

GREEN HRM ABILITY, MOTIVATION, AND OPPORTUNITY: THE MEDIATING ROLE OF GREEN INNOVATION IN INDONESIA'S BEVERAGE INDUSTRY PERFORMANCE

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Abstract. *This study aimed to analyze the effect of green ability, green motivation, and green opportunity on organizational performance with green innovation as a mediating variable in the beverage industry. The sampling technique used in this study was simple random sampling, with total of 131 respondents who were employees of the beverage industry. Primary data were collected through questionnaires distributed via Google Forms, which had been tested for validity and reliability. Data analysis was conducted using outer model and inner model techniques with SmartPLS version 4.0.9.9 for Windows. The results showed that green ability, green motivation, and green opportunity had positive and significant effect on organizational performance. Furthermore, green motivation and green opportunity had positive and significant effect on green innovation, while green ability had no effect on green innovation. Green innovation was proven to have positive and significant effect on organizational performance. Green motivation and green opportunity positively influenced organizational performance through green innovation, while green ability had no effect on organizational performance through green innovation. Future research could examine other factors that affect organizational performance, such as stakeholder pressure, green knowledge sharing, and green leadership.*

Keywords: *Green Ability; Green Innovation; Green Motivation; Green Opportunity; Organizational Performance*

1. INTRODUCTION

Environmental degradation remains a pressing global issue, with industrial waste contributing significantly to climate change and ecological harm (Insani & Rizky, 2024). In response, sustainable development principles urge industries to balance economic growth with environmental and social responsibility. Indonesia, as an emerging industrial nation, faces increasing scrutiny over its environmental impact, particularly in waste generation and carbon emissions. Regulatory frameworks such as Law No. 32/2009 and Government Regulation No. 22/2021 mandate responsible waste management, including hazardous and non-hazardous waste (Pemerintah Pusat Indonesia, 2021).

The beverage industry in Indonesia exemplifies this challenge. Despite a steady increase in the number of beverage companies—from 742 in 2022 to 773 in 2024—the industry's output has fluctuated, indicating inefficiencies and potential environmental costs (BPS, 2025). More critically, the manufacturing sector, which includes beverage production, has seen a dramatic rise in hazardous waste: from 15.87 million tons in 2020 to 38.66 million tons in 2022 (BPS, 2023). This surge underscores the urgent need for sustainable waste management strategies.

One alarming consequence is the proliferation of microplastics, particularly from beverage packaging. Indonesians reportedly consume up to 15 grams of microplastics monthly, posing severe health risks such as organ inflammation, gut microbiota disruption, and reproductive issues (Faujiah & Wahyuni, 2022). This highlights the necessity for beverage companies to adopt environmentally responsible practices.

Amid these challenges, green innovation emerges as a strategic opportunity. Companies that integrate eco-friendly practices can enhance organizational

performance while meeting regulatory and societal expectations (Dewi & Murwaningsari, 2024). Central to this transformation is the role of human resources, managed through Green Human Resource Management (GHRM), which includes three key components: Green Ability, Green Motivation, and Green Opportunity—collectively known as the AMO framework (Cahyaningtyas et al., 2022).

However, existing research presents gaps. Studies by Nor & Farahdiba (2020), applied the AMO model without incorporating environmental dimensions. Sobaih et al. (2020), demonstrated that green innovation mediates the relationship between GHRM and environmental performance but did not extend this to overall organizational performance. Nilam et al. (2024), found that green innovation failed to mediate GHRM's impact on environmental performance, suggesting inconsistencies in findings. Moreover, most prior studies focus on service sectors, leaving manufacturing, especially beverage industries—underexplored (Elbaz et al., 2018; Correia et al., 2024).

Given the beverage industry's significant environmental footprint and the strategic potential of GHRM and green innovation, this research seeks to fill a critical gap by examining how Green Ability, Green Motivation, and Green Opportunity influence Organizational Performance, with Green Innovation as a mediating variable. This study is both timely and essential for guiding sustainable transformation in Indonesia's beverage sector.

2. LITERATURE REVIEW

2.1 Green Human Resources Management

Green Human Resource Management (GHRM) integrates environmental sustainability into HR practices such as recruitment, training, performance evaluation, and compensation (Ghozali & Aprilia, 2023). It aims to reduce environmental impact, support sustainability initiatives, and enhance employee well-being (Insani & Rizky, 2024). GHRM is essential for building long-term competitive advantage through environmentally conscious human capital (Irawati & Rizky, 2024).

The AMO framework—Ability, Motivation, and Opportunity—is central to GHRM. Green Ability refers to employees' environmental knowledge and skills, developed through green recruitment and training (Sobaih et al., 2020; Chowdhury et al., 2023). It is shaped by internal factors (e.g., health, competence) and external factors (e.g., work conditions, support) (Hlad'ó et al., 2020). Green Motivation includes intrinsic drivers (e.g., personal commitment to sustainability) and extrinsic incentives (e.g., rewards for eco-friendly behavior) (Al-Shahwani, 2020; Li et al., 2020). Green Opportunity involves organizational support for employee participation in sustainability efforts, such as team collaboration and green initiatives (Veerasingam et al., 2024; (Chowdhury et al., 2023)).

Together, these dimensions foster a workforce capable of driving environmental performance and innovation.

2.2 Green Innovation

Green Innovation encompasses environmentally friendly product and process development aimed at reducing ecological harm while enhancing energy efficiency and economic growth (Irawati & Rizky, 2024; Singh et al., 2020). It includes green product innovation and green process innovation (Singh et al., 2020). Green product innovation is designing sustainable products with minimal harmful substances. Green process innovation is implementing eco-efficient production methods. Green innovation contributes to environmental performance by enabling reuse and recycling, reducing chemical usage, and promoting resource efficiency (Agustia et al., 2019). It also enhances organizational reputation and aligns global sustainability goals.

2.3 Organizational Performance

Organizational Performance reflects the extent to which an organization achieves its strategic goals through effective and sustainable practices (Wiyono et al., 2022). It includes four key dimensions: environmental performance (minimizing ecological

impact), economic performance (achieving financial sustainability), social performance (contributing to societal well-being), and green competitive advantage (differentiating through sustainability) (Chowdhury et al., 2023; Veerasamy et al., 2024). Effective performance management helps organizations make informed decisions, optimize capabilities, and motivate employees toward sustainable productivity (Azizah, 2021).

The integration of GHRM through the AMO framework, supported by green innovation, is vital for enhancing organizational performance in environmentally conscious industries. This theoretical foundation underscores the strategic importance of aligning human resource practices with sustainability goals to achieve long-term success.

2.4 Hypothesis Development

Prior studies affirm that employee capabilities are crucial for organizational success. Obeidat et al. (2016), found a significant relationship between skill enhancement and performance in Jordan's manufacturing and financial sectors. Elbaz et al. (2018), emphasized managerial ability in knowledge sharing as a driver of performance in Egyptian travel agencies. Nor & Abdullah Farahdiba (2020), confirmed that millennial employees' abilities positively affect performance at MARA headquarters in Kuala Lumpur. Muisyo & Qin (2021), extended this to green abilities, showing their impact on environmental performance in Chinese manufacturing firms.

H1: Green ability positively and significantly influences organizational performance.

Motivation is a key determinant of performance. Obeidat et al. (2016) and Elbaz et al. (2018), demonstrated that motivated employees contribute significantly to organizational outcomes. Nor & Abdullah Farahdiba (2020) highlighted generational motivation as a performance enhancer. Muisyo & Qin (2021) showed that green motivation—through performance appraisals and rewards—boosts environmental performance in manufacturing firms.

H2: Green motivation positively and significantly influences organizational performance.

Providing opportunities for employee involvement enhances performance. Obeidat et al. (2016) and Elbaz et al. (2018) found that organizational support and participation opportunities improve outcomes. Nor & Abdullah Farahdiba (2020) emphasized the role of opportunity in millennial performance. Muisyo & Qin (2021) linked green opportunity to improved organizational performance via employee engagement.

H3: Green opportunity positively and significantly influences organizational performance.

Green ability fosters innovation. Sobaih et al. (2020) found a direct link between green ability and innovation in Egyptian small lodging businesses. Singh et al. (2020) confirmed this in UAE manufacturing SMEs. Melinawaty et al. (2024) supported the positive impact of green ability on innovation in Indonesian holding companies.

H4: Green ability positively and significantly influences green innovation.

Green motivation refers to the internal and external drivers that encourage employees to engage in environmentally responsible behavior. When employees are intrinsically motivated by a personal commitment to sustainability or extrinsically rewarded through incentives, they are more likely to contribute to innovative solutions that reduce environmental impact. Studies by Singh et al. (2020), Sobaih et al. (2020), and Melinawaty et al. (2024), consistently show that motivated employees are key agents in generating green innovations, especially in manufacturing and service sectors. These innovations often manifest in eco-friendly product designs, energy-efficient processes, and sustainable organizational practices.

H5: Green motivation positively and significantly influences green innovation.

Green opportunity involves providing employees with the resources, support, and autonomy to participate in sustainability initiatives. When organizations create an

enabling environment—through inclusive policies, collaborative teams, and access to green projects—employees are empowered to innovate. Research by Sobaih et al. (2020), Singh et al. (2020), and Melinawaty et al. (2024) confirms that such opportunities significantly enhance green innovation, as employees feel valued and capable of contributing to environmental solutions. This leads to the development of sustainable technologies and practices that align with organizational and ecological goals.

H6: Green opportunity positively and significantly influences green innovation.

Green innovation—through eco-friendly products and processes—enhances operational efficiency, reduces environmental impact, and strengthens brand reputation. Huang & Li (2015), found that both green product and process innovation significantly improve organizational outcomes in Taiwan's ICT sector. Imran et al. (2021), and Ahmed et al. (2023), further confirmed that green innovation contributes to better performance in manufacturing and textile industries by aligning sustainability with strategic goals.

H7: Green innovation positively and significantly influences organizational performance.

Green ability equips employees with the environmental knowledge and skills necessary to drive innovation. Sobaih et al. (2020) and Singh et al. (2020) demonstrated that green innovation acts as a bridge between employee capabilities and organizational success. Correia et al. (2024) and Irawati & Rizky (2024) supported this by showing that green hiring and training lead to sustainable performance when mediated by innovation, especially in sectors like healthcare and textiles.

H8: Green innovation mediates the relationship between green ability and organizational performance.

Motivated employees are more likely to engage in innovative practices that support sustainability. Singh et al. (2020), and Sobaih et al. (2020) found that green innovation partially mediates the effect of employee motivation on performance, especially in SMEs and hospitality sectors. Awwad Al-Shammari et al. (2022), and Irawati & Rizky (2024) confirmed that green motivation—through rewards and performance management—leads to competitive advantage when supported by innovation.

H9: Green innovation mediates the relationship between green motivation and organizational performance.

Providing employees with opportunities to participate in green initiatives fosters innovation and enhances performance. Singh et al. (2020) and Sobaih et al. (2020) showed that green opportunity positively influences performance through innovation in manufacturing and hospitality. Kanan et al. (2023) and Irawati & Rizky (2024) emphasized that employee involvement in sustainability efforts leads to improved environmental, economic, and social outcomes when mediated by green innovation.

H10: Green innovation mediates the relationship between green opportunity and organizational performance

2.5 Framework

Based on the theoretical foundation and the development of hypotheses, the conceptual framework underpinning this study is presented as follows.

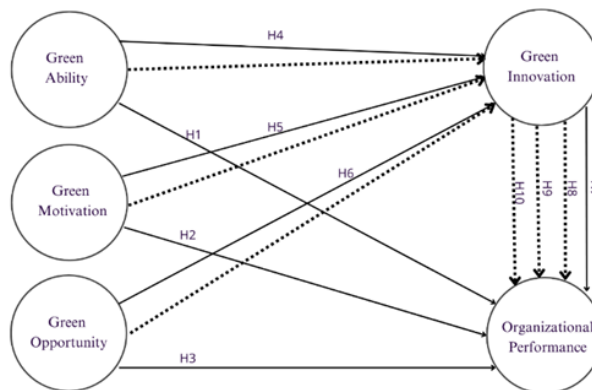


Figure 1. Conceptual Framework

3. RESEARCH METHODS

This study adopts a quantitative explanatory approach to investigate the impact of Green Ability, Green Motivation, and Green Opportunity on Organizational Performance, with Green Innovation serving as a mediating variable. The study targets a population of 92,314 employees within Indonesia's beverage industry (BPS, 2025), from which 131 valid responses were collected using simple random sampling. Primary data were obtained via Google Forms, distributed through various social media platforms including Instagram, Twitter, TikTok, LinkedIn, and WhatsApp, while secondary data were sourced from scholarly books, peer-reviewed journals, and official publications.

The research model comprises three independent variables (X1, X2, X3), one dependent variable (Y), and one mediating variable (Z). Each construct was measured using multiple items adapted from previously validated instruments. Specifically, Green Ability (X1) was assessed using 5 items, Green Motivation (X2) with 4 items, and Green Opportunity (X3) with 2 items. Organizational Performance (Y) was measured using 21 items based on indicators from Chowdhury et al. (2023), while Green Innovation (Z) was evaluated using 6 items adapted from Singh et al. (2019). All items employed a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree).

Data analysis was conducted using Structural Equation Modeling (SEM) with the Partial Least Squares (PLS) method, utilizing SmartPLS version 4.0.9.9. The evaluation process included outer model testing to assess construct validity and reliability, using criteria such as factor loadings ≥ 0.70 , Average Variance Extracted (AVE) ≥ 0.50 , and Cronbach's alpha and composite reliability ≥ 0.70 (Hair et al., 2022). The inner model testing involved examining R^2 values and conducting bootstrapping to test hypotheses. Both direct and indirect effects were analyzed to determine the mediating role of green innovation, with significance determined by p-values < 0.05 and t-statistics > 1.96 (Hair et al., 2022).

4. RESULTS AND DISCUSSION

4.1 Descriptive Statistics

The respondents in this study are categorized by gender, age, education, domicile, length of work, and job position. From 131 respondents in Indonesia's beverage industry, most were female (57.25%), aged 20–30 years (67.94%), with a high school education (61.07%). The majority lived in West Java (25.95%), had 3–6 years of work experience (40.46%), and worked as operational employees (57.25%). There are seventeen provinces from which no respondents were recorded. These provinces are Bangka Belitung, Bengkulu, Kalimantan Utara, Sulawesi Utara, Gorontalo, Sulawesi Tengah, Sulawesi Barat, Sulawesi Tenggara, Bali, Maluku, Maluku Utara, Papua, Papua Barat, Papua Tengah, Papua Pegunungan, Papua Selatan, dan Papua Barat Daya.

Table 2. Descriptive Statistics Results

Respondent Characteristics		Total	Percentage
Gender	Male	56	42,75%
	Female	75	57,25%
Age	≤ 20 years old	10	7,63%
	> 20 - 30 years old	89	67,94%
	> 30 - 40 years old	26	19,85%
	> 40 - 50 years old	5	3,82%
	> 50 years old	1	0,76%
Last Education Level	Senior High School	80	61,07%
	Diploma (D1/D2/D3/D4)	10	7,63%
	Bachelor (S1)	41	31,30%
Province of Domicile	Aceh	1	0,76%
	Banten	6	4,58%
	DI Yogyakarta	20	15,27%
	DKI Jakarta	13	9,92%
	Jambi	2	1,53%
	Jawa Barat	34	25,95%
	Jawa Tengah	23	17,56%
	Jawa Timur	14	10,69%
	Kalimantan Barat	1	0,76%
	Kalimantan Selatan	2	1,53%
	Kalimantan Tengah	1	0,76%
	Kalimantan Timur	1	0,76%
	Kepulauan Riau	1	0,76%
	Nusa Tenggara Barat	2	1,53%
	Riau	2	1,53%
	Sulawesi Selatan	3	2,29%
	Sumatra Barat	2	1,53%
	Sumatra Selatan	1	0,76%
Sumatra Utara	2	1,53%	
Years of work experience	≤ 3 years	46	35,11%
	> 3 - 6 years	53	40,46%
	> 6 - 9 years	27	20,61%
	≥ 9 years	5	3,82%
Position	Operational Employee	75	57,25%
	Lower Manager/Supervisor	25	19,08%
	Middle Manager	24	18,32%
	Top Manager	7	5,34%

(Source: Data Processing Result, 2025)

4.2 Outer Model Results

4.2.1 Convergent Validity

Convergent validity was assessed using both factor loadings and the Average Variance Extracted (AVE). The result shows below.

Table 3. Outer Loading After Cleansing

Variable	Indicators/Items	Outer Loading Value	Result
Green Ability (X1)	GA 1	0,812	Valid
	GA 2	0,840	Valid
	GA 3	0,828	Valid
	GA 5	0,857	Valid
	GM 1	0,903	Valid

Variable	Indicators/Items	Outer Loading Value	Result
Green Motivation (X2)	GM 2	0,835	Valid
	GM 4	0,872	Valid
Green Opportunity (X3)	GO 1	0,921	Valid
	GO 2	0,914	Valid
Green Innovation (Z)	GI 1	0,888	Valid
	GI 2	0,818	Valid
	GI 4	0,789	Valid
	GI 5	0,847	Valid
	GI 6	0,828	Valid
Organizational Performance (Y)	OP 2	0,813	Valid
	OP 3	0,796	Valid
	OP 4	0,791	Valid
	OP 5	0,838	Valid
	OP 6	0,842	Valid
	OP 7	0,843	Valid
	OP 9	0,835	Valid
	OP 10	0,837	Valid
	OP 11	0,813	Valid
	OP 12	0,829	Valid
	OP 13	0,845	Valid
	OP 14	0,854	Valid
	OP 15	0,859	Valid
	OP 16	0,862	Valid
	OP 17	0,849	Valid
	OP 18	0,782	Valid
	OP 19	0,787	Valid
	OP 20	0,851	Valid
	OP 21	0,785	Valid

(Source: Data Processing Result, 2025)

Table 3 displays the outer loading values for each item following the data cleansing procedure, during which items failing to meet the minimum threshold of ≥ 0.70 were excluded. The removed items include GA4, GM3, GI3, OP1, and OP8. The remaining indicators for Green Ability, Green Motivation, Green Opportunity, Green Innovation, and Organizational Performance exhibit loading values ranging from 0.782 to 0.914, all exceeding the recommended cutoff (Hair et al., 2022). These results confirm that the retained items demonstrate strong validity and are highly correlated with their respective constructs.

Table 4. Average Variance Extracted (AVE)

Variable	AVE	Result
Green ability (X1)	0,713	Valid
Green motivation (X2)	0,765	Valid
Green opportunity (X3)	0,842	Valid
Organizational performance (Y)	0,685	Valid
Green innovation (Z)	0,704	Valid

(Source: Data Processing Result, 2025)

As shown in Table 4, all constructs recorded Average Variance Extracted (AVE) values exceeding the recommended threshold of 0.50, thereby confirming the convergent validity of the measurement model. These results indicate that each variable explains a sufficient proportion of variance in its indicators, supporting the reliability and internal consistency of the constructs (Hair et al., 2022).

4.2.2 Reliability Test

The reliability of the constructs was evaluated using both Cronbach's Alpha and

Composite Reliability (CR). The results, as presented below, indicate that all constructs meet the recommended thresholds—Cronbach’s Alpha ≥ 0.70 and CR ≥ 0.70 —demonstrating strong internal consistency and reliability of the measurement model (Hair et al., 2022).

Table 5. Cronbach’s Alpha dan Composite Reliability

Variable	Cronbach’s Alpha	Composite Reliability	Result
Green Ability (X1)	0,866	0,909	Reliable
Green Motivation (X2)	0,845	0,907	Reliable
Green Opportunity (X3)	0,812	0,914	Reliable
Organizational Performance (Y)	0,974	0,976	Reliable
Green Innovation (Z)	0,894	0,922	Reliable

(Source: Data Processing Result, 2025)

As indicated in Table 5, all constructs demonstrated Cronbach’s Alpha and Composite Reliability values exceeding the threshold of 0.70, confirming a high level of internal consistency across the measurement model. These findings support the reliability of the constructs and affirm that the items consistently reflect their respective latent variables (Hair et al., 2022).

4.3 Inner Model Results

4.3.1 R² or Coefficient of Determination

The R² values serve as indicators of the model’s predictive accuracy. According to the guideline proposed by Hair et al. (2022), R² values of 0.67, 0.33, and 0.19 are interpreted as representing substantial, moderate, and weak levels of predictive power, respectively. These benchmarks provide a useful reference for evaluating the explanatory strength of the structural model in relation to its endogenous constructs.

Table 6. R-Square

Variable	R-Square Adjusted
GA, GM, GO → OP	0.793
GA, GM, GO → GI	0.631

(Source: Data Processing Result, 2025)

The adjusted R² value for Organizational Performance is 0.793, indicating that Green Ability, Green Motivation, and Green Opportunity collectively explain 79.3% of the variance in organizational performance. This level of explanatory power is considered strong, based on the criteria established by Hair et al. (2022). In contrast, the R² value for Green Innovation is 0.631, suggesting that the same three predictors account for 63.1% of its variance, which reflects a moderate level of predictive accuracy. The remaining variance in Green Innovation is likely influenced by other factors not included in the scope of this study.

4.3.2 Hypothesis Testing

The hypothesis testing for direct and indirect effects was conducted, the results are presented below.

Table 7. Direct and Indirect Effect

Hypothesis	Original Sample	t-statistic	P Values	Result
GA → OP	0,179	2,180	0,029	H ₁ accepted
GM → OP	0,210	2,271	0,023	H ₂ accepted
GO → OP	0,233	2,134	0,033	H ₃ accepted
GA → GI	0,145	1,302	0,193	H ₄ rejected
GM → GI	0,450	4,013	0,000	H ₅ accepted
GO → GI	0,278	2,349	0,019	H ₆ accepted

Hypothesis	Original Sample	t-statistic	P Values	Result
GI → OP	0,380	2,921	0,003	H ₇ accepted
GA→ GI→OP	0,055	1,171	0,242	H ₈ rejected
GM→GI→OP	0,171	2,086	0,037	H ₉ accepted
GO→GI →OP	0,105	2,298	0,022	H ₁₀ accepted

(Source: Data Processing Result, 2025)

Based on the results shown in Table 7, the direct effects of GA, GM, and GO on OP (H1, H2, H3), GM and GO on GI (H5, H6), and GI on OP (H7) are accepted as they meet the criteria of $p < 0.05$ and $t > 1.96$. The indirect effects of GM→GI→OP (H9) and GO→GI→OP (H10) are also accepted for the same reason. In contrast, GA→GI (H4) and GA→GI→OP (H8) are rejected because their p-values exceed 0.05 and t-statistics are below 1.96, indicating no significant effect.

4.4 Discussion

4.4.1 H1 – The Influence of Green Ability on Organizational Performance

The analysis results indicate that Green Ability (GA) has a positive and significant effect on Organizational Performance (OP), confirming H1. This finding aligns with studies by Obeidat et al. (2016) and Elbaz et al. (2018), which consistently report that GA improves OP. In the beverage industry, GA can be implemented through green recruitment, selection, and training to build employees' green behaviour, which contributes to resource efficiency, higher productivity, and an improved corporate image.

4.4.2 H2 – The Influence of Green Motivation on Organizational Performance

The analysis results show that Green Motivation (GM) has a positive and significant effect on Organizational Performance (OP), confirming H2. This finding is consistent with studies by Nor and Abdullah Farahdiba (2020), and Muisyo and Qin (2021), which found that GM improves OP. In the beverage industry, GM can be applied through green performance management and reward systems to foster employee motivation and eco-friendly engagement, ultimately enhancing organizational performance.

4.4.3 H3 – The Influence of Green Opportunity on Organizational Performance

The analysis results show that Green Opportunity (GO) has a positive and significant effect on Organizational Performance (OP), confirming H3. This result aligns with findings by Elbaz et al. (2018) and Muisyo and Qin (2021), which all reported that GO positively impacts OP. In the beverage industry, GO can be applied through green employee involvement, allowing employees to participate in eco-friendly initiatives that foster responsibility, creativity, and enthusiasm, ultimately improving productivity and organizational performance.

4.4.4 H4 – The Influence of Green Ability on Green Innovation

The analysis shows that Green Ability (GA) does not significantly influence Green Innovation (GI), leading to the rejection of H4. This result aligns with Dirjo (2025), who found that green recruitment, selection, and training alone are insufficient to drive green innovation without a supportive environment that encourages engagement and sustainability values.

Data from the Global Innovation Index (GII) 2024 indicate that Indonesia ranks 54th in innovation inputs but only 67th in innovation outputs WIPO (2024), suggesting that improved resources have not yet translated into effective innovation outcomes. Similarly, Setiawan et al. (2022) highlight that innovation levels in Indonesia's food and beverage industry remain relatively low due to limited R&D investment and a lack of creative breakthroughs. Thus, while employees may have green abilities, these must be complemented by innovative thinking and organizational support to produce meaningful

green innovation.

4.4.5 H5 – The Influence of Green Motivation on Green Innovation

The analysis results show that Green Motivation (GM) has a positive and significant effect on Green Innovation (GI), confirming H5. This finding is consistent with previous studies by Singh et al. (2020) and Sobaih et al. (2020), which reported that GM encourages eco-friendly innovation. In the beverage industry, GM can be applied through green performance management and reward systems to motivate employees in developing sustainable products and processes.

4.4.6 H6 – The Influence of Green Opportunity on Green Innovation

The analysis results show that Green Opportunity (GO) has a positive and significant effect on Green Innovation (GI), confirming H6. This result is supported by previous studies by Sobaih et al. (2020) and (Melinawaty et al., 2024), which found that employee involvement in green initiatives fosters eco-friendly innovation. In the beverage industry, encouraging participation in sustainability projects helps companies create green innovations that are market-relevant and environmentally sustainable.

4.4.7 H7 – The Influence of Green Innovation on Organizational Performance

The analysis results show that Green Innovation (GI) has a positive and significant effect on Organizational Performance (OP), confirming H7. This finding aligns with studies by Huang and Li (2015), Imran et al. (2021), and Ahmed et al. (2023), which reported that GI significantly improves OP. In the beverage industry, green product and process innovations enhance sustainability, attract eco-conscious customers, and boost competitiveness by improving brand image, increasing sales, and reducing operational costs, ultimately improving organizational performance.

4.4.8 H8 – Green Innovation Mediates the Influence of Green Ability on Organizational Performance

The analysis indicates that Green Ability (GA) does not influence Organizational Performance (OP) through Green Innovation (GI), resulting in the rejection of H8. This finding is consistent with the H4 result, which shows that GA does not significantly impact GI directly. It suggests that employees' abilities alone are insufficient to generate green innovation without organizational support or an innovative-oriented culture.

These findings align with Nilam et al. (2024), who also reported that GI does not mediate the relationship between GHRM practices—specifically green recruitment, selection, and training—and organizational performance indicators. Moreover, data from the Global Innovation Index (GII) 2024 indicate that Indonesia ranks relatively low among ASEAN countries Javier (2023), reflecting a weak innovation ecosystem that prevents green abilities from translating into tangible innovations and improved performance. Nurliza et al. (2021) further explain that technology does not always facilitate efficient work processes, such as limited technology updates, lack of new product innovation, absence of proper information and communication, and resistance to adopting new changes hinder the creation of effective green innovations.

4.4.9 H9 – Green Innovation Mediates the Influence of Green Motivation on Organizational Performance

The analysis results show that Green Motivation (GM) influences Organizational Performance (OP) through Green Innovation (GI), confirming H9. This finding is consistent with studies by Singh et al. (2019), Sobaih et al. (2020) and Awwad Al-Shammari et al. (2022), which highlight the mediating role of GI in the GM–OP relationship. In the beverage industry, employees who are motivated through green performance management and reward systems tend to be more creative in developing eco-friendly products and processes. As green innovations grow, they enhance business sustainability and competitiveness, ultimately improving organizational performance.

4.4.10 H10 – Green Innovation Mediates the Influence of Green Opportunity on Organizational Performance

The analysis results show that Green Opportunity (GO) influences Organizational Performance (OP) through Green Innovation (GI), confirming H10. This finding aligns with studies by Singh et al. (2019), Sobaih et al. (2020), and Kanan et al. (2023), which confirm that GI mediates the relationship between GO and OP. In the beverage industry, involving employees in green initiatives drives eco-friendly innovations that enhance competitiveness, reduce costs, and improve overall performance. Such participation fosters ownership, creativity, and continuous improvement, enabling companies to achieve long-term sustainability and a positive corporate reputation.

CONCLUSION

The findings of this study demonstrate that Green Ability (GA), Green Motivation (GM), and Green Opportunity (GO) significantly influence Organizational Performance (OP), with GM and GO also exerting a positive effect on Green Innovation (GI), which subsequently enhances OP. Furthermore, GI serves as a mediating variable in the relationship between GM and GO with OP, whereas GA does not exhibit significant indirect effect through GI. These results suggest that employee motivation and involvement are critical drivers of innovation and performance within Indonesia's beverage industry, while technical competencies alone are insufficient without adequate organizational support.

However, the distribution of survey responses was geographically uneven, with no representation from several provinces such as Bangka Belitung, Bengkulu, and North Kalimantan. As a result, the generalizability of the findings to the entire beverage industry across Indonesia is limited due to regional constraints in data collection.

To improve organizational outcomes, beverage companies are encouraged to enhance employee motivation through transparent performance evaluations, incentive systems, and inclusive opportunities for participation in sustainable innovation initiatives, such as eco-friendly product development and process improvements. Given that GA alone does not significantly influence GI or OP, managerial focus should be directed toward strengthening GM and GO. Future research should consider expanding the scope to other industrial sectors, ensuring broader geographic representation, and exploring additional influencing factors such as stakeholder pressure, green knowledge sharing, and green leadership.

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