Mediating Role of Green Organisational Identity in The Influence Between Green Training and Green Innovation Performance on Coffee Shop in Pontianak, West Kalimantan

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Abstract. ***Purpose****: this study investigates the mediating role of green organizational identity in the relationship between green training and green innovation performance among small and medium-sized coffee shop enterprises (SMEs) in Pontianak, West Kalimantan.. **Methods**: as the urgency for sustainable business practices increases, SMEs face challenges in adopting green innovations due to limited resources and support. We collected data through questionnaires from 100 coffee shop SMEs using a quantitative approach, and then analyzed the data using structural equation modeling with partial least squares (PLS-SEM). **Results**: results indicate that green training has a significant positive influence on green organizational identity but does not directly affect green innovation performance. Green organizational identity has the potential to have a positive relationship with green innovation performance, but it is not statistically significant. Although not proven significant, the mediating effect of green organizational identity demonstrated a positive direction. **Implications**: these findings highlight the complexity of green innovation processes in the SME context and emphasize the importance of a holistic approach to promoting sustainable practices. Practical implications include the need for specific green training programs, strengthening green organizational identity, and increasing stakeholder support. This research contributes to understanding the dynamics of green innovation in SMEs in developing countries and suggests directions for future research.*

Keywords : *green training, green organizational identity, green innovation performance, MSMEs, Pontianak, West Kalimantan*

I. INTRODUCTION

Micro, small, and medium enterprises (MSMEs) play a crucial role in the global economy, contributing to economic growth, job creation, and innovation development (OECD, 2017). In Kalimantan, MSMEs accounted for 60.3% of the total national GDP and absorbed 97% of the workforce (Ministry of Cooperatives and SMEs, 2021). The coffee shop industry, one of the rapidly growing MSME sectors, is estimated to reach a global market value of USD 116.39 billion by 2029 (Grand View Research, 2019). Pontianak, the capital of West Kalimantan province, has experienced a significant increase in the number of MSMEs in the coffee shop sector (Department of Cooperatives and MSMEs of Pontianak City, 2021).

However, coffee shops face numerous challenges in implementing green business practices and new technologies, such as limited Kalimantan resources and technology (Madrid-Guijarro et al., 2009; Ghisetti et al., 2015), lack of awareness and understanding of eco-friendly business practices (Brammer et al., 2012; Evangelista & Vezzani, 2010), insufficient government support and incentives (Aragón-Correa et al., 2008; Cuerva et al., 2014), and low demand for eco-friendly products and services (Kesidou & Demirel, 2012; Horbach et al., 2012).

Previous research has shown that green training can play an essential role in increasing employee awareness, knowledge, and skills related to sustainable business practices, thus encouraging green innovation in organizations (Jabbour et al., 2015; Teixeira et al., 2016). Furthermore, green organizational identity has been identified as a significant factor influencing an organization's commitment to sustainability and green innovation (Chen, 2008; Soewarno et al., 2019).

This study aims to investigate the role of green organizational identity in the relationship between green training and green innovation performance in coffee shops in West Kalimantan. The research model combines green training as an independent variable, green organizational identity as a mediating variable, and green innovation performance as a dependent variable.

II. *Literature review*

Green Training

Green training refers to programs designed to increase employee awareness, knowledge, and skills related to sustainable business practices (Jabbour et al., 2015). It aims to develop competencies in implementing innovative solutions that reduce environmental impact (Sarkis et al., 2010; Daily et al., 2012). Previous research has shown green training's positive impact on environmental performance and green innovation. For instance, Jabbour et al. (2015) found that environmental training plays a crucial role in developing environmental management practices in Brazilian companies, while Teixeira et al. (2016) demonstrated a positive correlation between green training and the adoption of green supply chain management practices.

Green Organizational Identity

Green organizational identity refers to the extent an organization considers itself environmentally friendly and integrates sustainability values into its core identity (Chen, 2011; Song & Yu, 2018). Organizations with a strong green identity tend to be more proactive in adopting environmentally friendly practices and developing green innovations (Chang & Chen, 2013). Chen (2008) found that green organizational identity positively influenced companies' green core competencies and image, while Soewarno et al. (2019) showed its important role in the relationship between green innovation strategies and green innovation in Indonesian manufacturing companies.

Green Innovation Performance

Green innovation performance refers to an organization's success in developing and implementing innovations that reduce environmental impact (Chen et al., 2006). It can include developing eco-friendly products, adopting clean technology, or applying innovative environmental management systems (Chiou et al., 2011). Previous research has investigated factors influencing green innovation performance, including stakeholder pressure, environmental regulations, technology capabilities, and entrepreneurial orientation (Huang & Li, 2017; Weng et al., 2015). Chen et al. (2006) found that green technology capability and proactive environmental management positively affect companies' green innovation performance, while Weng et al. (2015) showed that entrepreneurial orientation and environmental regulations encourage green innovation adoption in Taiwanese SMEs.

II. METHODS

This study employs a quantitative approach using the Kalimantan method to test hypotheses and investigate relationships between research variables (green training, green organizational identity, and green innovation performance) among coffee shops in Pontianak, West Kalimantan. The population consists of all coffee shops in Pontianak City, West Kalimantan. Due to limited population data, we use purposive sampling with the following inclusion criteria (1) MSMEs operating coffee shops in Pontianak, (2) Coffee shops operational for at least 1 year and (3) Willingness to participate in the study.

The sample size is set at 100 respondents, aligning with Hair et al.'s (2014) recommendations for SEM-PLS analysis and considering time and cost constraints. We use a structured questionnaire based on research variables, utilizing a 5-point Likert scale. Questionnaires are distributed to coffee shop owners or managers through online surveys, field surveys, and postal surveys if necessary. The study employs structural equation modeling (SEM) with the partial least squares (PLS) approach. SEM-PLS is chosen for its ability to simultaneously assess measurement models and structural models, as well as its effectiveness with relatively small sample sizes and potentially non-normally distributed data.

IV. RESULTS

The convergent validity and AVE values in the measurement model with a reflective indicator demonstrate the validity test, while Cronbach's alpha and composite reliability demonstrate the reliability test. The measurement model, when tested with the Smartpls program, produces the following output:

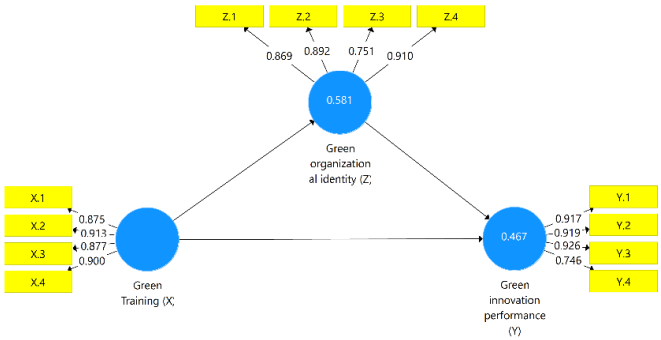

Figure 1. PLS Algorithm
Sources: Processed Primary Data Smartpls v.3.9.2 (2024)

Measurement is said to be valid when measuring its purpose in real. The data is declared valid if the outer loading value> 0.7 (Ghozali, 2021). This test is also carried out to see how much difference between variables. In PLS-SEM also testing construct reliability and validity aims to evaluate the quality of model measurement. This guarantees the accurate and consistent measurement of the construct (latent variable) in the model.

Table 1. Construct Reliability and Validity

Variable	Indicator	Outer Loading	Cronbach's Alpha	Composite Reliability	AVE
Green Training (X)			0,916	0,939	0,795
	X.1	0,875			
	X.2	0,913			
	X.3	0,877			
	X.4	0,900			
Green Innovation Performance (Y)			0,903	0,932	0,775
	Y.1	0,917			
	Y.2	0,919			
	Y.3	0,926			
	Y.4	0,746			
Green Organizational Identity (Z)			0,880	0,917	0,736
	Z.1	0,869			
	Z.2	0,892			
	Z.3	0,751			
	Z.4	0,910			

Sources: Processed Primary Data Smartpls v.3.9.2 (2024)

All indicators in this model have an outer loading value above 0.7, which is a general threshold for the indicator's validity in PLS-SEM. This measurement model shows excellent validity, with all indicators having a strong correlation with each latent variable. This provides a solid basis for further analysis in structural models. All values indicate excellent reliability and validity. Cronbach's alpha and composite reliability are far above the 0.7 threshold, showing very high internal consistency. A value above 0.5 shows excellent convergent validity. This measurement model shows excellent reliability and validity for all constructs. This indicates that the measurement of theoretical concepts (green training, green innovation performance, and green organizational identity) is very consistent and accurate. This data provides a robust basis for further and reliable analysis, specifically for hypothesis testing in structural models.

Structural model or inner model

We evaluate the structural model by examining the coefficient of determination (R-Square) of each dependent variable.

Table 2. R-Square

Endogenous variable	R Square	R Square Adjusted	Interpretation
Green Innovation Performance (Y)	0.467	0.378	Moderate
Green Organizational Identity (Z)	0.581	0.549	Moderate to Substansial

Sources: Processed Primary Data Smartpls v.3.9.2 (2024)

The PLS-SEM model's R-Square values show varying predictive power for endogenous variables. Green Innovation Performance (Y) has an R-Square of 0.467 (adjusted 0.378), indicating a moderate predictive effect and explaining 46.7% of its variations. Green Organizational Identity (Z) shows higher predictive strength with an R-Square of 0.581 (adjusted 0.549), explaining 58.1% of its variations. The small differences between R-Square and adjusted R-Square values suggest model efficiency without overfitting. Overall, the model explains green organizational identity variations well, while green innovation performance, though moderate, has room for improvement. This suggests that factors like green training may have a stronger influence on forming green organizational identity than on green innovation performance.

Table 3. Direct and indirect influence

Hipothesys	Path Coeficient	T Statistics	P Values	Interpretation
Green Training (X) -> Green Innovation Performance (Y)	0.118	0.355	0.723	No. significant
Green Training (X) -> Green Organizational Identity (Z)	0.762	5.721	0.000	Significan (+)
Green Organizational Identity (Z) -> Green	0.589	1.559	0.120	No. significant (marjinal)

Hipothesys	Path Coeficient	T Statistics	P Values	Interpretation
Innovation Performance (Y) Green Training (X) -> Green Organizational Identity (Z) -> Green Innovation Performance (Y)	0.449	1.291	0.197	No. significant

Sources: Processed Primary Data Smartpls v.3.9.2 (2024)

V. DISCUSSION

The impact of green training on green innovation performance is significant.

The results showed that green training had No. significant direct effect on green innovation performance (the path coefficient was 0.118, p-value 0.723). These findings are contrary to several previous studies that show a positive relationship between environmental training and green innovation (Jabbour et al., 2015; Teixeira et al., 2016). The special characteristics of MSMEs of coffee shops, which have limited resources and smaller operations scale compared to large companies, cause this difference (Madrid-Guijarro et al., 2009; Ghisetti et al., 2015). We need to adjust the provided green training content to prioritize the development of specific innovative ideas for the coffee shop industry (Sarkis et al., 2010; Daily et al., 2012).

The impact of green training on green organizational identity is significant.

The findings showed that green training had a significant positive effect on green organizational identity. This finding is in line with previous research, which shows the important role of training in forming organizational identity (Chen, 2011; Song & Yu, 2018). Numerous factors contribute to this strong relationship. First, green training increases employee awareness of environmental issues and the organization's role in overcoming the problem, thus strengthening the organization's green identity (Jabbour et al., 2015). Second, employees can internalize sustainable values and practices through training, leading to their reflection in organizational culture and identity (Teixeira et al., 2016).

The impact of Green Organizational Identity on Green Innovation Performance was not significant

The results showed a positive relationship between green organizational identity and green innovation performance, although it was not significant at the conventional level (coefficient of pathway 0.589, P-value 0.120). These findings partly support previous research, which shows the positive role of the identity of the green organization in encouraging green innovation (Chen, 2008; Soewarno et al., 2019). Several factors can explain this relationship, including the intrinsic motivation of employees to find innovative solutions that align with organizational sustainability values, the legitimacy and support of green innovation initiatives within organizations, the long-term orientation that encourages investment in green innovation, and the alignment of innovation strategies with the sustainability goals of the organization (Chang & Chen, 2013; Song & Yu, 2018).

The indirect effect is as follows: Green Training leads to Green Organizational Identity, which in turn leads to Green Innovation Performance.

The analysis results show that green organizational identity has a mediating effect in the relationship between green training and green innovation performance, although this effect is not statistically significant (indirect path coefficient 0.449, p-value 0.197). This finding provides interesting insights into the underlying mechanism of how green training can affect green innovation performance through the formation of a sustainability-oriented organizational identity. Although the mediation effect is not significant at the conventional level, the positive direction of this indirect relationship is in line with several previous studies. Chen (2011) and Song & Yu (2018) emphasize the important role of green organizational identity in shaping organizational sustainability behaviors and practices. Meanwhile, Jabbour et al. (2015) and Teixeira et al. (2016) show that green training can help shape organizational culture and values that support sustainability.

VI. CONCLUSION

The research findings suggest several strategies to enhance green innovation performance in Pontianak's coffee shop MSMEs. Key recommendations include designing specific green training programs tailored to the unique characteristics and limitations of these businesses, focusing on both operational aspects and industry-relevant creativity and innovation skills. Efforts should be made to strengthen green organizational identity through consistent internal communication

about sustainability and encouraging employee participation in green initiatives. Government and stakeholders are urged to provide targeted support, such as financial incentives and access to green technologies, to help MSMEs overcome barriers to implementing green innovation. By implementing these suggestions, coffee shop MSMEs in Pontianak and other areas can improve their green innovation performance, contribute to sustainable development, and increase their competitiveness in an industry increasingly focused on sustainability aspects.

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