
Influence Green Training and Organizational Green Culture on Employee Green Performance through Green Motivation

Keke Tamara Fahira^{*}, Affan Wazzar Achmad²,

^{1,2}Management, Faculty of Economic and Business, Universitas Muria Kudus, Indonesia

Abstract

The purpose of this study is to analyze the influence of green training, organizational green culture, and green motivation on employee green performance at PT. Sido Muncul. Environmental concerns are currently a critical issue for the industrial world. Companies are not only required to produce quality products but also to protect the environment in all their operations. The population was 192, and the sample was calculated in this study amounted to 132 respondents from permanent employees at the first-line management level using accidental sampling techniques. Quantitative methods with SEM AMOS were used in this study. The findings in this study are that green training and organizational green culture have a positive and significant effect on employee green performance. Then, green training does not affect green motivation. Organizational green culture and green motivation have an effect on employee green performance. For future research, it is hoped that research will be conducted in the service industry. The limitation of this study is the small sample size.

Keywords: Employee Green Performance, Green Training, Green Motivation, and Organizational Green Culture

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*Corresponding Author:
keke.tamara@umk.ac.id

INTRODUCTION

Environmental issues are seen as one of the most important social challenges in the world (Yafi et al., 2021). Environmental concerns are currently a critical issue for the industrial world. Companies are not only required to produce quality products but also to protect the environment in all their operations (Sun et al., 2024a). One of the companies that applies the concept of green management or management that focuses on human resource management, production processes and environmentally friendly organizational culture is PT. Industri Jamu dan Farmasi Sido Muncul Tbk.

Global economic uncertainty in 2022 negatively impacted the domestic economy. Facing the emerging market dynamics, PT. Sido Muncul implemented various strategic initiatives to maintain its performance. Sido Muncul received the "Indonesia Best Managed Companies" award for the second consecutive year from Deloitte in July 2023. This award recognizes Sido Muncul's role as a leader in the herbal medicine and pharmaceutical industry in Indonesia, focused on delivering top performance, outstanding innovation, and significant contributions to Indonesia's economic growth, despite various business challenges and environmental changes. The challenge of maintaining employee green performance remains a significant concern. Amidst global economic pressures and demands for operational efficiency, the implementation of environmentally friendly principles does not always run optimally across all company lines (Alshammari et al., 2022).

Some employees are still focused on production and profitability targets, so green awareness and behavior in daily work activities have not yet been fully established. The imbalance between a focus on business performance and a commitment to sustainability indicates a gap in the implementation of green values at the individual level. This can be caused by factors such as a lack of green motivation, uneven green training, and an organizational green culture that has not yet been fully embedded in employee work behavior (Tang et al., 2023).

In an effort to improve the effectiveness and efficiency of energy consumption, the Company began implementing ISO 50001:2018 (Energy Management System) at the beginning of the year. The Company obtained the ISO 50001:2018 certification in December 2023. At the award ceremony for the 2023 Corporate Performance Rating Program (PROPER) organized by the Ministry of Environment and Forestry (KLHK) at the Bidakara Hotel Jakarta in December 2023, Sido Muncul successfully secured the PROPER Gold for the fourth consecutive time. Simultaneously, Sido Muncul's Director, Irwan Hidayat, was also awarded the "Green Leadership Award" 2023 by KLHK for the second time. This award is given as recognition to CEOs or top leaders who have successfully led their Company to achieve PROPER Gold and implement Extraordinary Turnarounds. The company explains several activities related to employee training on Occupational Health and Safety (K3) which shows that PT. Sido Muncul strives to instill environmental awareness in all its employees in order to create work behavior that supports environmental sustainability (Sido Muncul, 2024). Referring to social exchange theory Cropanzano & Mitchell, (2005) and cultural perspective, this study aims to develop a model that links green training and employee green performance in role (EIGP), both directly and indirectly, through green motivation (Afsar et al., 2020). Green training a workplace training process designed to integrate environmental management goals and objectives, has attracted significant interest. Essentially, green training has been identified as key to overcoming barriers to environmental protection and fostering its acceptance in the workplace (Omarova & Jo, 2022). Environmental training is an important that aims to raise employees' awareness of environmental impacts, equip them with core environmental skills, and increase the level of "ecological literacy" and environmental expertise within the organization (Oyedele et al., 2022). Experts have long studied green training programs and their consequences on the performance of environmentally friendly employees (Deshpande & Srivastava, 2023; Ojo et al., 2022; Sun et al., 2024a). Research by Saputra et al., (2025) found that the effect of Green Training (GT) on Employee Performance (EP) was insignificant. This means that in the sample and context of the study, green training did not show a significant direct influence on employee performance, while other variables (e.g., green intellectual capital) showed a significant influence.

Green training programs are important to encourage green behavior in the workplace (Mohamad et al., 2024). However, based on social exchange theory, EIGP may be an important outcome of environmental training programs, but this has received little attention from researchers, especially in the pharmaceutical industry. A better understanding of the link between environmental training and EIGP is needed because employees are trained environmental practices and directly involved practices in the Company (Sobaih et al., 2022). Furthermore, employee performance is a function of several important factors, including motivation, which can be generated by human resource management practices. Therefore, companies need to provide green training, namely training designed to improve employees' knowledge, skills, and environmental awareness. Through this training, employees are expected to be able to implement efficient work behaviors in energy use, waste management, and the use of environmentally friendly materials. Research by Wu et al., (2021) in *Frontiers in Psychology* shows that green training has a positive effect on employees' creative behavior and green performance. Pada PT. Sido Muncul, the company involves the Corporate in competency development activities such as training, seminars, and workshops to support the implementation of their duties as follows.

Table 1.
Training/Workshops/Seminars of PT. Sido Muncul

No	Date	Training/Workshop/Seminar	Organizer
1	January 2023	12, Implementing Regulation of HPP Law Issued in December 2022	RSM Indonesia
2	February 2023	2, Artificial Intelligence Implementation in Financial Services Industry	OJK Institute
3	February 2023	16, ESG Update: Sustainability Disclosure Introduction to ISSB	ICSA
4	March 23, 2023	Seminar on "Issuing Green, Social, and Sustainability (GSS) Bonds"	IDX
5	May 10, 2023	Biodiversity Fundamentals : The Business for Action	UN Global Compact Academy
6	May 16, 2023	Fundamental of Wealth Management	OJK Institute
7	June 8, 2023	Addressing Gender-Based Violence And Harassment : The Role of Corporate Roles	DX_UNGC_IFC_UN WOMEN
8	July 27 2023	Opportunities in Carbon Trading for Decarbonization	OJK Institute
9	August 24, 2023	Leadership in Changing Atmosphere	OJK Institute
10	August 27, 2023	SDG 16 Business Framework and Reporting-Inspiring Transformational Governance	IGCN-IDX-Bapenas_GRI
11	September 21, 2023	Opportunities and Challenges of Fintech P2P Lending in the Era of the P2SK Law	OJK Institute
12	October 6, 2023	Socialization of Free Float Reporting Requirements	IDX
13	November 2023	7, Panel Discussion: Assuring Family-Owned Business Sustainability by Building Trust Through Governance	KNKG
14	December 7, 2023	Sustainable Acts : Why Now, What Next	Mandiri Institute

2023	15 December 20, An Overview of the Asean Corporate Governance Scorecard 2023	RSM
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Source: Annual Report of PT Industri Jamu dan Farmasi Sido Muncul Tbk (2023)

Sustainability and environmental responsibility are increasingly becoming a major focus in the modern business world. PT Industri Jamu dan Farmasi Sido Muncul Tbk, one of Indonesia's leading pharmaceutical and herbal companies, demonstrates its commitment to sustainable business practices through various training programs and seminars focused on environmental issues and sustainable governance. According to its annual report (Sido Muncul, 2023) The company consistently organizes and participates in various activities that reflect the implementation of green training in the work environment.

Several activities such as the "Seminar on Issuing Green, Social, and Sustainability (GSS) Bonds" organized by the Indonesia Stock Exchange and "ESG Update: Sustainability Disclosure Introduction to ISSB" by ICSA are concrete evidence that Sido Muncul continues to strengthen employee capacity in understanding Environmental, Social, and Governance (ESG) aspects. Furthermore, trainings titled "Biodiversity Fundamentals: The Business for Action" and "Opportunities in Carbon Trading for Decarbonization" demonstrate a systematic effort to instill sustainability values and an understanding of the green economy in all company employees (Qiu et al., 2020).

These trainings not only enhance technical knowledge but also foster intrinsic motivation and environmental awareness in employees, ultimately positively impacting green employee behavior and performance. Through ongoing green training, employees are encouraged to be more creative in finding environmentally friendly ways of working, efficient in resource use, and actively support the company's sustainability programs. The implementation of green training at PT Sido Muncul is not only a form of compliance with environmental regulations, but also a strategic strategy to improve employee green performance, which directly contributes to the company's reputation and competitiveness in the era of sustainable business. This phenomenon demonstrates how training focused on green values can create an environmentally conscious organizational culture while simultaneously encouraging sustainable performance (Sun et al., 2024a).

In addition to training, a green organizational culture is also crucial. An organizational culture that instills environmental values will cultivate green behavior in employees. This culture can be demonstrated through energy conservation policies, environmental management systems, and management support for green programs. As a commitment to implementing sound corporate management, the Company endeavors to consistently and sustainably apply the principles of Good Corporate Governance (GCG) in its daily business activities. The Company believes that the adoption of GCG is foundational to creating a corporate governance culture system. This system is the Company's strength in conducting sustainable business, maintaining superior competitiveness, and providing value added to the Company. Berikut ini adalah nilai – nilai budaya perusahaan.

Table 2.
Cultural Values of PT. Sido Muncul

Initials	Description
S	Stakeholders Focus Maintain solid relationship with shareholders, investors, customers, suppliers, and government; contribute positive impact to community and environment.
I	Integrity Consistently doing what's right, honest, open, ethical, and genuine.

- D Diversity Respect different ideas, strengths, interests, and backgrounds, leverage collective genius, creates excitement, drives engagement and passion for winning
- O Outperforming Continuous and consistent improvement, reach beyond boundaries to achieve high quality, pursue growth and learning.

Source: Annual Report of PT Industri Jamu dan Farmasi Sido Muncul Tbk (2023)

PT Industri Jamu dan Farmasi Sido Muncul Tbk is known as a company committed to sustainability and social responsibility. The company affirms four core values that form the foundation of its organizational culture: Stakeholder Focus, Integrity, Diversity, and Outperforming. These values are fundamentally designed to build harmonious relationships with stakeholders, uphold honesty, respect diversity, and encourage superior and sustainable performance. However, in practice, the implementation of these cultural values still faces several challenges. Although the company emphasizes the importance of Stakeholder Focus with its positive contributions to the environment and society, there remains a gap between the idealized values and the actual behavior of some employees (Wahyudi & Riana, 2021).

Some operational activities and business decisions are still more oriented towards short-term efficiency and profitability than long-term sustainability efforts. This indicates that awareness and internalization of the value of "positive contribution to the environment" have not yet been fully embedded in daily work behavior. Furthermore, the Outperforming value, which focuses on continuous improvement and achieving high targets, often creates work pressure that reduces employee motivation to engage in green practices. A strong performance-driven culture, without being balanced by strengthening sustainability values and a work-environment balance, can hinder the formation of a truly green organizational culture (Syafri et al., 2021).

This phenomenon indicates that although Sido Muncul has a strong foundation of cultural values, there is a mismatch between the organization's formal values and actual behavior on the ground. The lack of internalization of green values within the organizational culture can be a major obstacle to efforts to improve green employee motivation and green performance. Therefore, the company needs to strengthen its green culture through ongoing training, consistent communication of values, and leadership role models in implementing environmentally friendly behavior.

Research by Rosyanti et al., (2023) stated that green organizational culture can increase employee motivation and green performance. In line with research Doghan et al., (2022) stated that organizational environmental culture (a variant of GOC) encourages the development of green HRM and green innovation, which then improves environmental/organizational performance. In many model tests, GOC showed a significant positive relationship with key variables (and ultimately with performance through mediators). This is different from research Mirahsani et al., (2024) that the direct influence of green organizational culture on Employee Green Performance is not significant; and must be through the mediators of perceived organizational support (POS) and green motivation.

However, for training and organizational culture to be effective, green motivation is needed, which is the internal drive from employees to behave in an environmentally friendly manner. Employees with high green motivation will be more enthusiastic about implementing pro-environmental behaviors even though they don't always receive direct rewards. According to Doghan et al., (2022) Green motivation acts as a bridge connecting green training and culture with improved employee performance. In line with research Sun et al., (2024) found evidence that green training improves employee performance both directly and indirectly through strengthening organizational green culture and green motivation as a

mediating mechanism. An empirical study examining the role of green motivation as a mediator between managerial/training aspects and employee green behavior; the results support the mediating role of green motivation (Mohamad et al., 2024).

These research results show that green training and organizational green culture can improve employee green performance, both directly and through green motivation. However, most of the research was conducted in the hospitality sector Oyedele et al., (2022), Education Singh et al., (2022), or banking Dai et al., (2022). Meanwhile, research in the herbal medicine and pharmaceutical industry in Indonesia is still rare. Therefore, this study is important to examine the influence of green training and a green organizational culture on employee green performance through green motivation at PT Industri Jamu dan Farmasi Sido Muncul Tbk.

This study offers novelty by developing a model that positions green motivation as a mediating variable linking green training and organizational green culture to employee green performance at PT Industri Jamu dan Farmasi Sido Muncul Tbk. Different from previous research, this study was conducted in the context of the herbal medicine and pharmaceutical industry that has a high focus on energy efficiency, waste management, and environmental sustainability through the implementation of ISO 50001:2018 and consecutive PROPER Gold achievements. This approach expands theoretical understanding based on Social Exchange Theory and organizational culture perspectives, emphasizing the importance of intrinsic motivation as a psychological mechanism that bridges the influence of green practices on employee performance. The results of this study are expected to not only provide academic contributions in clarifying the relationship between green variables, but also provide practical implications for companies in designing training and building organizational cultures that encourage sustainable green behavior.

THEORITICAL REVIEW AND HYPOTHESIS DEVELOPMENT

The grand theory underlying the research "Influence of Green Training and Organizational Green Culture on Employee Green Performance through Green Motivation" is the Theory of Planned Behavior (TPB) by (Ajzen, 1991). According to the TPB, a person's behavior is influenced by intentions, which are formed through three main factors: attitudes toward the behavior, subjective norms, and perceived behavioral control. In this context, green training plays a role in shaping positive attitudes and enhancing employees' ability to behave in an environmentally friendly manner through increased green knowledge and skills. Meanwhile, organizational green culture creates norms and a work environment that support green behavior, reinforcing positive social pressure to act pro-environmentally. These two factors will influence green motivation, which is the internal drive employees have to engage in sustainable activities.

Ultimately, when green motivation increases, employees are more committed to implementing environmentally friendly practices in the workplace, resulting in higher employee green performance. Thus, the TPB serves as a conceptual basis explaining how green training and organizational culture can encourage employee green behavior and performance through internal motivational mechanisms. It describes the previously related studies as the primary sources. The use of secondary sources of references should not dominate the total references. Quotations should be a maximum of one paragraph and/or the list of the quoted sources. It describes the previously related studies as the primary sources. The use of secondary sources of references should not dominate the total references (Longoni et al., 2014).

Theory and Concept of Variable Green Training on Variable Employee Green Performance

Green training is an important component of Green Human Resource Management (GHRM) which focuses on developing employees' knowledge, skills, and environmental awareness to support the organization's sustainability goals. Renwick et al., (2020), Green training aims to provide employees with an understanding of environmentally friendly work practices, improve their ability to manage resources efficiently, and encourage pro-environmental behavior in their daily work activities. Through this training, employees are equipped with the competencies to identify environmental issues, implement green work techniques, and align their performance with the company's sustainability targets. This aligns with the AMO (Ability-Motivation-Opportunity) theory, which states that performance is influenced by ability (A), motivation (M), and opportunity (O) to act. Green training strengthens the ability aspect by enhancing environmental skills and knowledge, ultimately contributing to improved employee green performance (Adriana et al., 2020).

Furthermore, green training also has a significant psychological impact on employees by strengthening their commitment and intrinsic motivation to behave in an environmentally friendly manner. According to research Wu et al., (2021) Green training has a positive impact on employees' creative behavior and green performance because it fosters a sense of responsibility and awareness of the importance of environmental conservation Deshpande & Srivastava, (2023) found that structured and ongoing environmental training increases employee engagement in green innovation and energy efficiency, ultimately leading to improved employee green performance (EGP). However, the effectiveness of green training depends largely on the extent to which it is integrated into the organizational culture and supported by management. When training is perceived as meaningful and aligned with company values, it not only improves technical competency but also drives behavioral changes toward sustainable green performance (Hadjri et al., 2020).

Employee Green Performance (EGP) refers to employee performance related to contributing to the organization's environmental sustainability through environmentally friendly behaviors and outcomes. This goes beyond simply performing core job duties, but also involves actions that reduce environmental impact, such as energy conservation, waste reduction, efficient resource use, and compliance with company environmental policies (Wulansari et al., 2022).

Theory and Concept of Variable Organizational Green Culture on Employee Green Performance

Organizational Green Culture (OGC) is defined as the values, norms, attitudes, and practices of an organization that prioritize environmental sustainability in every aspect of its operations. According to research Andriyana & Setyawati, (2025) OGC strengthens the impact of green training on employee green performance through internal procedures, environmentally friendly regulations, and a strong work ethic. In addition, studies Sun et al., (2024) indicates that green organizational culture has a significant positive influence on overall employee performance. Conceptually, OGC facilitates employee green performance by creating a work environment that supports and motivates the implementation of environmentally friendly behaviors. This culture can shape the organization's green identity, signal management's commitment to sustainability, and reinforce pro-environmental behavioral norms. Recent studies Li et al., (2025) found that the effectiveness of green culture on green commitment and green identity is strengthened if employees have high environmental self-efficacy, which in turn contributes to better green performance. OGC has a direct impact on EGP.

The Impact of Variable Green Training on Green Motivation

Green training is defined as a systematic effort by an organization to provide training focused on improving employees' knowledge, skills, and environmental awareness, enabling them to carry out work tasks while taking environmental sustainability into account. Based on research, Kurniawan et al., (2024) Green training significantly influences green motivation in employees. One theoretical concept that supports the relationship between Green Training and Green Motivation is the Ability-Motivation-Opportunity (AMO) theory, which states that performance is highly dependent on the extent to which an organization provides training (ability), motivation, and opportunity. Research in the education sector in Malaysia by Yafi et al., (2021) found that green training not only improves an organization's environmental performance but its effects are mediated by green competencies and green motivation. Thus, green training is not merely a transfer of knowledge, but rather a strategic effort to build employees' green motivation so that they are actively involved in implementing organizational sustainability practices.

The Impact of Variable Organizational Green Culture on Green Motivation

Organizational Green Culture is a collection of values, norms, and practices consciously created within an organization to promote environmental awareness and sustainability in every aspect of its operations Rosyanti et al., (2023) found that organizational green culture has a significant positive effect on employee green motivation in the F&B industry, where employees working in organizations with a strong green culture showed a higher tendency to have intrinsic and extrinsic motivation that supports green work practices. Furthermore, the study Safar et al., (2025) strengthens the findings that green organizational culture not only directly influences green work motivation, but also improves overall employee performance through motivational channels. In addition, the study Anwar et al., (2020) shows that organizational green culture is a critical mediator in strengthening the effect of green training on green motivation, so that green culture plays an amplifier role in encouraging motivation so that green training has a greater impact on employee green performance.

The Impact of Variable Green Motivation on Employee Green Performance

Green motivation encompasses both intrinsic and extrinsic motivation of employees to perform tasks with environmental sustainability in mind and has been shown to be an important factor in improving employee green performance. A study by Kurniawan et al., (2024) confirmed that green motivation has a positive and significant effect on employee performance. In this study, although green training did not directly show a significant effect on performance, green motivation acted as a mediator connecting aspects of green training and skills with employee performance.

Furthermore, other research Singh et al., (2020) shows that high employee motivation not only directly improves performance, but its effects are amplified through a green work environment and employee engagement. This study shows that without motivation, environmental programs or environmentally friendly practices alone are not enough to produce optimal green performance; conversely, when motivation is fostered, employees are more proactive in implementing behaviors and practices that support sustainability.

Hypothesis

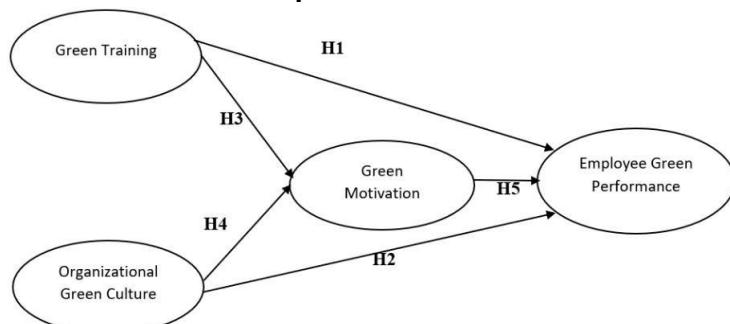
H1: Green Training has a positive and significant impact on employee green performance.

H2: Organizational green culture has a positive and significant impact on employee green performance.

H3: Green Training has a positive and significant impact on Green Motivation

H4: Organizational green culture has a positive and significant impact on green motivation
 H5: Green Motivation has a positive and significant impact on Employee Green Performance.

Figure 1
Conceptual Framework



RESEARCH METHODS

In the variables Employee Green Performance is measured using indicators according to Katz et al., (2022) are (1) Green task Performance, (2) Waste Reduction, (3) Modifying green work procedures, (4) Compliance with green policies/regulations, (5) Environmental knowledge / awareness, (6) Organizational voice / influencing others. Green training indicator Makumbe, (2024) are (1) Training Objectives, (2) Trainee Participation, (3) Relevance of Material to Company Operations, (4) Development of Environmental Knowledge & Skills, (5) Frequency and Intensity of Training, (6) Support from Management / Facilitator. Organizational Green Culture Indicators according to Sun et al., (2024) are (1) green climate, (2) Green innovation and creativity (3) Employee participation in voluntary environmental programs, (4) Formal green policies and processes, (5) Shared values and norms that support sustainability. Green Motivation indicators according to Yafi et al., (2021) are (1) Environmental Awareness, (2) Drive to Perform Green Actions, (3) Commitment to Environmental Goals, (4) Willingness to Participate in Green Initiatives, (5) Personal Satisfaction in Green Behavior.

The types of data in this study are primary data and secondary data. Primary data comes from interviews and questionnaires given to all permanent employees working at the first line management level. Secondary data is obtained from the Annual Report of PT. Sido Muncul. The population is 192 employees. The determination of the number of samples uses the rule of thumb from Hair. et al., (2014) which is $5-10 \times$ the number of indicators. The number of indicators in this study is 22 indicators. So 6×22 indicators = 132 respondents. In order to obtain a representative sample, the accidental sampling technique is used in this study. Where the accidental sampling technique is a method of sampling from members of the population carried out on respondents who are accidentally encountered at the research object during the observation. This sampling technique is included in non-probability sampling which is a sampling technique with the possibility or opportunity of a person being selected as a sample member is unknown.

The approach used in this study is using Structural Equation Modeling (SEM) AMOS dengan measurement model analysis and structural model analysis. Measurement model analysis measure with convergent validity testing (through factor loadings and average variance extracted), discriminant validity (through correlation values between constructs), and construct reliability. The goal is to ensure that the measuring instrument used is statistically sound before analyzing the relationships between latent variables.

Furthermore, in the structural model analysis, a goodness of fit test was conducted to ensure the model fits the empirical data, using indices such as Chi-Square, GFI (Goodness of Fit Index), CFI (Comparative Fit Index), TLI (Tucker Lewis Index), and RMSEA (Root Mean Square Error of Approximation). In addition, this analysis also tests the direct effect, indirect effect, and total effect between variables. The results of the structural model analysis serve as the basis for assessing whether the relationship between constructs in the research model (for example, the effect of green training on employee green performance through green motivation) is significant or not. Thus, SEM AMOS provides a comprehensive picture of the complex relationship between variables that cannot be explained by simple regression.

RESULTS AND DISCUSSION

Descriptive data describing the circumstances and conditions of respondents in this study can be seen through the characteristics of respondents in Table 3 below.

Table 3.

Respondent Characteristics

Respondent Characteristics	Information	Frequency	Percentage
Gender	Man	49	44,5%
	Woman	61	55,5%
Last education	D3	19	17,2%
	S1	78	71%
	S2	13	11,8%
Length of work	1 – 5 years	24	21,8%
	5 – 10 years	41	37,2%
	> 10 years	45	41%
Number of Trainings Attended	1 – 3 times	72	65,5%
	3 – 5 times	21	19,1%
	> 5 times	17	15,4%

Source: AMOS Data Processing Results, 2025

Based on the data in Table 3, 65.5% of employees have attended training 1–3 times. 19.1% have attended training 3–5 times, and 15.4% have attended training more than 5 times.

Validity and Reliability Test

Convergent Validity

Table 4. Convergent Validity Results

			Estimate
X1.1	<---	Green_Training	1,000
X1.2	<---	Green_Training	,673
X1.3	<---	Green_Training	,904
X1.4	<---	Green_Training	1,303
X1.5	<---	Green_Training	,918
X1.6	<---	Green_Training	,709
X2.1	<---	Organizational_Green_Culture	1,000
X2.2	<---	Organizational_Green_Culture	,216
X2.3	<---	Organizational_Green_Culture	,886
X2.4	<---	Organizational_Green_Culture	,861
X2.5	<---	Organizational_Green_Culture	,723
Y1.1	<---	Green_Motivation	1,000
Y1.2	<---	Green_Motivation	,814
Y1.3	<---	Green_Motivation	,870

			Estimate
Y1.4	<---	Green_Motivation	,960
Y1.5	<---	Green_Motivation	,845
Y2.6	<---	Employee_Green_Performance	1,000
Y2.5	<---	Employee_Green_Performance	,690
Y2.4	<---	Employee_Green_Performance	1,039
Y2.3	<---	Employee_Green_Performance	,652
Y2.2	<---	Employee_Green_Performance	1,011
Y2.1	<---	Employee_Green_Performance	,981

Source: AMOS Data Processing Results, 2025

Table 4 shows that the loading factor or standardized estimate still has a value below 0.5, namely X2.2. Then, this indicator must be removed, leaving all indicators with values above 0.5, so that all statements are considered valid for use in measurement.

Variance Extracted (AVE)

The average percentage of AVE values between items or indicators within a set of latent constructs is used as a summary to measure the convergent validity of the indicators, valid if the resulting AVE value is greater than 0.50 (Ghozali, 2017:143).

Table 5.
Variance Extracted (AVE) Test

No	Variable	AVE	Information
1.	Green Training	0,885	Valid
2.	Organizational Green Culture	0,762	Valid
3.	Green Motivation	0,811	Valid
4.	Employee Green Performance	0,827	Valid

Source: AMOS Data Processing Results, 2025

The AVE test results showed a value above 0.50. This indicates that the variable has met the variance extraction requirements and indicates good convergent validity.

Construct Reliability

Construct reliability tests are conducted to assess the consistency and reliability of data, is considered reliable if each statement item has a value of at least 0.70 (Ghozali, 2017:144).

Table 6.
Construct Reliability Test

No	Variable	Construct Reliability	Construct Reliability	Information
1.	Green Training	0,885	>0,70	Reliable
2.	Organizational Green Culture	0,762	>0,70	Reliable
3.	Green Motivation	0,811	>0,70	Reliable
4.	Employee Green Performance	0,827	>0,70	Reliable

Source: AMOS Data Processing Results, 2025

The results of the construct reliability test show that the CR value exceeds the cut-off value of 0.70, so that all variables can be declared reliable.

Normality Test

Data is considered to be normally distributed if the critical ratio (C.R) value for skewness and multivariate is within the range of ± 2.58 (Ghozali, 2017:303).

Table 7.
Assessment of normality (Group number 1)

Variable	min	max	skew	c.r.	kurtosis	c.r.
Y2.1	2,000	5,000	-,603	-2,829	,772	1,812
Y2.2	2,000	5,000	-,529	-2,483	-,182	-,427
Y2.3	2,000	5,000	-,719	-3,374	1,200	2,114
Y2.4	2,000	5,000	-,663	-3,111	,723	1,695
Y2.5	3,000	5,000	-,106	-498	-,461	-1,081
Y2.6	1,000	5,000	-,597	-2,799	,270	,633
Y1.5	2,000	5,000	-,322	-1,509	-,944	-2,214
Y1.4	2,000	5,000	-,142	-665	-,957	-2,243
Y1.3	1,000	5,000	-,546	-2,561	-,275	-,644
Y1.2	2,000	5,000	-,393	-1,844	-,589	-1,381
Y1.1	1,000	5,000	-,386	-1,811	-,582	-1,365
X2.5	2,000	5,000	,036	,170	-,686	-1,610
X2.4	2,000	5,000	,015	,070	-,691	-1,620
X2.3	2,000	5,000	,062	,290	-,566	-1,328
X2.1	2,000	5,000	,133	,622	-,526	-1,234
X1.6	1,000	5,000	,229	1,075	-1,052	-2,67
X1.5	1,000	5,000	-,964	-4,520	,311	,729
X1.4	1,000	5,000	-1,038	-4,867	,497	1,166
X1.3	1,000	5,000	-1,192	-5,589	1,328	,115
X1.2	2,000	5,000	-,725	-3,400	,693	1,625
X1.1	1,000	5,000	-,780	-3,658	,218	,512
Multivariate					,221	,361

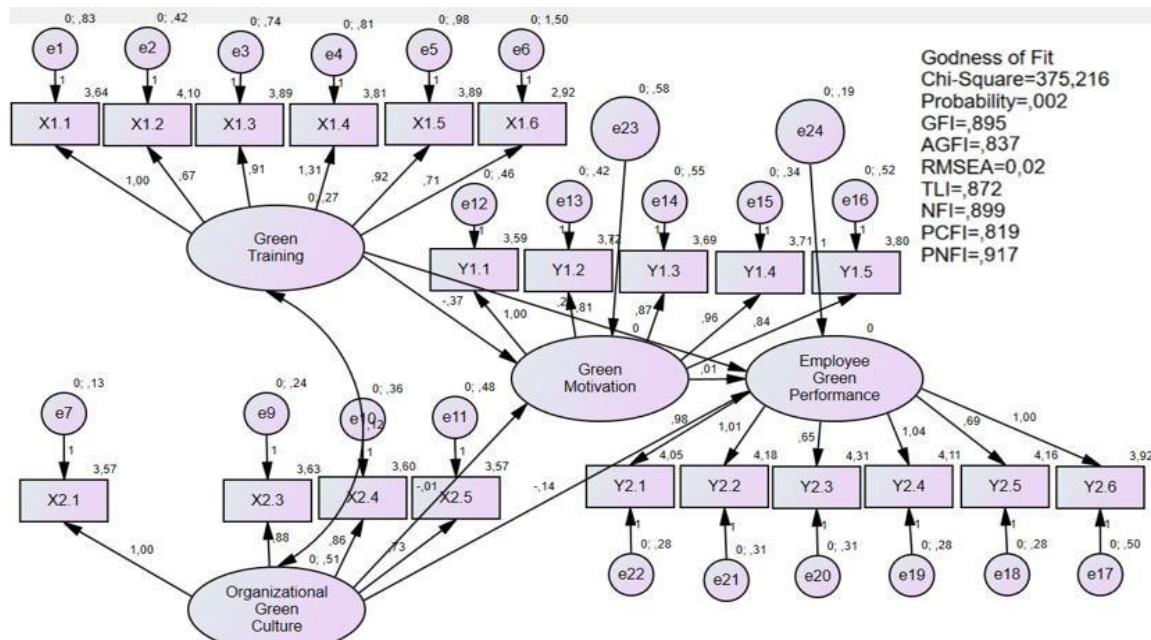
Source: AMOS Data Processing Results, 2025

Table 7 shows that the multivariate value is 0.361, which is below the limit of ± 2.58 . Based on the critical value criteria with a multivariate critical ratio (CR) of ± 2.58 , it can be concluded that the data is normally distributed.

Full Model Structural Equation Modeling (SEM) Analysis

The first stage of this confirmatory factor analysis involves measuring a number of indicators that form the exogenous and endogenous variables, which include four variables with a total of 22 indicators. However, after being corrected by eliminating indicators with factor loading values below 0.7, the total indicator is 21. The results of data processing

for the confirmatory factor analysis in the complete measurement model are as follows:



Source: AMOS Data Processing Results, 2025

Figure 1
Full Measurement Model

The results of the goodness of fit test from the full measurement model analysis after improvements were made are shown in Table 8:

Table 8.
Evaluation of Goodness of Fit Index Full Measurement Criteria

Goodness of index	Cut-of value	Result	Information
<i>Chi Square</i>	394,626	375,216	<i>Marginal</i>
DF=132			
Probability	$\geq 0,05$	0,002	<i>Marginal</i>
GFI	$\geq 0,90$	0,895	<i>Fit</i>
AGFI	$\geq 0,90$	0,837	<i>Fit</i>
NFI	$\geq 0,95$	0,899	<i>Fit</i>
PNFI	$\geq 0,90$	0,819	<i>Fit</i>
PCFI	$\geq 0,90$	0,899	<i>Fit</i>
TLI	$\geq 0,95$	0,872	<i>Fit</i>
RMSEA	$\leq 0,08$	0,002	<i>Fit</i>

Source: AMOS Data Processing Results, 2025

In Table 8, the values obtained are within the expected range. The results of the model evaluation indicate that the goodness of fit criteria have been met well

Squared Multiple Correlation

The output from the research hypothesis testing table using the AMOS test tool is displayed in the form of standardized regression weight as in the following table:

Table 9.
Standardized Regression Weights

		Estimate
Green_Motivation	<--- Green_Training	,073
Green_Motivation	<--- Organizational_Green_Culture	,028
Employee_Green_Performance	<--- Green_Training	,064

			Estimate
Employee_Green_Performance	<---	Organizational_Green_Culture	,020
Employee_Green_Performance	<---	Green_Motivation	,039

Source: AMOS Data Processing Results, 2025

Table 9 yields the following structural model:

$$Z = 0.73X1 + 0.028X2$$

$$Y = 0.064X1 + 0.020X2 + 0.039Z$$

The green training variable (X1) has a positive effect on green motivation (Z), with a coefficient value of 0.73. This means that green training (X1) increases green motivation (Z) by 0.73. (2) The organizational green culture variable (X2) has a positive effect on green motivation (Z), with a coefficient value of 0.28. This means that organizational green culture (X2) increases green motivation (Z) by 0.28. (3) The green training variable (X1) has a positive effect on employee green performance (Y), with a coefficient value of 0.064. This means that green training (X1) increases employee green performance (Y) by 0.064. (4) The organizational green culture variable (X2) has a positive effect on employee green performance (Y), with a coefficient value of 0.20. This means that organizational green culture (X2) increases employee green performance (Y) by 0.20. (5) The green motivation variable (Z) has a positive effect on employee green performance (Y), with a coefficient value of 0.039. This means that green motivation (Z) increases employee green performance (Y) by 0.039.

The coefficient of determination resulting from the structural equation model shows how much influence the independent variables have on the dependent variables through their respective influence paths, as shown in Table 10:

Table 10.
Coefficient of Determination (Squared Multiple Correlation)

	Estimate
Green_Motivation	,317
Employee_Green_Performance	,621

Source: AMOS Data Processing Results, 2025

The squared multiple correlation value of 0.317 indicates that 31.7% of the green motivation variable is influenced by green training and organizational green culture. The squared multiple correlation value is 0.621. This value indicates that 62.1% of the employee green performance variable is determined by green training and organizational green culture.

Hypothesis Testing

Hypothesis testing is conducted to determine whether exogenous variables influence endogenous variables. The hypothesis is accepted if the probability value (P) is <0.05 and the Critical Ratio (CR) exceeds the t-table value, namely $CR > 1.645$.

Table 11.
Regression Weights: (Group number 1- Default model)

			C.R.	P
Employee_Green_Performance	<---	Green_Training	1,835	***
Employee_Green_Performance	<---	Organizational_Green_Culture	3,412	***
Green_Motivation	<---	Green_Training	-1,764	,078
Green_Motivation	<---	Organizational_Green_Culture	4,234	***
Employee_Green_Performance	<---	Green_Motivation	1,851	,002

Source: AMOS Data Processing Results, 2025

1. The Effect of Green Training on Employee Green Performance. Data processing revealed that the CR value was greater than the t-table, with a CR of $1.835 > 1.645$, and a P value of $0.000 (***) < 0.05$. These values indicate that the results meet the requirements, with a P value of less than 0.05. These statements can be concluded that green training has a positive and significant effect on employee green performance, thus H1 is accepted.
2. The Effect of Organizational Green Culture on Employee Green Performance. Data processing results showed that the CR value was greater than the t-table, with a CR of $3.412 > 1.645$, and a probability value of $0.000 < 0.05$. These values indicate that the test results meet the criteria, with a P value of less than 0.05. Therefore, it can be concluded that Organizational Green Culture has a positive and significant effect on employee green performance, thus H2 is accepted.
3. The Effect of Green Training on Green Motivation. The data processing results show a CR value of -1.764 , smaller than the t-table of 1.645 , and a probability value of 0.78 , greater than 0.05 . This value indicates that the results are not significant. Therefore, it can be concluded that green training has no effect on green motivation, therefore, H3 is rejected.
4. The Influence of Organizational Green Culture on Green Motivation. The data processing results show a CR value greater than the t-table, with a CR of $4.234 > 1.645$, and a probability value of $0.000 < 0.05$. These values indicate that the test results meet the criteria, with a P value of less than 0.05. Therefore, it can be concluded that Organizational Green Culture has a positive and significant influence on green motivation, therefore, H4 is accepted.
5. The Influence of Green Motivation on Employee Green Performance. The data processing results show a CR value greater than the t-table, with a CR of $1.851 > 1.645$, and a probability value of $0.002 < 0.05$. This value indicates that the test results meet the criteria, namely P less than 0.05. This statement can be concluded that green motivation has a positive and significant influence on employee green performance, so H5 is accepted

Direct Effect and Indirect Effect

Table 12.
Estimate Direct Effect Standardized Regression Weights

			Estimate
Green_Motivation	<---	Green_Training	-,366
Green_Motivation	<---	Organizational_Green_Culture	-,010
Employee_Green_Performance	<---	Green_Training	,254
Employee_Green_Performance	<---	Organizational_Green_Culture	-,143
Employee_Green_Performance	<---	Green_Motivation	,014

Source: AMOS Data Processing Results, 2025

The results of the analysis using AMOS show that the highest direct influence is found in green training on employee green performance with a value of 0.254, while the lowest direct influence is found in green training on green motivation with a value of -0.366.

Indirect Effect Dan Total Effect

Table 13.
Estimate Indirect Effect and Total Effect

	<i>Direct Effect</i>	<i>Indirect Effect</i>	<i>Total Effect</i>	Information
EGP <--- GM	,014			
EGP < --- GT	,254	-,005	,249	green motivation cannot mediate
EGP < --- OGC	-,143	,011	-,151	green motivation can mediate

Source: AMOS Data Processing Results, 2025

Table 13 shows that the green training variable has a greater direct effect value than the indirect effect value. The mediation test conclusion that can be taken is that green motivation can be a mediating variable in the relationship between green training and employee green performance. The organizational green culture variable has an indirect effect value of 0.011 and a direct effect value of -0.143. The indirect effect value is greater than the direct effect value. The mediation test conclusion that can be taken is that green motivation can be a mediating variable in the relationship between organizational green culture and employee green performance.

Discussion

Discussion of H1 that Green training improves environmentally friendly work practices such as waste management, energy efficiency, and clean production procedures so that employees become more capable and motivated to implement environmentally friendly behaviors in their daily tasks. At PT. Sido Muncul green training also forms expectations and behavioral norms that make green actions part of operational standards. This combined effect increases employee green performance with consistent work behaviors that support the company's environmental goals. This statement is supported by a quantitative empirical study that found a positive effect of green training on employee performance/green performance both directly and through increased green motivation (Saputra et al., 2024).

In the context of PT. Sido Muncul, training and development programs that emphasize environmental aspects have been documented in case studies and the company's GHRM report, which shows that Sido Muncul implements training programs to improve workers' environmental understanding and integrate environmental targets into performance evaluations. Consistent implementation of training and support from company policies such as sustainability guidelines and clean production SOPs are key mechanisms that enable the positive effects of green training on employees' green performance in large-scale factories like Sido Muncul (Arivia & Kurniawati, 2024). Several cross-country studies and meta-analyses also strengthen the generalization that green training is one of the GHRM practices most consistently related to improvements in employee environmental behavior and performance, including studies showing mediation effects through green motivation or green ability, as well as case studies finding improvements in environmental performance indicators following training interventions (Bilal & Khan, 2025).

Discussion of H2: In companies like PT. Sido Muncul, a green organizational culture

likely manifests itself in environmentally friendly operational standards, employee involvement in sustainability programs, and an emphasis on corporate social responsibility. This culture not only influences employee attitudes and motivation but also strengthens the organization's identity as an ecologically conscious institution. Therefore, when an organization consistently instills a green culture, employees will be more engaged in behaviors that support the company's environmental goals, such as daily operational practices such as energy conservation, waste reduction, proper waste processing, and efficient resource use, all of which enhance employee green performance. Several empirical studies have confirmed a positive and significant relationship between green organizational culture and employee environmental performance. Widagdo et al.,(2024) stated that green organizational culture has a direct and significant influence on employee performance in the hospitality sector that applies environmental concepts.

Discussion of H3: PT. Sido Muncul's green training alone may not significantly increase employees' green motivation. This can occur if the training material is normative or merely theoretical (lack of applicability), is not accompanied by reinforcement of organizational policies (rewards/punishments), or when the work environment does not provide opportunities and means to apply the learning. As a result, new knowledge does not transform into motivation or intention to behave green. Furthermore, the quality of the training (duration, method, relevance to daily tasks) and workers' perceptions of the training's benefits (valence) determine whether the training will trigger motivation; without these conditions, the training's effect on motivation can be zero or very small (Wahyudi & Riana, 2021).

Several consistent findings indicate that the effects of training on environmental behavior/attitudes are inconsistent and often dependent on intermediary or conditional factors. Training does not improve performance or motivation if workers lack underlying motivation or the organization does not provide opportunities for implementation. This indicates that the influence between training and motivation is often conditional, not automatic (Sun et al., 2024).

Discussion of H4: At PT. Sido Muncul, if management implements clear policies, operational procedures, and internal communications regarding environmental targets such as waste management, energy efficiency, and the use of environmentally friendly raw materials, employees will better understand organizational expectations and perceive institutional support for green behavior. This condition increases green motivation through mechanisms of organizational identification and perceived organizational support. Empirical support indicates that a green organizational culture is positively related to employee green motivation and behavior. In addition to its direct effect, green organizational culture also operates through mediation and moderation pathways, for example by strengthening green organizational identity or perceived organizational support. Therefore, its effect on green motivation is stronger when employees perceive a clear environmental support and identity.

Several cross-industry studies have shown that when organizations consistently instill green values, there is a significant increase in employees' intrinsic and extrinsic motivation to behave in an environmentally friendly manner; therefore, the implementation of a green culture at PT. Sido Muncul is expected to significantly increase employee green motivation, provided it is accompanied by consistent HR practices and managerial support (Imran & Jingzu, 2022).

Discussion of H5 Research shows that green motivation has a positive and significant influence on employee green performance. A study by Liaquat et al., (2024) found that intrinsic and extrinsic motivation significantly contribute to employee environmental

performance, with the influence mediated by task-related factors. In the context of PT. Sido Muncul, a company known for its commitment to sustainability and natural herbal products, the implementation of green motivation can strengthen employee green performance. By integrating environmental values into the company culture and providing supportive training and incentives, PT. Sido Muncul can increase employee commitment and motivation towards environmentally friendly practices. This is in line with the findings of research by Wahyudi & Riana, (2021) which shows that effective GHRM can improve green performance by increasing employee affective commitment. The implementation of this strategy will not only improve the company's environmental performance but also strengthen the company's image as a sustainability pioneer in the herbal medicine industry.

CONCLUSION

From the results of this study, it can be concluded that efforts to improve employee green performance at PT. Sido Muncul can be achieved by enhancing green training, organizational green culture, and green motivation among PT. Sido Muncul employees. Green training and organizational green culture have a positive and significant effect on employee green performance at PT. Sido Muncul. Green training has no effect on green motivation at PT. Sido Muncul. Organizational green culture and green motivation have a positive and significant effect on employee green performance at PT. Sido Muncul. Green motivation cannot mediate the relationship between green training and employee green performance, but it can mediate the relationship between organizational green culture and employee green performance. Based on the limitations of this study, future research is expected to be expanded to include companies with a broader scope, such as service companies. It is hoped that research will be conducted on other variables that can influence employee green performance.

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