to the researchers, it does not describe or represent the conditions of other places or geographical areas. Then, research was conducted by Wahyuni, Nurhayati, Sulistyanto, and Marlina (2023). This study utilizes a sample size of 100. However, the researchers believe that this number is inadequate for effectively representing the variables under investigation.

It is acknowledged that the judicious use of ecosystems and natural resources is essential to halting the environment's slow degradation (Arroyo & Carrete, 2019). In the current era, environmental concerns are paramount, particularly as human activities are intricately linked to their impact on the environment. Therefore, identifying various research gaps, inconsistencies in findings, differing objectives, and the use of diverse locations and samples provides valuable insights for researchers seeking to advance their studies. This research aims to examine the effect of green HRM on green creativity within Indonesia's banking sector while investigating the mediating role of green motivation. This study makes an academic contribution by presenting a novel framework that links green HRM, green creativity, and green motivation. This study makes a significant academic contribution. The findings are intended to inform future research on environmental issues across multiple disciplines and are expected to demonstrate how green HRM influences green creativity through green motivation, with implications for banking management strategies.

2. LITERATURE REVIEW

2.1. HRM Strategy

Organizations must develop and execute an HRM strategy in conjunction with management. Effectively managing planned organizational changes and promptly addressing the cultural pressures encountered at all levels of the organization are essential (Castro, De Araújo, Ribeiro, Demo, & Meneses, 2020). The philosophy and practices related to workforce management are now commonly known as Human Resource Management (HRM). Historically, and in certain contexts still today, a range of terms that are somewhat related have been utilized. These alternative expressions include employment management, human capital management, employee relations, administration, and industrial relations. Each of these terms reflects the diverse antecedents of HRM and reveals aspects of the various philosophies associated with these approaches (Storey, Wright, & Ulrich, 2019). HRM has evolved into a crucial tactic for attaining sustainability in businesses (Zihan & Makhbul, 2024). Human Resource Management (HRM) serves as the foundation for the viewpoint that organizations require qualified personnel to thrive in both internal and external environments. Effective human resource management systems can enhance organizational performance by managing and rewarding these desirable behaviors (Kant, Igelo, & Kero, 2023).

2.2. Green HRM and Green Motivation

Organizations can enhance their economic and environmental performance by implementing green HRM practices that foster an environment in which employees feel motivated and empowered to engage in pro-environmental behaviors (Alnaqbi et al., 2024; Yu, Chavez, Feng, Wong, & Fynes, 2020). Environmental protection and social responsibility are essential components of modern business practices. The concept of green HRM has emerged as a significant instrument for achieving sustainability while ensuring the viability of the human resource base, as organizations seek to balance sustainable operations with growth (Sumiati et al., 2024).

Green HRM is consistent with the principles of HRM and helps members comprehend sustainability and cultivate a sense of social responsibility which benefits business and society (Yin, 2023) and relates to green motivation. Green motivation, which workers might inspire themselves to do by assigning tasks related to environmental contributions (Liu, Eweje, He, & Lin, 2020; Rizvi & Garg, 2021). Green motivation is the driving force behind a person's adoption of environmentally friendly conduct when it comes to satisfying their natural needs (Shu, Zhao, Liu, & Lindsay, 2020). Wang et al. (2021) outlined how human behavior aimed at preserving and

conserving the local environment is what is known as green motivation. This is corroborated by Ahmed et al. (2021); Kim et al. (2019) and Oj's (2022) research. Green HRM influences green motivation. According to the explanation and previous research, the hypothesis is as follows:

H_{1a}: Green knowledge sharing positively influences green motivation.

H_{1b}: Green training and development positively influence green motivation.

H_{1c}: Green performance management positively influences green motivation.

H_{1d}: Green reward system positively influences green motivation.

H_{1e}: Green organizational culture positively influences green motivation.

2.3. Green HRM on Green Creativity

GHRM has become a crucial tactic for businesses trying to attain environmental sustainability (Zihan & Makhbul, 2024). For instance, implementing employee green engagement sessions and organizing green human resource training can motivate employees by highlighting the socioeconomic advantages of environmental management. Organizations that adopt green HRM strategies to foster an encouraging environment for their workers can enhance both economic and environmental performance through pro-environmental actions (Alnaqbi et al., 2024; Yu et al., 2020).

Green creativity is characterized as the generation of new and practical concepts or answers about environmentally friendly products, services or processes (Afridi, Shahjehan, Zaheer, Khan, & Gohar, 2023; Tuan, 2020). Green creativity encompasses initiatives that demonstrate a commitment to proposing innovative methods for achieving environmental sustainability goals. It involves advocating for and supporting eco-friendly initiatives within the organization, re-evaluating sustainable concepts, and seeking inventive solutions to tackle environmental challenges (Bhatti, 2022; Bhutto et al., 2021). Green creativity abilities represent a team's intellectual competence in sustainable practices, which is essential for exploring new pathways to develop innovative solutions that address challenges associated with green projects (Ogbeibu et al., 2021). This research is supported by Al-Ghazali and Afsar (2021); Al-Hawari, Quratulain, and Melhem (2021); Chen et al. (2021); Hameed et al. (2022); Mansoor, Farrukh, Lee, and Jahan (2021) and Shafiq, Ramzan, Faisal, and Iqbal (2023). Green HRM influences green creativity. According to the explanation and previous research, the following hypotheses are proposed:

H_{2a}: Green knowledge sharing positively influences green creativity.

H_{2b}: Green training and development positively influences green creativity.

H_{2c}: Green performance management positively influences green creativity.

H_{2d}: Green reward system positively influences green creativity.

H_{2e}: Green organization culture positively influences green creativity.

2.4. Green Motivation on Green Creativity

Workers can cultivate green motivation by engaging in tasks that are linked to their contributions toward environmental sustainability (Liu et al., 2020; Rizvi & Garg, 2021). Green motivation serves as the impetus for an individual to embrace environmentally friendly behaviors to fulfill their inherent needs (Shu et al., 2020). Green motivation can increase green creativity. Green creativity motivates companies to adopt strategies such as investment recovery, eco-design, and green purchasing, which can yield benefits for both the organization and the environment. However, individuals often prioritize other organizational capabilities over green innovation, even though the latter is essential for achieving successful environmental performance (Riva et al., 2021). This study asserts that green creativity refers to the ability of individuals or organizations to generate innovative ideas, products, or processes aimed at mitigating negative environmental impacts. The foundation for tackling sustainability issues in a business or organization, particularly within the banking sector, is rooted in environmentally friendly creativity.

Green creativity skills pertain to the diverse ways in which team members generate and evaluate eco-friendly ideas to develop innovative solutions for challenges associated with environmental sustainability (Ogbeibu et al., 2021). This is corroborated by studies conducted by Hu et al. (2022) and Li et al. (2020), which indicate that green motivation influences green creativity. Based on this explanation and prior research, the following hypothesis is proposed:

H₅: Green motivation positively influences green creativity.

2.5. Green HRM on Green Motivation with Green Motivation

GHRM has become a crucial tactic for attaining environmental sustainability in businesses (Zihan & Makhbul, 2024). Green motivation, whether derived from internal or external sources, drives individuals and organizations to adopt environmentally friendly practices and behaviors. This shift aims to minimize harmful environmental impacts and foster ecological sustainability. Such motivation arises from a recognition of the necessity to protect the environment and support global conservation initiatives (Akhtar et al., 2022; Febrian & Solihin, 2024). Green creativity demands innovation across all domains, including environmental management systems. Furthermore, the capacity to develop original and environmentally friendly concepts is referred to as green creativity (Riva et al., 2021). Green creativity pertains to the generation of innovative and practical ideas that positively influence the environment through the products, services, processes, and methods employed by organizations (Jia et al., 2018).

Two compelling aspects of green behavior in human interactions with the environment are identification and environmental awareness. Green motivation, which can be considered as either an internal or external influence, drives individuals and organizations to adopt and implement eco-friendly choices, behaviors, and activities aimed at reducing their negative environmental impacts and promoting ecological sustainability. This impetus arises from an understanding of the significance of environmental protection and support for global conservation efforts (Akhtar et al., 2022; Febrian & Solihin, 2024). According to the explanation and previous research, the following hypotheses are proposed:

H_{6a}: Green motivation mediates the effect of green knowledge sharing on green creativity.

H_{6b}: Green motivation mediates the effect of green training and development on green creativity.

H_{6c}: Green motivation mediates the effect of green performance management on green creativity.

H_{6d}: Green motivation mediates the effect of the green reward system on green creativity.

H_{6e}: Green motivation mediates the effect of the green organizational culture on green creativity.

The conceptual framework explanation is shown in Figure 1.

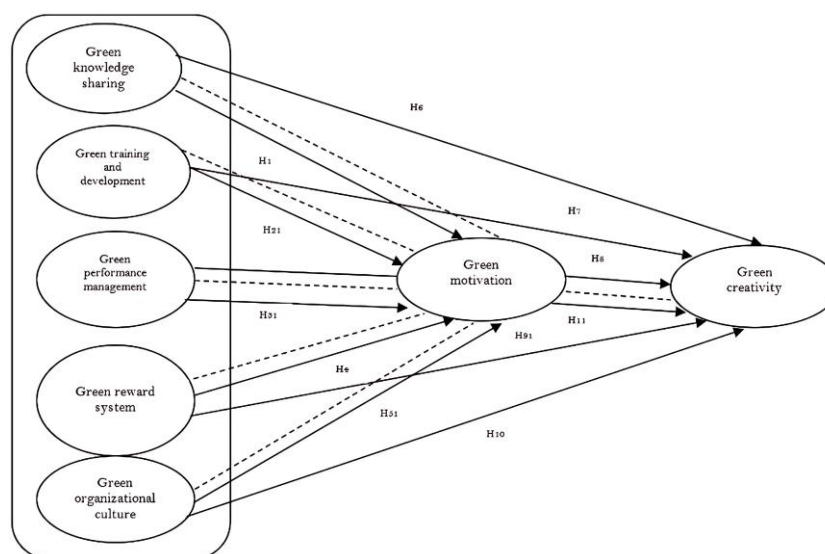


Figure 1. Conceptual model of research.

3. EMPIRICAL ETHODOLOGY

3.1. Analysis Method

This research design utilizes a quantitative methodology, implementing SmartPLS 3.0 software with Structural Equation Modeling Partial Least Squares (SEM-PLS) to test the hypotheses and evaluate the impact of green Human Resource Management (HRM) on green creativity, mediated by green motivation. The research employs SmartPLS to predict relationships between constructs and to validate theoretical frameworks. Additionally, it serves to clarify whether a relationship exists between the variables under investigation (Hair, Risher, Sarstedt, & Ringle, 2019).

3.2. Population and Sampling

Population refers to the entire set of individuals or objects being studied. In this research, the population consists of banking employees, specifically those working within state-owned enterprises (BUMN) banking sector. Sample denotes a subset of the population selected based on the specific requirements of the researcher. The demographic focus of this study encompasses workers in the banking industry. Given that the exact size of the population is not known, the study employs non-probability sampling, with a particular emphasis on quota sampling.

Quota sampling is defined as the process of selecting a sample from a population based on predetermined criteria that the sample must meet (Hair et al., 2019). This research using cross-sectional studies allows researchers to look at multiple characteristics at once. Research data is collected all at once; multiple variables can be assessed simultaneously.

According to Hair et al. (2019) the sample size is determined by multiplying the number of indicators (28 in total). Therefore, if the population size is unknown, the minimum number of required respondents is 140, while the maximum is 280. The sampling method employed in this research is non-probability sampling, specifically using the quota sampling technique.

A total of 200 banking employees were selected from four regencies in East Java, ensuring that 50 samples were obtained from each district to adequately meet the researcher's requirements for interaction with respondents. Researchers chose quota sampling because it allows for intentional selection of the number of samples from each district based on desired proportions. This method also takes feasibility into account, considering the ease of access to respondents, their availability, and potential time and resource constraints.

3.3. Data Collection

Data were gathered through questionnaires distributed to a sample of 200 employees from the banking sector. These employees were requested to complete standardized questionnaires, and enumerators were trained to collect information through direct administration of the questionnaires in May 2024. The study employed various data collection techniques, including questionnaires for respondents to fill out, direct interviews to solicit data from employees, and observation for the systematic recording of variables.

3.4. Measurements

According to Hair et al. (2019) the structural model explains how each construct is measured. All variables were measured using widely used and established procedures before distribution in Table 1 to compare this study.

Table 1. Variable measurement.

| Variables | References | Indicators | Questionnaire statements |
|-------------------------------------|--|--|--|
| Green knowledge sharing (X1) | (Chang & Hung, 2021; Rashid, Ghani, Khan, & Usman, 2023) | GKS 1: Ability to collect knowledge GKS 2: Frequency of knowledge sharing GKS 3: Impact on organizational practices GKS 4: Accessibility of environmental knowledge | 1. I have the ability to collect information which I need for work. 2. I am always active in sharing knowledge after following trainings held by the company. 3. I have the ability to follow change which is related to product, market, consumer, competitor, and technology information. 4. I consistently strive to share knowledge, experiences and idea to employee in place work. |
| Green training and development (X2) | (Amrutha & Geetha, 2021) | GTD 1: Participation sustainable environment GTD2: Participation training environment GTD3: Skill improvement in environmental practices GTD 4: Implementation of green practices | 1. I have undergone training focused on environmental sustainability. 2. I received training and development in environmental management. 3. I possess skills for protecting the environment. 4. I have always aimed to create solutions based on environmental sustainability. |
| Green performance management (X3) | (Wahyuni et al., 2023) | GPM 1: Inclusion of environmental goals in performance GPM 2: Frequency of feedback on environmental performance GPM 3: Ability to maintain the environment GPM4 4: Continuous improvement of green practices | 1. Performance assessment includes elements of environmental performance. 2. I receive feedback on environmental sustainability-based performance evaluations. 3. Performance appraisal contains elements and skills for protecting the environment. 4. Performance assessments incorporate measurements of environmental performance. |
| Green reward system (X4) | (Al-Abbadi & Abu Rumman, 2023; Srivastava & Dhiman, 2022) | GRS 1: Environmental performance rewards GRS 2: Environmental performance awards GRS 3: Environmental performance monetary rewards GRS 4: Green environment initiation award | 1. I receive rewards based on innovative environmental performance. 2. I received an award for environmental performance. 3. I receive monetary rewards based on environmental performance. 4. I received a reward for initiating a green environment. |
| Green organizational culture (X5) | (Fawehinmi, Yusliza, Wan Kasim, Mohamad, & Sofian Abdul Halim, 2020) | GOC 1: Environmental sustainability culture GOC 2: Sustainable environmental problem-solving GOC 3: Environmental initiation culture GOC 4: Participation in environmental awareness programs | 1. Organizational culture which includes values, norms, rules, and work habits in the office, is based on environmental sustainability. 2. Completion of work refers to sustainable green environmental management. 3. The organizational culture invites all employees to actively preserve the environment with programs in which all employees participate. 4. I have always actively participated in environmental awareness programs held at the office. |

| Variables | References | Indicators | Questionnaire statements |
|----------------------|---|--|---|
| Green motivation (Z) | (Rizvi & Garg, 2021; Wang et al., 2021) | GM 1: Ability to finish the job GM 2: Quality of the job GM 3: Improvement in job GM 4: Ability to work better | 1. I have a desire to get the job done as best as possible. 2. I have always tried to increase the quality of work results assigned to me. 3. I have always had the desire to develop skills at work. 4. I have always had the desire to work better than before. |
| Green creativity (Y) | (Afridi et al., 2023; Tuan, 2020) | GC 1: Ability service-based environment GC 2: Quantity of jobs-based environment GC 3: Service-based environment GC 4: Environment-based services | 1. I can create environmentally- based banking service products. 2. The amount of environmentally-based banking service output has increased. 3. The environmental sustainability-based banking service process at my place has been going well. 4. The banking service practices at my workplace have been based on environmental sustainability. |

According to Table 1, the study includes measurements of variables, which consist of reference sources for indicators, indicator items utilized, and statements from the questionnaire.

4. DISCUSSION OF THE RESULTS

4.1. Respondent Characteristics

The characteristics of the respondents are derived from the primary data collected, specifically through questionnaires completed by the participants (see Table 2).

Table 2. Respondent characteristics.

| Demographic characteristics | | N | Percent |
|-----------------------------|--------------------|-----|---------|
| Gender | Male | 92 | 46% |
| | Female | 108 | 54% |
| Age | 20-30 | 94 | 47% |
| | 31-40 | 52 | 26% |
| | 41-50 | 35 | 17,5% |
| | ≥ 50 | 19 | 9,5% |
| | | | |
| Experience | 1- 5 years | 50 | 25% |
| | 6-10 years | 88 | 44% |
| | > 10 years | 62 | 31% |
| Education | Below bachelor | 24 | 12% |
| | Bachelors | 162 | 81% |
| | Master's and above | 14 | 7 |
| Designation | Low | 144 | 72% |
| | Middle | 48 | 24% |
| | Top | 8 | 4% |

The distribution of the characteristics among the bank employee respondents in this survey is shown in Table 2. In terms of gender distribution, the sample is comprised predominantly of 108 women, representing 54% of the total. Additionally, 94 individuals, or 47%, were aged between 20 and 30 years. Among the participants, bank employees, numbering 88 (44%), reported the greatest experience, with an average tenure of six to ten years. In terms of educational attainment, 162 individuals (81%) held bachelor's degrees, while low-level students accounted for 144 participants, or 72% of the overall sample.

4.2. Measurement Model

Figure 2 is a structural image of this research model. SEM-PLS is a statistical technique used in this study to simulate intricate interactions between latent variables (variables that cannot be directly measured and their indicators) (Duryadi, 2021).

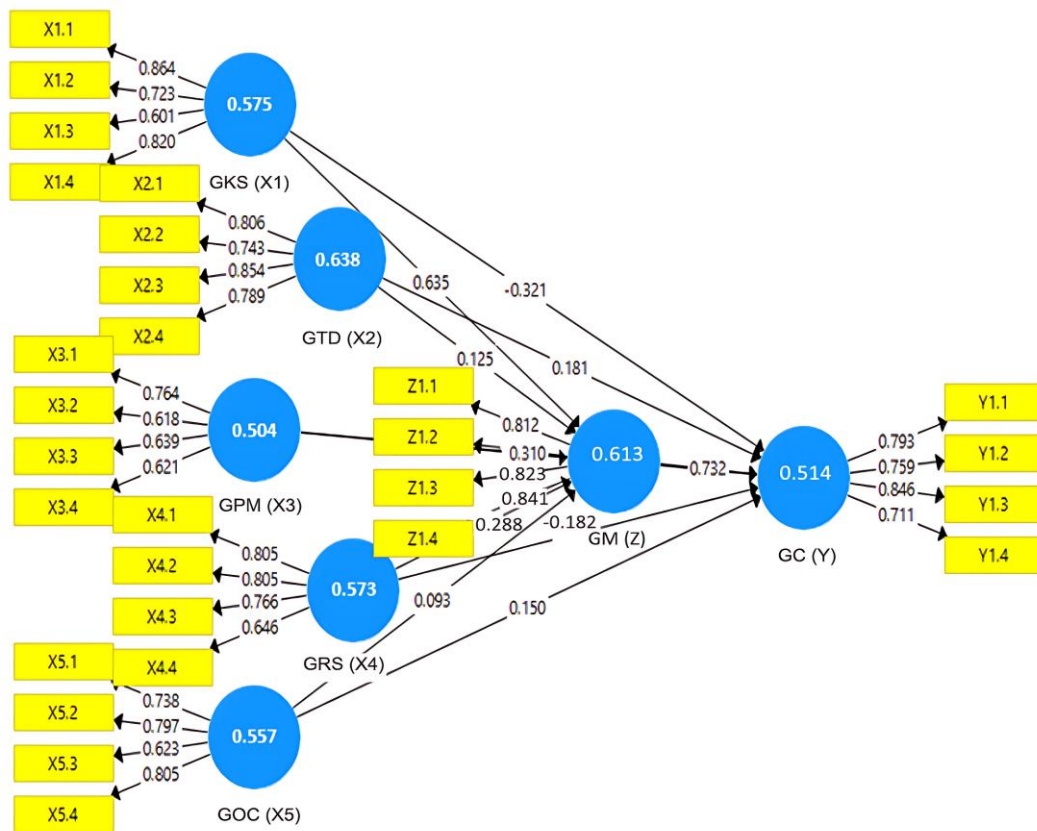


Figure 2. Structural model research.

This analytical tool enables hypothesis testing because the model's structural pathways permit researchers to examine direct relationships between latent variables. This method allows for the direct evaluation of hypotheses, such as determining whether the independent variable significantly influences the dependent variable. The selection of PLS-SEM was driven by the need to support theory development during the exploratory phase and to optimize the explanation of variance in the dependent variable. PLS-SEM provides comprehensive hypothesis testing through various methodologies, including bootstrapping, construct validity assessment, and path analysis.

In research, a validity test is performed to evaluate the accuracy of the frequency distribution of data provided by respondents when completing the questionnaire. This assessment determines the validity of the indicator values associated with the variables. According to Duryadi (2021) an indicator must have a correlation value greater than 0.6 to be considered valid. The outcomes are shown in Table 3.

In Table 3, the outer loadings value for each indicator and for each variable meets the specified requirements, namely a value of more than 0.600. Therefore, the questionnaire data used in this research is considered valid. Following this, reliability tests are performed to assess the dependability of the research variables. According to Duryadi (2021) for a variable to be deemed trustworthy, its composite reliability value must be more than 0.6.

Table 3. Convergent validity test.

| Variables | Items | Loading factor | | Ket. |
|--|------------------|----------------|---------------|-------|
| | | Score | Rule of thumb | |
| Green knowledge sharing (X ₁) | X _{1.1} | 0.864 | 0.600 | Valid |
| | X _{1.2} | 0.723 | 0.600 | Valid |
| | X _{1.3} | 0.601 | 0.600 | Valid |
| | X _{1.4} | 0.820 | 0.600 | Valid |
| Green training and development (X ₂) | X _{2.1} | 0.806 | 0.600 | Valid |
| | X _{2.2} | 0.743 | 0.600 | Valid |
| | X _{2.3} | 0.854 | 0.600 | Valid |
| | X _{2.4} | 0.789 | 0.600 | Valid |
| Green performance management (X ₃) | X _{3.1} | 0.764 | 0.600 | Valid |
| | X _{3.2} | 0.618 | 0.600 | Valid |
| | X _{3.3} | 0.639 | 0.600 | Valid |
| | X _{3.4} | 0.621 | 0.600 | Valid |
| Green reward system (X ₄) | X _{4.1} | 0.805 | 0.600 | Valid |
| | X _{4.2} | 0.805 | 0.600 | Valid |
| | X _{4.3} | 0.766 | 0.600 | Valid |
| | X _{4.4} | 0.646 | 0.600 | Valid |
| Green organizational culture (X ₅) | X _{5.1} | 0.738 | 0.600 | Valid |
| | X _{5.2} | 0.797 | 0.600 | Valid |
| | X _{5.3} | 0.623 | 0.600 | Valid |
| | X _{5.4} | 0.805 | 0.600 | Valid |
| Green motivation (Z) | Z _{1.1} | 0.812 | 0.600 | Valid |
| | Z _{1.2} | 0.749 | 0.600 | Valid |
| | Z _{1.3} | 0.823 | 0.600 | Valid |
| | Z _{1.4} | 0.841 | 0.600 | Valid |
| Green creativity (Y) | Y _{1.1} | 0.793 | 0.600 | Valid |
| | Y _{1.2} | 0.759 | 0.600 | Valid |
| | Y _{1.3} | 0.846 | 0.600 | Valid |
| | Y _{1.4} | 0.711 | 0.600 | Valid |

Table 4. Composite reliability.

| Variables | Composite reliability | | Ket |
|--|-----------------------|---------------|----------|
| | Score | Rule of thumb | |
| Green knowledge sharing (X ₁) | 0.842 | 0.600 | Reliable |
| Green training and development (X ₂) | 0.811 | 0.600 | Reliable |
| Green performance management (X ₃) | 0.757 | 0.600 | Reliable |
| Green reward system (X ₄) | 0.843 | 0.600 | Reliable |
| Green organizational culture (X ₅) | 0.831 | 0.600 | Reliable |
| Green motivation (Z) | 0.882 | 0.600 | Reliable |
| Green creativity (Y) | 0.860 | 0.600 | Reliable |

Table 4 shows that the research variables have a composite reliability. All variables exhibited values exceeding 0.6, signifying that they are deemed reliable and appropriate for hypothesis testing. This reliability indicates the respondents' consistency in accurately or uniformly answering the variables.

4.3. PLS Predict

This study employed the Partial Least Squares (PLS) prediction approach to evaluate the predictive capability of the model, which is essential for assessing its effectiveness in forecasting unobserved data. This analysis is particularly significant in structural equation modeling, as it demonstrates the model's practical applicability. (Hair et al., 2019). The first is to predict R-squared, F-squared, and Q-squared as follows:

Table 5. R- squared, F- squared and Q –squared.

| Analysis type | Path/Variable | Value | Interpretation |
|---------------|-------------------|-------|------------------------------|
| R- square | Green motivation | 0.613 | 61.3% variance is explained. |
| | Green creativity | 0.514 | 51.4% variance is explained. |
| F- square | GKS (X1) → GM (Z) | 0.070 | Strong relationship |
| | GTD (X2) → GM (Z) | 0.033 | Medium relationship |
| | GPM (X3) → GM (Z) | 0.030 | Medium relationship |
| | GRS (X4) → GM (Z) | 0.091 | Strong relationship |
| | GOC (X5) → GM (Z) | 0.019 | Small relationship |
| | GKS (X1) → GC (Y) | 0.084 | Strong relationship |
| | GTD (X2) → GC (Y) | 0.054 | Strong relationship |
| | GPM (X3) → GC (Y) | 0.081 | Strong relationship |
| | GRS (X4) → GC (Y) | 0.027 | Medium relationship |
| | GOC (X5) → GC (Y) | 0.038 | Strong relationship |
| | GC (Z) → GC (Y) | 0.043 | Strong relationship |
| Q- square | Green motivation | 0.603 | Models are getting better. |
| | Green creativity | 0.506 | Models are getting better. |

The R-squared test is employed to evaluate the strength of exogenous variables, commonly referred to as independent variables. In this analysis, the green creativity variable exhibits an R-squared value of 0.514, while the green motivation (Z) variable attains a value of 0.613. These values suggest that external factors not accounted for within the study contribute to 61.3% of the variance in the green motivation variable and 51.4% of the variance in the green creativity variable, respectively. Subsequently, the model's adequacy is assessed through the F-squared test. The results indicate a range of relationships with seven models demonstrating strong relationships, three showing medium relationships, and one reflecting a modest relationship among the eleven models tested. Finally, the Q-squared test is utilized to predict the overall quality of the model; values closer to 1 indicate an improvement in model performance. According to Table 5, the values found are 0.603 and 0.506 which means it is more than half and close to 1 which illustrates that the model is good.

4.4. Hypothesis Test

The study employs hypothesis testing to assess the statistical significance of relationships between exogenous and endogenous variables, utilizing a bootstrap resampling methodology. All tested relationships demonstrate statistical significance at the conventional threshold ($p < 0.05$) (Duryadi, 2021). The result is shown in Table 6.

Table 6. Hypothesis testing.

| Path/Variable | Hypothesis | T stat | P-value | Interpretation |
|-------------------------------------|---------------|--------|---------|----------------|
| Direct GKS (X1) → GM (Z) | Hypothesis 1a | 11.498 | 0.000 | Significant |
| GTD (X2) → GM (Z) | Hypothesis 1b | 2.883 | 0.004 | Significant |
| GPM (X3) → GM (Z) | Hypothesis 1c | 2.601 | 0.010 | Significant |
| GRS (X4) → GM (Z) | Hypothesis 1d | 4.219 | 0.000 | Significant |
| GOC (X5) → GM (Z) | Hypothesis 1e | 2.206 | 0.028 | Significant |
| GKS (X1) → GM (Y) | Hypothesis 2a | 3.229 | 0.001 | Significant |
| GTD (X2) → GM (Y) | Hypothesis 2b | 3.381 | 0.001 | Significant |
| GPM (X3) → GM (Y) | Hypothesis 2c | 4.107 | 0.000 | Significant |
| GRS (X4) → GM (Y) | Hypothesis 2d | 2.023 | 0.044 | Significant |
| GOC (X5) → GM (Y) | Hypothesis 2e | 2.660 | 0.008 | Significant |
| GC (Z) → GM (Y) | Hypothesis 3 | 9.028 | 0.000 | Significant |
| Indirect GKS (X1) → GM (Z) → GM (Y) | Hypothesis 4a | 6.457 | 0.000 | Significant |
| GTD (X2) → GM (Z) → GM (Y) | Hypothesis 4b | 2.876 | 0.004 | Significant |
| GPM (X3) → GM (Z) → GM (Y) | Hypothesis 4c | 2.483 | 0.013 | Significant |
| GRS (X4) → GM (Z) → GM (Y) | Hypothesis 4d | 3.784 | 0.000 | Significant |
| GOC (X5) → GM (Z) → GM (Y) | Hypothesis 4e | 2.129 | 0.034 | Significant |

Table 6 presents empirical evidence supporting the research hypotheses through both direct and indirect effects. Statistical significance was established at $p < 0.05$, confirming meaningful relationships between the examined variables. The analysis demonstrates support for hypotheses H1 through H4 while rejecting the null hypothesis (H0), as evidenced by positive t-statistic values and statistically significant p-values ($p < 0.05$). These findings indicate that the exogenous variables exert a measurable influence on the endogenous variables in the proposed model.

The study findings demonstrate a statistically significant positive relationship between Green Human Resource Management (GHRM) practices and green creativity with green motivation serving as a mediating variable. This suggests that organizational implementation of GHRM initiatives can effectively enhance creative environmental solutions. Moreover, the mediating role of green motivation facilitates professional engagement in sustainable practices, as environmentally conscious employees demonstrate a greater propensity for developing innovative approaches to ecological challenges.

4.5. Discussion

4.5.1. The Effect of Green HRM on Green Motivation in the Banking Sector

As evidenced in Table 6, hypotheses H1a-H1e were supported ($p < 0.050$) demonstrating that green knowledge sharing, training, performance management, reward systems, and organizational culture significantly influence green motivation in the banking sector. Organizations to simultaneously improve both economic and environmental performance while fostering a workplace culture that motivates employees to adopt pro-environmental behaviors by implementing green human resource management (Alnaqbi et al., 2024; Yu et al., 2020). Green human resources and environmental management are now an inseparable part (Pham et al., 2019). GHRM has become a crucial strategy to achieve environmental sustainability (Zihan & Makhbul, 2024).

These results are supported by research where the research results by Ahmed et al. (2021); Kim et al. (2019) and Ojo (2022) elucidate green HRM and green motivation. Green Human Resource Management (GHRM) necessitates that organizations foster employee engagement in proposing environmentally sustainable innovations. Such initiatives may include strategies to minimize resource wastage and enhance operational efficiency (Yin, 2023). Green Human Resource Management (GHRM) is characterized by the alignment of an organization's HR practices with its environmental objectives. The primary aims of GHRM are twofold: (1) mitigating the firm's adverse environmental impacts and (2) enhancing employee awareness of ecological concerns (Wahyuni et al., 2023).

4.5.2. The Effect of Green HRM on Green Creativity in the Banking Sector

As demonstrated in Table 6, hypotheses H2a-H2e are supported ($p < 0.050$) confirming that green knowledge sharing, green training, green performance management, green reward systems, and green organizational culture significantly enhance green creativity within the banking sector. Green creativity functions as a critical component of a team's green intellectual capital, enabling the exploration of novel approaches to develop sustainable, innovative solutions for green project challenges (Ogbeibu et al., 2021). The banking sector can cultivate an organizational climate conducive to green creativity by implementing strategic green human resource management (GHRM) practices. Such initiatives facilitate the development of innovative sustainability solutions while simultaneously advancing operational efficiency objectives. When financial institutions effectively deploy GHRM systems, they establish supportive work environments that intrinsically motivate employees toward pro-environmental behaviors. This dual focus on human capital development and ecological consciousness ultimately enhances both economic performance and environmental stewardship (Alnaqbi et al., 2024; Yu et al., 2020).

These results are supported by research where the research results by Abualigah et al. (2023); Ofosuhen (2024); Sidney et al. (2022) and Sugiarto and Huruta (2023) explain that green HRM influences green creativity. Green HRM is the application of regulations to promote environmental causes and the wise use of resources within

companies, boost morale, and employee satisfaction (Aggarwal, Dutta, Madaan, Pham, & Lourens, 2023). Organizations bear substantial responsibility in mitigating environmental management challenges, given their considerable contribution to ecological deterioration. This dual role as both contributors to and potential solvers of environmental problems necessitates proactive corporate environmental stewardship (Hadi, Kautsar, Fazlurrahman, & Rahman, 2023). For service-oriented organizations to maintain competitive advantage, strategic emphasis should be placed on two critical factors: (1) cultivating optimal employee behaviors and (2) enhancing core service delivery components. This dual focus enables superior value creation in service-dominant market environments (Hu, Liang, & Wang, 2023).

4.5.3. The Effect of Green Motivation on Green Creativity in the Banking Sector

According to Table 6, the analysis confirms the acceptance of hypothesis H3 ($t = 9.028$, $p < 0.001$), demonstrating a statistically significant positive effect of green motivation on green creativity. These results are supported by research where the research results by Hu et al. (2022) and Li et al. (2020) explain that green motivation influences green creativity. Green motivation is the driving force behind a person's adoption of environmentally friendly conduct when it comes to satisfying their natural needs (Shu et al., 2020). Empirical evidence indicates that green motivation positively influences green creativity which encompasses team members' cognitive processes of generating, developing, and implementing novel sustainability-oriented solutions through diverse ideation approaches. (Ogbeibu et al., 2021). Green motivation, which workers might inspire themselves to do by assigning tasks related to environmental contributions (Liu et al., 2020; Rizvi & Garg, 2021). Green motivation functions as the psychological impetus that predisposes individuals to adopt ecologically sustainable behaviors while fulfilling their basic human needs (Shu et al., 2020). Empirical evidence suggests that green motivation serves as a catalyst for enhancing green creativity within organizational contexts. This creative capacity subsequently drives firms to adopt sustainable practices including investment recovery strategies, eco-design principles, and environmentally conscious procurement systems. Such initiatives yield dual benefits by simultaneously advancing corporate interests and promoting ecological sustainability (Riva et al., 2021).

Sustainable organizations pursuing cleaner production integrate environmental and social dimensions by aligning business strategies with ecological protection goals. This approach fosters employee engagement in ecologically responsible task execution while maintaining operational efficiency and quality standards (Amrutha & Geetha, 2021). The adoption of ecological behaviors, defined as the intentional implementation of practices aimed at minimizing environmental harm, often presents challenges for individuals due to the necessary lifestyle modifications involved (Arroyo & Carrete, 2019).

4.5.4. The Mediating Role of Green Motivation in Green HRM on Green Creativity in the Banking Sector

Table 6 demonstrates the acceptance of hypotheses H4a-H4e confirming that green knowledge sharing, green training, green performance management, green reward systems, and green organizational culture positively influence green creativity through the mediating role of green motivation in the banking sector ($p < 0.050$). These findings underscore the significance of Green Human Resource Management (GHRM) as a strategic approach for fostering organizational sustainability (Zihan & Makhbul, 2024). Green motivation, whether intrinsic or extrinsic, drives individuals and organizations to adopt eco-conscious decisions, behaviors, and practices. This impetus aims to mitigate environmental degradation and advance ecological sustainability. Furthermore, green motivation can function as a mediating mechanism between factors such as managerial support or sustainability policies and green creativity. For example, when employees perceive strong managerial backing for sustainability initiatives, their heightened motivation may enhance their capacity to develop innovative green solutions.

GHRM has become a crucial tactic for attaining environmental sustainability in businesses (Zihan & Makhbul, 2024). Green motivation driven by intrinsic or extrinsic factors encourages individuals and organizations to

embrace and execute eco-conscious decisions, behaviors, or initiatives. These efforts aim to reduce harmful environmental effects and promote ecological sustainability rooted in a recognition of environmental preservation imperatives, such motivation aligns with broader global conservation objectives (Akhtar et al., 2022; Febrian & Solihin, 2024). Green creativity demands innovation across all domains, including environmental management systems. It is defined as the capacity to generate novel, sustainable solutions that minimize ecological harm while fostering environmental stewardship (Riva et al., 2021).

Empirical evidence suggests that organizations which institutionalize environmental initiatives through the systematic adoption of innovative practices - particularly those aligned with prevailing socio-ecological paradigms - demonstrate significantly greater propensity for achieving sustainability-related organizational outcomes (Zahrani, 2022). In the contemporary context, green HRM addresses environmental issues within work activities in a holistic manner that includes waste management, development areas, and members' green behavior (Bahmani, Farmanesh, & Khademolomoom, 2023). Recent empirical research on Green Human Resource Management (GHRM) has elucidated its dual organizational functions: (1) enhancing employees' environmental consciousness, and (2) facilitating the identification and pursuit of ecologically advantageous opportunities. These findings position GHRM as a strategic mechanism that aligns human capital development with environmental sustainability objectives (Altassan, 2024).

5. CONCLUSION, LIMITATION, AND FUTURE RESEARCH

5.1. Conclusion

The empirical results of this study demonstrate that Green Human Resource Management (GHRM) practices exert a significant and positive effect on green creativity with green motivation serving as a critical mediating mechanism. These findings underscore the organizational imperative of fostering sustainable workplace environments. From a practical perspective, the study reveals that comprehensive implementation of GHRM systems is essential for both employee motivation and the cultivation of environmental innovation. Theoretically, this research provides robust evidence supporting green motivation's pivotal role as a bridging construct that translates HRM policies into creative environmental outcomes.

Effective Green Human Resource Management (GHRM) facilitates the sustainable utilization of ecological resources while simultaneously enhancing traditional HRM functions through increased environmental awareness. A critical component of this framework is green motivation which manifests when employees internalize environmental values and autonomously initiate task-related behaviors that contribute to ecological preservation (Liu et al., 2020; Rizvi & Garg, 2021). This is supported by Ahmed et al. (2021); Kim et al. (2019) and Ojo's (2022) research. The implementation of Green Human Resource Management (GHRM) practices positively affects employees' environmental motivation. Furthermore, green creative capabilities represent a critical component of a team's ecological intellectual capital, enabling the development of novel, sustainable solutions to address complex environmental challenges. These competencies facilitate the exploration of innovative approaches to ecological problem-solving within organizational contexts (Ogbeibu et al., 2021). This is supported by Al-Ghazali and Afsar (2021); Al-Hawari et al. (2021); Chen et al. (2021); Hameed et al. (2022); Mansoor et al. (2021) and Shafiq et al.'s (2023). They explain that green HRM has an effect on green creativity. Green creativity skills encompass the cognitive processes and methodological approaches through which organizational teams generate, develop, and implement innovative solutions to environmental sustainability challenges. These competencies involve both the conception of ecologically-oriented ideas and their systematic evaluation, reflecting a team's capacity for environmentally conscious problem-solving (Ogbeibu et al., 2021). This is supported by Hu et al. (2022) and Li et al.'s (2020) research. The findings demonstrate that green motivation positively influences green creativity. Organizations that incorporate environmental initiatives into their strategic planning foster innovative solutions aligned with societal expectations and ecological considerations. This integration enables firms to achieve

sustainable business goals while addressing stakeholder concerns regarding environmental stewardship (Zahrani, 2022). Some recommendations have been made based on research findings and discussions.

5.1.1. Banking Employees

Banking sector employees are expected to adopt green human resource management (GHRM) practices within their organizational framework. Key components such as green performance management, incentive systems, organizational culture, knowledge sharing, and training and development collectively facilitate the institutionalization of environmentally sustainable behaviors. These GHRM initiatives provide banking professionals with empirically grounded insights to inform future decision-making processes pertaining to sustainability-oriented strategies.

5.1.2. Researcher

This study provides a foundational reference for future research examining the relationship between green HRM and green creativity, particularly with green motivation as a mediating variable. By expanding the scope of variables and indicators as well as offering comprehensive references, this research contributes to the existing body of knowledge and facilitates more robust empirical investigations. Consequently, the findings may serve as a valuable resource for advancing subsequent studies in this domain.

Additionally, this study holds the following theoretical and practical implications:

- a. Theoretical implications: This study contributes to the existing literature by empirically validating the influence of Green Human Resource Management (GHRM) on green creativity with green motivation serving as a mediating mechanism. These findings provide a foundational reference for future research exploring the interplay between GHRM, employee motivation, and environmentally driven innovation.
- b. Practical implications that can be implemented in the banking sector and can be applied to other sectors where it is necessary to incorporate green HRM practices into their HR strategies. That's why companies can enhance creativity and employee motivation based on the environment.

5.2. Limitation and Future Research

There are several research limitations in this study. Research's drawbacks are as follows:

1. The study's scope was limited to examining specific organizational behavior constructs namely green human resource management (HRM), green creativity, and green motivation within the context of state-owned banking institutions.
2. The study's reliance on a quota-sampled cohort of 200 participants constrains the generalizability of findings, as the results may only be representative of specific subgroups rather than the broader population. This sampling limitation suggests that the observed outcomes may not be replicable across different geographical or demographic contexts.
3. The study's exclusive focus on the Jember, Bondowoso, Situbondo, and Banyuwangi regions introduces geographical limitations that constrain the generalizability of findings. The socioeconomic and environmental particularities of these locales may not adequately represent conditions in other regions, thereby limiting the external validity of the research outcomes.
4. In quantitative studies employing mediation analysis, researchers must exercise caution when inferring causal relationships between variables, as omitted variable bias may threaten the validity of observed effects.

To enhance the validity and reliability of future research, scholars should consider implementing the following methodological improvements:

1. Future investigations should examine additional determinants of green creativity—such as organizational culture, leadership approaches, and technological innovation—across diverse industrial sectors (e.g., manufacturing, agriculture and service industries) to evaluate the robustness and generalizability of existing findings.
2. To improve the generalizability of results, future studies should employ probability sampling techniques, such as random sampling, or alternative methodological approaches appropriate to the research context.
3. To enhance the generalizability of findings, future research should replicate this study across heterogeneous contexts with differing demographic, geographic, or operational characteristics.
4. Subsequent studies should incorporate longitudinal research designs to examine temporal dynamics or adopt experimental and quasi-experimental methodologies to more rigorously establish causal relationships.

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Transparency: The authors state that the manuscript is honest, truthful, and transparent, that no key aspects of the investigation have been omitted, and that any differences from the study as planned have been clarified. This study followed all writing ethics.

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