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Linking Green Human Resource Management to Green Innovative Work Behavior: Job Satisfaction as a Key Mediator

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ABSTRACT

Current research has emphasized environmentally sustainable human resource practices; however, little is known about the psychological mechanism through which Green Human Resource Management (GHRM) promotes Green Innovative Work Behavior (GIWB) among Generation Z employees in MSMEs within emerging economies. Unlike previous studies focusing on large organizations, this study examines the mediating role of job satisfaction in the relationship between GHRM and GIWB among Generation Z employees in MSMEs in Bali, Indonesia. A quantitative survey was conducted with 205 respondents, and the data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The results show that GHRM significantly influences job satisfaction ($\beta = 0.283$, $p < 0.001$) and GIWB ($\beta = 0.334$, $p < 0.001$). Job satisfaction also has a significant positive effect on GIWB ($\beta = 0.276$, $p < 0.001$) and partially mediates the relationship between GHRM and GIWB (indirect effect: $\beta = 0.078$, $t = 3.019$, $p = 0.003$, 95% BCa CI [0.036, 0.138]). This study extends the GHRM literature by demonstrating that job satisfaction is a key psychological mechanism linking GHRM to GIWB among Generation Z employees in MSMEs in Bali. The findings also provide practical guidance for MSMEs to strengthen green HR practices that enhance employee satisfaction and support environmentally innovative behavior.

1. INTRODUCTION

Bali, Indonesia is a global tourist destination dependent on the tourism sector. The presence of Micro, Small, and Medium Enterprises (MSME), which directly support tourism, makes MSME activities a key component of the regional value chain. MSMEs play a crucial role in the economy, particularly in Bali, which has unique social, cultural, and economic characteristics. These characteristics make MSMEs in Bali competitive in the international market. The combination of Balinese cultural values and modern economic dynamics makes MSMEs a key pillar of Bali's economic sustainability. MSMEs in Bali face the challenge of remaining competitive amid rapid globalization and the need to adapt to more environmentally friendly and sustainable changes. Generation Z (Gen Z) is now the largest productive age group in Indonesia, including in Bali. Gen Z's involvement in the MSME sector in Bali is increasingly important because they bring characteristics, values, and competencies that are highly relevant to the current needs of MSMEs. Gen Z is known to be active in the MSME sector, particularly in utilizing digital technology to develop their businesses. Gen Z employees not only bring new, more innovative ideas but also have the ability to integrate sustainability aspects into their work methods. In this context, innovative work behaviors focused on environmentally friendly solutions, or Green Innovative Work Behavior (GIWB), are important to implement in Bali's MSME sector. Research [1, 2] reveals that environmental management ideas are applied to creative work practices to create GIWB. GIWB can be defined as the commitment of staff to create, promote, and implement environmentally friendly concepts. GIWB focuses on the development, promotion, and implementation of environmentally friendly initiatives, including waste reduction and water bottle recycling. Innovation is a voluntary activity involving the introduction and implementation of new concepts, ideas, methods, processes, or goods to be accepted within a company or team in order to gain benefits [3, 4]. The use of new concepts in the organization that is realized is called GIWB. GIWB is the process of developing and implementing new environmentally friendly concepts that affect the goods, services, procedures, and practices of the organization [5-7]. This behavioral process requires creativity, producing goods, services, or services that result in reduced product consumption, reduced CO_2 emissions, and other climate change impacts [7, 8].

Green Human Resource Management (GHRM) is often associated with GIWB, an extra-personal activity. GHRM is a growing issue in the business world. GHRM is a set of policies and practices within an organization that encourage employee

behavior toward an environmentally friendly work culture. GHRM is a concept that integrates environmental sustainability principles into traditional human resource management practices. GHRM focuses on developing environmentally friendly business strategies that effectively retain a skilled workforce [9-11]. GHRM has a positive and significant influence on GIWB [1, 12, 13], where employees with higher environmental knowledge and awareness will produce more valuable and innovative environmental management concepts, thereby contributing to the organization's green innovation. In addition, environmentally friendly training and coaching practices create the skills and expertise necessary to strengthen innovative practices and increase employee dedication to the environment, thereby encouraging environmentally friendly innovation behavior [14-16]. Employees will reciprocate with innovative work behavior in return for the organization's commitment to human resource management. One factor influencing human resource management is job satisfaction. Job satisfaction reflects a person's sense of satisfaction with their achievements and dedication to their work. Satisfied employees are more likely to actively participate in environmentally friendly programs. Job satisfaction can motivate employees to implement environmentally friendly policies and reduce their negative impact on the environment. Employees are more likely to innovate in the workplace when they are satisfied with their working conditions, such as a supportive and healthy workplace [17]. Satisfied employees are more motivated to actively participate in green programs. Employees who are satisfied with their jobs are more likely to generate green ideas and innovations in their work [18]. GHRM can increase employee job satisfaction by supporting environmentally friendly practices, which will make them more likely to innovate in the workplace.

The purpose of this study is to analyze GHRM in enhancing job satisfaction and encouraging GIWB. Although MSMEs in Bali play a significant role in the local economy and have significant opportunities to implement sustainable practices, studies highlighting how GHRM can enhance job satisfaction and GIWB among Gen Z employees are still very limited. This gap raises an urgent need to understand the psychological mechanisms that drive GIWB.

2. THEORETICAL FRAMEWORK AND HYPOTHESIS

2.1 Theoretical framework

Theory of Planned Behavior (TPB) is a theory developed by Icek Ajzen in 1985. This theory focuses on how individuals make decisions to perform or not perform a particular behavior, and the factors that influence these decisions. TPB explains behavior based on three main components, namely: (1) attitudes refers to an individual's evaluation of a particular behavior, whether they see it as positive or negative. If someone has a positive attitude toward a behavior, they are more likely to perform it; (2) subjective norm refers to an individual's perception of whether important people in their lives (e.g., friends, family, or colleagues) support or dissupport the behavior. If they feel supported by others, they are more likely to perform the behavior, (3) perceived behavioral control refers to the extent to which individuals feel they have control or ability to perform the behavior. Factors such as skills, resources, and external constraints influence this perceived control. If individuals feel they are capable of performing the behavior, they are more likely to do so. TPB states that a person's behavior can be predicted through a combination of attitudes, subjective norms, and perceived behavioral control [19].

GIWB refers to innovative behaviors that focus on implementing environmentally friendly ideas and practices in the work context. This includes the development and implementation of new ideas that can reduce environmental impacts or increase sustainability [2, 17, 20, 21]. The TPB can be used to explain how and why individuals in the workplace adopt environmentally friendly. If an employee has a positive attitude toward environmentally friendly practices or green innovation, they are more likely to participate in innovative behaviors focused on sustainability.

2.1.1 Green Human Resource Management

GHRM is the integration of human resources and the environment. GHRM is a human resource management approach that focuses on organizational efforts to manage human resources in a sustainable and environmentally friendly manner [1, 21-23]. The main principle of GHRM is to ensure that human resource management activities not only consider economic and social aspects but also their impact on the environment. GHRM focuses on human resource management related to the implementation of environmentally friendly policies and practices to create a sustainable work culture [24-26]. Companies that implement GHRM will continuously motivate employees to implement green innovation policies and the company's long-term sustainability. GHRM encompasses three basic activities: continuously motivating employees, continuously developing employee capabilities, and providing sustainable opportunities.

2.1.2 Job satisfaction

Job satisfaction is the level of enjoyment or satisfaction a person feels from their work. Gen Z tends to be more satisfied at work if they have a commitment to sustainability that aligns with their personal values. Furthermore, they will feel that their work has a positive impact on the environment and society. If a company simply claims to be environmentally friendly without taking concrete action, it will decrease their job satisfaction. Job satisfaction can be influenced by various factors, including a good fit between the individual and their job, a supportive work environment, opportunities for growth, and recognition for contributions [27, 28]. MSMEs that implement GIWB, including environmentally friendly raw materials and efficiency, will be able to attract and retain environmentally conscious Gen Z employees. Gen Z will be more satisfied with MSMEs that provide them with opportunities to learn and develop in sustainability aspects, such as through eco-friendly innovation training.

2.1.3 Green Innovative Work Behavior

GIWB is innovative behavior focused on the development and implementation of ideas, processes, or products aimed at reducing negative environmental impacts or improving sustainability in the workplace. GIWB involves actions related to the creation of new, environmentally friendly solutions or changes in work practices that support environmental conservation [29, 30]. This behavior encompasses a wide range of activities, including: developing green innovations, implementing environmentally friendly practices, and collaborating for sustainability. GIWB encompasses two main

dimensions such as innovation that focuses on creating new solutions and environmentally friendly ideas, and work behavior that refers to concrete actions taken in the workplace to support sustainability and environmental principles. Overall, GIWB is about creating and implementing changes that can reduce negative impacts on the environment, whether through products, processes, or actions in the work environment. This behavior is increasingly important in facing the challenges of climate change and global sustainability [31, 32]. Companies must improve GIWB to gain a competitive advantage [21, 33].

2.2 Hypothesis development

2.2.1 Green Human Resource Management and Green Innovative Work Behavior

In the context of business competition and the demands of sustainable tourism, MSMEs in Bali are increasingly encouraged to integrate environmentally friendly practices into their operational processes. The implementation of GHRM through green recruitment, green competency training, performance evaluation based on sustainability indicators, and incentives for environmentally friendly work behaviors has created a work ecosystem that encourages ecological awareness among Gen Z employees. This generation inherently has a strong preference for sustainability and social responsibility, so when MSMEs implement GHRM policies, they respond with increased creativity in presenting environmentally friendly solutions in the workplace. Gen Z employees in MSMEs in Bali demonstrate the courage to explore new ideas such as innovations in reducing production waste, using sustainable local raw materials, implementing digitalization for energy efficiency, and developing green product concepts with high selling points for tourists. Thus, GHRM not only enhances environmentally friendly, innovative work behavior but also contributes to the sustainable competitiveness of MSMEs in Bali within the green economy and sustainable tourism ecosystem [34]. The implementation of GHRM has a positive and significant impact on environmentally friendly, innovative work behavior [18, 21]. Based on previous research, the following hypotheses can be drawn.

H1. *GHRM has a positive and significant effect on the GIWB*.

2.2.2 Green Human Resource Management and job satisfaction

The implementation of GHRM through environmentally conscious recruitment, green competency training, performance evaluations with sustainability indicators, and recognition for environmental contributions creates a meaningful work environment that aligns with the personal values of young employees. Gen Z is characterized by a strong social awareness and sustainability concerns, so when organizations demonstrate a commitment to environmentally friendly practices, they feel a sense of value alignment, psychological comfort, and pride in being part of the company. This situation increases positive perceptions of work and the organization, which ultimately strengthens their job satisfaction. In the context of MSMEs facing demands for efficiency and sustainability, GHRM practices not only support operational success but also improve the psychological well-being of Gen Z employees through feelings of appreciation, empowerment, and involvement in environmental conservation efforts. Therefore, the more consistent GHRM practices are, the higher the level of job satisfaction [17, 18]. Based on previous research, the following hypotheses can be drawn.

H2. *GHRM has a positive and significant effect on job satisfaction*.

2.2.3 Job satisfaction and Green Innovative Work Behavior

High levels of job satisfaction encourage employees to demonstrate emotional involvement, commitment, and positive energy in their work, which ultimately triggers the emergence of creativity and environmentally oriented innovative behavior [18]. Gen Z employees who feel satisfied with their jobs due to a supportive work environment, recognition for their contributions, and opportunities for growth are more likely to propose new ideas, experiment with environmentally friendly problem-solving, and develop sustainable product and process innovations. Gen Z also highly values sustainability and meaningful purpose in their work. Therefore, when work provides a fulfilling experience and aligns with their personal values, they are more likely to voluntarily demonstrate sustainable initiative and creativity. In the context of MSMEs operating amidst the demands of efficiency and the green economy trend, job satisfaction is an important psychological factor that strengthens internal motivation to contribute through green innovation [28]. Thus, the higher the level of employee job satisfaction, the greater their tendency to exhibit environmentally friendly, innovative work behaviors. Based on previous studies, the following hypothesis can be proposed.

H3. *Job satisfaction has a positive and significant effect on the GIWB*.

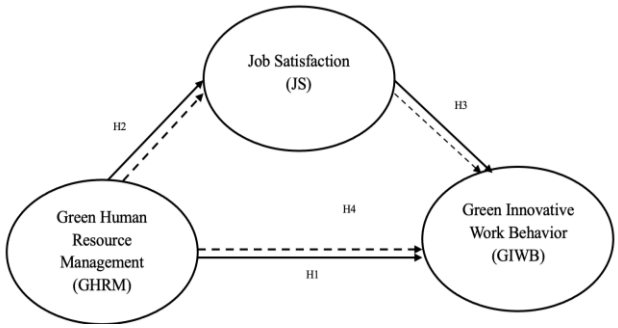

Figure 1. Research model

2.2.4 The role of job satisfaction as a mediator

Consistent implementation of GHRM through environmental competency training, a sustainability-based performance appraisal system, rewards for environmentally friendly contributions, and employee involvement in decision-making related to environmentally friendly practices creates a positive and valuable work experience for Gen Z employees. These practices increase job satisfaction because employees feel valued, recognized, and have a meaningful role in environmental conservation efforts. Where employees voluntarily explore new ideas, conduct experiments to solve environmental problems, and create innovative, environmentally friendly products or processes. In the context of Generation Z, who prioritize sustainability and meaningful work, this mediation pathway is strengthened because their psychological, emotional, and personal value needs are met. Thus, the influence of GHRM on GIWB is not only direct but also amplified through increased job satisfaction which

ultimately results in environmentally oriented innovative behavior [17, 35, 36], which ultimately results in environmentally oriented innovative behavior. The following hypotheses can be formulated based on previous research.

H4. *Job satisfaction mediates the influence of GHRM on the GIWB*.

Based on previous research, the following Figure 1 shows the research framework.

3. RESEARCH METHODS

3.1 Research design

This study uses an explanatory clause design to determine the relationship between GHRM variables, job satisfaction, and GIWB. Data collection methods are based on observation, interviews, and questionnaires. The research instrument was tested using validity and reliability tests. Data were analyzed using SEM-PLS which were then interpreted and at the final stage conclusions and suggestions were provided as well as research limitations.

3.2 Data collection and sampling

A quantitative cross-sectional survey was conducted among Generation Z employees working in MSME in Bali, Indonesia. This study employed a non-probability snowball sampling technique, and data were collected using a structured questionnaire. The sampling process began by defining the inclusion criteria, namely Generation Z employees aged 18 years and above who were currently employed in MSMEs in Bali during the data collection period. The initial recruitment involved 45 participants (seeds), comprising five participants from each of the eight regencies and one municipality in Bali. The initial participants were recruited through MSME owners who facilitated the researchers' access to eligible Generation Z employees. After completing the questionnaire, each participant was invited to refer other eligible Generation Z employees who satisfied the predefined inclusion criteria. The recruitment process was conducted over four successive referral waves, with each wave expanding the respondent network through participant referrals until data collection was completed. The study included 205 Generation Z employees working in MSMEs in Bali. To enhance the diversity of the referral network, the initial participants were intentionally selected from different geographical areas across Bali, and all respondents were required to satisfy the predefined inclusion criteria before being included in the study. All constructs were measured using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The measurement model was assessed for validity and reliability, and the hypotheses were tested using Partial Least Squares Structural Equation Modeling (PLS-SEM) using SmartPLS 4.

3.3 Design and measurement of questionnaires

GHRM was measured using 13 statement items from 6 indicators, namely: green recruitment, green training and development, green management & performance appraisal, green compensation, green employee relations, and green exit [21, 25]. Job satisfaction was measured with 12 statement items using indicators of intrinsic job satisfaction, extrinsic job satisfaction, and general job satisfaction [17]. GIWB is measured by 6 statement items from indicators of green idea generation, green idea promotion, green idea implementation, and green idea sustainability [2, 31].

4. RESEARCH RESULTS

4.1 Respondent characteristics

The respondents of this study were 205 Gen Z employees in MSMEs in Bali. The demographic characteristics of the respondents are presented in Table A1. Most respondents were aged 21 to 24 years (57.1%), this means that the majority of Gen Z employees are still in their early productive age who tend to be dynamic, adaptive, and have great potential in innovation. The dominant employees are men (59.0%). Characteristics with the last education is high school education with a percentage of 44.9%, this shows that the MSME sector opens many job opportunities that do not require high degrees, but instead rely on creativity, work ethic, and social skills. When viewed from the length of service, respondents are more likely with a work period of 1 to 5 years or around 50.2%. This reflects that MSMEs in Bali are the first workplace for most Gen Z employees to build professional experience. In addition, the majority of Gen Z employees working in the MSME sector in Bali are single, around 57.6%. This fact shows that most Gen Z MSMEs in Bali are still in the career exploration phase and are relatively more flexible in adjusting to work.

Table 1. Loading factors

Construct	Intems	Loading Factors	Threshold
GHRM	GHRM1	0.813	0.700
	GHRM2	0.790	0.700
	GHRM3	0.819	0.700
	GHRM4	0.846	0.700
	GHRM5	0.770	0.700
	GHRM6	0.772	0.700
	GHRM7	0.751	0.700
	GHRM8	0.751	0.700
	GHRM9	0.859	0.700
	GHRM10	0.714	0.700
	GHRM11	0.834	0.700
	GHRM12	0.819	0.700
	GHRM13	0.770	0.700
JS	JS1	0.907	0.700
	JS2	0.852	0.700
	JS3	0.873	0.700
	JS4	0.788	0.700
	JS5	0.906	0.700
	JS6	0.923	0.700
	JS7	0.931	0.700
	JS8	0.895	0.700
	JS9	0.810	0.700
	JS10	0.881	0.700
	JS11	0.821	0.700
	JS12	0.829	0.700
GIWB	GIWB1	0.836	0.700
	GIWB2	0.756	0.700
	GIWB3	0.885	0.700
	GIWB4	0.770	0.700
	GIWB5	0.862	0.700
	GIWB6	0.865	0.700

4.2 Outer and inner model

Loading factors are used to assess the validity of indicators

against latent constructs. The loading factor value indicates the strength of the relationship between each indicator and the construct being measured. The loading factor values are shown in Table 1.

Table 1 shows a factor loading value of ≥ 0.700 which proves that the indicator is declared valid where the instrument used is able to measure the concept being studied accurately and consistently [37]. The results of the reliability test determine whether a measurement is considered reliable with a Cronbach's Alpha value higher than 0.70 [38]. The results of Cronbach's Alpha and Composite Reliability (CR) in this study are presented in Table 2 below.

Table 2. Reliability test results

Construct	Cronbach's Alpha	Composite Reliability	Information
GHRM	0.952	0.960	Reliable
GIWB	0.911	0.931	Reliable
JS	0.971	0.980	Reliable

Table 2 shows the results of the reliability analysis, with Cronbach's Alpha values for each construct above 0.70, reflecting an adequate level of internal consistency between measurement items. Furthermore, the CR values for all constructs also exceeded the 0.70 threshold, indicating that the indicators in these constructs were able to consistently measure the latent variables. Thus, all constructs were deemed reliable and suitable for further analysis. Indicators are also necessary tested for discriminant validity use Fornell-Larcker criterion, where the AVE root of a construct is higher than the correlation of that construct with other latent variables. The calculation results are presented in Table 3 below.

Table 3. Results of the discriminant validity test-fornell-larcker criterion

Construct	GHRM	GIWB	JS
GHRM	0.796		
GIWB	0.412	0.830	
JS	0.283	0.371	0.869

Table 3 shows the results of discriminant validity using the Fornell–Larcker Criterion, confirming that all constructs meet the requirement of the square root of the AVE being greater than the correlation between constructs. These results indicate that the measurement model has good discriminant validity and is suitable for proceeding to the structural model analysis stage. To further assess discriminant validity, the Heterotrait–Monotrait Ratio (HTMT) was examined because recent PLS-SEM guidelines recommend HTMT as a more sensitive criterion than the Fornell–Larcker criterion [38].

Table 4. Heterotrait–monotrait ratio (HTMT)

Construct	GHRM	GIWB	JS
GHRM	-		
GIWB	0.397	-	
JS	0.262	0.370	-

As shown in Table 4, all HTMT values were below the recommended threshold of 0.85 (or 0.90), indicating satisfactory discriminant validity among the constructs.

4.3 Hypothesis testing results

The following influence between variables can be made based on data processing, as shown in Figure 2 and Table 4 below.

A summary of Figure 2 is shown in Table 4 as follows.

Based on Table 5, the analysis findings show that GIWB is positively and significantly influenced by GHRM, with a path coefficient of 0.334, a t-statistic coefficient of 5.582, and $p < 0.001$, meaning that the test findings support hypothesis 1 (H1). The better the implementation of GHRM, the higher the tendency to engage in innovative and environmentally-oriented behavior. GHRM implementation encourages Gen Z to be more creative in improving energy efficiency in the workplace, using sustainable local raw materials, and designing creative products with a low environmental impact. Gen Z is also more active in generating environmentally friendly ideas relevant to Balinese cultural identity, such as the use of natural materials.

Hypothesis 2 (H2 is accepted), according to the test results, shows that GHRM increases job satisfaction, with a path coefficient of 0.283, a t-statistic coefficient of 4.560, and $p < 0.001$. Job satisfaction among Gen Z workers in MSME sector is positively and significantly influenced by green human resource (HR) management. This means that the implementation of GHRM can create a sense of satisfaction among Gen Z employees because sustainable values align with their ideals and lifestyles, resulting in them feeling more valued, comfortable, and motivated at work.

The results of the analysis show a path coefficient of 0.276 with a t-statistic coefficient of 4.475 and $p < 0.001$, which indicates that job satisfaction has a positive and significant effect on GIWB, meaning that hypothesis 3 (H3) is accepted. Innovative, environmentally friendly work behavior among Gen Z employees in MSME sector is positively and significantly influenced by job satisfaction. This means that when Gen Z employees feel satisfied with their jobs (in terms of work environment, rewards, and job meaning), they are more motivated to create innovative and environmentally friendly ideas in their work.

Based on Table 6, the test results indicate that hypothesis 4 (H4) is accepted. The mediation analysis was performed using the bootstrapping procedure with 5,000 bootstrap resamples. The indirect effect of GHRM on GIWB through job satisfaction was significant ($\beta = 0.078$, $t = 3.019$, $p = 0.003$, 95% BCa CI [0.036, 0.138]). Because the confidence interval did not include zero and the direct effect remained significant, job satisfaction was identified as a partial mediator. This means Job satisfaction strengthens the relationship between GHRM and GIWB by increasing employees' intrinsic motivation to behave in an environmentally innovative manner. Satisfied Gen Z employees tend to be more creative, dare to take initiatives, and actively formulate new ideas oriented towards environmentally friendly solutions. They are also more willing to explore new, more efficient and sustainable ways of working, and participate in green projects initiated by the organization. These findings indicate that GHRM enhances GIWB both directly and indirectly by improving employees' job satisfaction.

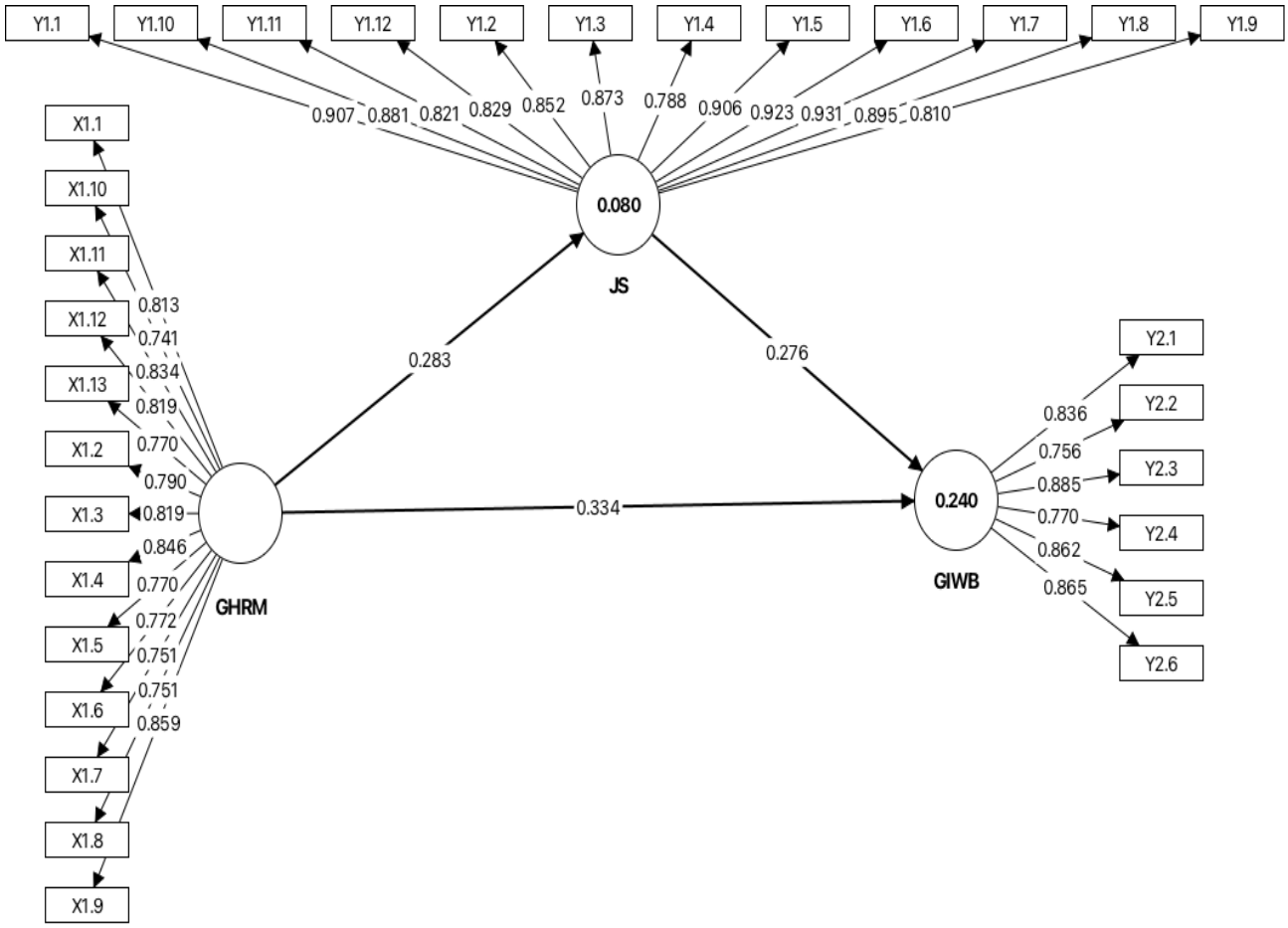

Figure 2. Results of Structural Equation Modeling Partial Least Squares (SEM-PLS) analysis

Table 5. Hypothesis testing

Hyphotesis	Original Sample	Sample Mean	t	p	Result
GHRM → GIWB	0.334	0.340	5.582	0.000	Accepted
GHRM → JS	0.283	0.289	4.560	0.000	Accepted
JS → GIWB	0.276	0.278	4.475	0.000	Accepted

Table 6. Mediation analysis result

Hyphotesis	Original Sample	Sample Mean	t	p	LLCI	ULCI
GHRM → JS → GIWB	0.078	0.081	3.019	0.003	0.036	0.138

5. DISCUSSION

The results of the study indicate that GHRM has a positive and significant impact on GIWB. The implementation of GHRM in the context of MSMEs not only contributes to improving employees' GIWB in general, but is also highly relevant for younger generations, such as Gen Z, who make up a large portion of the current MSME workforce. Previous research has shown that GHRM practices, including green recruitment, digital-based training, and employee engagement in sustainability issues, have a positive and significant impact on employees' green innovative behavior [1, 21, 39]. Gen Z's superiority in utilizing digital technology and online media, as a generation that grew up with the internet, makes online media such as instant messaging applications, collaboration platforms, and internal social media effective channels for MSMEs to convey GHRM values, communicate about sustainability goals, and share environmentally friendly ideas in real-time. Through the use of online media, Gen Z is encouraged to actively promote and champion innovative ideas that support environmentally friendly practices among colleagues, leaders, and external stakeholders, thereby strengthening a culture of sustainable innovation at the MSME level. Intense digital interactions create a work environment that is more responsive to sustainability issues and encourages Gen Z participation in green innovation, while accelerating the diffusion of creative ideas that contribute to the overall sustainability of the organization.

GHRM has a positive and significant impact on job satisfaction, particularly in the context of MSMEs that utilize online media as a means of communication with Gen Z employees. Effective implementation of GHRM can increase employee job satisfaction because it creates a work environment that is valuable, fair, and in harmony with environmental concerns, and is supported by responsive and responsible leadership [35, 36, 40]. GHRM practices

implemented through digital platforms, such as conveying environmentally friendly policies, involving employees in sustainability-based decision-making, and open communication through instant messaging applications and collaboration media, can increase transparency and speed of information within the organization. For Gen Z, who are accustomed to fast and two-way digital communication, the use of online media reinforces the perception that superiors have the ability to make decisions appropriately, fairly, and in a responsive manner, taking into account environmental issues and employee needs. When leadership decisions are seen as aligned with sustainability values and communicated clearly through digital media, Gen Z employees feel more valued, involved, and trust the organization's leadership. This condition ultimately increases job satisfaction, because employees not only judge superior decisions by the results, but also by the transparent, participatory, and green-value-based decision-making process that aligns with the character and expectations of Gen Z.

Job satisfaction positively affects green innovative behavior, especially among Gen Z, who are sensitive to leadership quality and decision-making processes. Satisfied Gen Z employees trust their workplace and feel psychologically comfortable, encouraging them to go beyond their job roles and promote environmentally friendly ideas [18]. Supportive superiors foster an environment where Gen Z feels safe sharing innovative ideas without fear of risk or rejection. Thus, job satisfaction serves as an intrinsic motivator that strengthens Gen Z's involvement in proposing and advocating for green practices. Job satisfaction acts as a mediating variable in the relationship between GHRM and GIWB among Generation Z employees in the MSME sector. The implementation of effective GHRM practices, such as communicating environmentally friendly policies through digital media, involving employees in decision-making, and leadership that makes appropriate decisions, can increase Gen Z job satisfaction. This higher satisfaction then encourages employees to display GIWB, reflected in their willingness to promote, champion, and share environmentally friendly ideas in the workplace. Thus, GHRM directly influences green innovative behavior and also indirectly impacts it through increased job satisfaction an important psychological mechanism encouraging Gen Z involvement in sustainable innovation in MSMEs.

6. CONCLUSION

GHRM plays a crucial role in encouraging GIWB among Gen Z employees in the MSME sector, both directly and indirectly. Effective implementation of GHRM practices especially through the use of online media as a means of communication and reinforcement of environmentally friendly values can improve Gen Z employee job satisfaction. This job satisfaction is formed from positive perceptions of leadership quality, particularly the superior's ability to make appropriate, transparent decisions that align with sustainability values. Furthermore, job satisfaction has been shown to function as a mediating variable that strengthens the influence of GHRM on GIWB, where Gen Z employees are encouraged to actively promote and champion environmentally friendly ideas in the workplace. Thus, increasing job satisfaction becomes a key psychological mechanism in optimizing the effectiveness of GHRM to foster sustainable green innovative behavior in MSMEs.

6.1 Limitation and future research

This study has several limitations that should be considered when interpreting the findings. First, the study focused exclusively on Generation Z employees working in MSME in Bali, Indonesia. Therefore, the findings reflect the characteristics of the sampled respondents and should not be generalized to Generation Z employees working in other regions or to MSMEs across Indonesia. Second, this study employed a cross-sectional research design, in which data were collected at a single point in time. Although the proposed relationships were statistically supported, the research design does not permit definitive causal inferences among GHRM, Job Satisfaction, and GIWB.

Future research should validate the proposed model using more diverse samples drawn from different provinces in Indonesia and across various industrial sectors to improve the external validity and generalizability of the findings. Furthermore, longitudinal research designs are recommended to examine changes in GHRM, Job Satisfaction, and GIWB over time and to provide stronger evidence of causal relationships. Future studies may also investigate additional mediating and moderating variables, such as green organizational climate, green leadership, environmental knowledge, or green self-efficacy, to provide a more comprehensive understanding of the mechanisms through which GHRM influences GIWB.

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APPENDIX

Appendix A

Table A1. Demographic profile of respondents

Caracteristics	Category	Frequency	Persentage (%)
Age	<20	32	15.6%
	21 – 24	117	57.1%
	25 – 28	56	27.3%
Gender	Male	121	59.0%
	Female	84	41.0%
Education	Senior high school	69	33.6%
	Diploma	44	21.5%
	Bachelor	92	44.9%
Work experience	<1 year	55	26.8%
	1 – 5 years	103	50.2%
	>5 years	47	23.0%
Marital status	Single	118	57.6%
	Married	87	42.4%

Appendix B: Measurement Items

B1. Green Human Resource Management – 13 items [21, 25]

1. During the employee recruitment process, MSMEs prioritize prospective employees who understand environmentally friendly concepts.
2. MSMEs train me to behave in an environmentally friendly manner.
3. MSMEs responded to the importance of environmentally friendly concepts for my future career.
4. MSMEs include environmentally friendly aspects in employee assessments.
5. MSMEs understand the importance of environmentally friendly concepts.
6. MSMEs always invite me to think innovatively in my work.
7. MSMEs give bonuses to those who are clean in their work (produce little leftover goods/waste).
8. MSMEs pay more attention to me cleaning my work desk/work location.
9. MSMEs utilize online media as a means of communication between me and other employees.
10. MSMEs invite me to reduce the use of private vehicles to reduce pollution.
11. MSMEs adapt 3R (Reduce, Recycle and Reuse) in the work environment.
12. MSMEs impose penalties on those who do not behave in an environmentally friendly manner.

13. MSMEs provide legal protection for those who report violations by the Company regarding environmental issues.

Scale: 1 = Strongly Disagree, 5 = Strongly Agree

B2. Job Satisfaction – 12 scales [17, 36]

1. I am able to be busy all the time at work.
2. I have the opportunity to work alone at work.
3. I have the opportunity to do something different from time to time at work.
4. I had the opportunity to be "someone" in the work community.
5. I am able to do something that does not conflict with my conscience.
6. The way my boss handles problems well.
7. My boss is capable of making good decisions.
8. I feel that MSME policies can be implemented well in the workplace.
9. The salary I receive is in line with the workload.
10. I have a great opportunity to advance in my job.
11. My workplace conditions are comfortable.
12. The way my coworkers get along with each other is good.

Scale: 1 = Strongly Disagree, 5 = Strongly Agree

B3. Green Innovative Work Behavior – 6 items [2, 31]

1. I generate creative eco-friendly ideas.
2. I am looking for new technologies, processes, techniques and/or product ideas that relate to the environment.
3. I can promote and champion environmentally friendly ideas with others.
4. I can research and secure the funding needed to implement new environmentally friendly ideas.
5. I can develop adequate plans and schedules for the implementation of new environmentally friendly ideas.
6. I can behave innovatively in the environmental field.

Scale: 1 = Strongly Disagree, 5 = Strongly Agree