

Call of Nature: Exploring The Impact of Environmental Sustainability Orientation On Environmental Performance Through Environmental Innovation In Canggu Tourism Village

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Abstract

Canggu Tourism Village, a rapidly growing tourism destination, faces significant challenges in maintaining a balance between economic growth and environmental conservation. In this context, adopting an environmental sustainability orientation becomes critical to ensuring that economic activities do not negatively affect the environment. This study investigates the impact of environmental sustainability orientation on environmental performance in Canggu Tourism Village, with a focus on the mediating role of environmental innovation and the moderating effect of environmental hostility. A quantitative approach was employed, collecting data from 122 tourism actors through a structured questionnaire using a judgment sampling technique. The data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 4, examining both the outer and inner models. The findings reveal that environmental sustainability orientation significantly enhances environmental performance, both directly and indirectly, through environmental innovation. However, environmental hostility does not moderate the relationship between environmental sustainability orientation and environmental performance. These results underscore the importance of fostering environmental innovation as a pathway to sustainable tourism development, even in the face of external environmental challenges.

Keywords: Local Wisdom, Tri Hita Karana, Environmental Communication, Pro-environmental Behavior

INTRODUCTION

The concept of sustainable development has been a global priority, particularly with the implementation of the 2030 Agenda for Sustainable Development and the prominence of the Sustainable Development Goals (SDGs) (Vallez et al., 2022). These frameworks highlight the importance of balancing economic growth with environmental conservation. However, the rapid growth of the tourism industry—one of the fastest-expanding sectors globally—has led to significant negative impacts on natural and sociocultural heritage. Environmental degradation, pollution, governance issues, and resource conflicts pose serious threats to local communities and ecosystems, diminishing the attractiveness of tourist destinations and shrinking opportunities for local populations (Abubakar & Dano, 2020; Shao et al., 2021; Juma & Khademi-Vidra, 2019). This underscores the urgency of implementing sustainable practices in tourism management.

Globally, leading companies have demonstrated their commitment to environmental sustainability through initiatives such as renewable energy usage, energy efficiency measures, waste management, and the protection of green spaces (Hackbarth & De Vries, 2021; Li et al., 2019; Oldenbroek et al., 2021). However, (Roxas et al., 2017) point out that environmental sustainability orientation—an organization's strategic approach to integrating environmental considerations into its operations—remains underexplored in research. This

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orientation involves modifying organizational systems, structures, and processes to minimize environmental harm, ultimately improving environmental performance (Rehman et al., 2022). Additionally, environmental innovation has been identified as a critical factor in enhancing an organization's sustainability outcomes (Haskas et al., 2021).

Canggu Tourism Village, renowned for its natural beauty, iconic beaches, and world-class surfing waves, exemplifies the challenges faced by rapidly developing tourism destinations. The expansion of tourism accommodations and businesses in the area has led to significant environmental changes, particularly the decline of agricultural land, which decreases annually. The designation of Canggu has exacerbated this trend as a tourism destination under the Regional Spatial Plan of Badung Regency (2013–2033) (Wahyundaria & Sunarta, 2020). These developments indicate that the current implementation of environmental sustainability orientation in Canggu Tourism Village is insufficient to balance tourism growth and environmental preservation.

Environmental sustainability orientation has the potential to generate long-term economic benefits by enhancing environmental performance (Farani et al., 2024). This research adopts the Natural Resource-Based View (NRBV), an extension of the Resource-Based View (RBV), to examine how environmental competencies—such as continuous innovation, shared vision, stakeholder integration, and organizational learning—can provide a competitive advantage (Özmutlu, 2023). The NRBV underscores the critical role of leveraging environmental resources for sustainable development.

In exploring the external challenges to sustainability, this study considers environmental hostility, defined as unfavorable conditions such as intense resource competition and business uncertainty (Flaeschner et al., 2021). Previous studies (Hernández, 2023; Sharma et al., 2020; Sun et al., 2020) have highlighted the influence of environmental hostility on organizational performance, yet its role as a moderating variable in the relationship between environmental sustainability orientation and environmental performance remains underexplored. Building on the work of (Adomako et al., 2021; Shirokova et al., 2016), this study aims to deepen the understanding of how external environmental challenges influence the effectiveness of sustainability strategies in tourism contexts.

This research focuses on examining the impact of environmental sustainability orientation on environmental performance in Canggu Tourism Village, with environmental innovation as a mediating variable and environmental hostility as a moderating factor. By providing insights into these relationships, this study offers theoretical and practical implications for tourism stakeholders in Canggu, promoting a holistic and sustainable approach to tourism management that addresses environmental, social, and economic dimensions while navigating external challenges.

LITERATURE REVIEW

Environmental Sustainability Orientation

Environmental sustainability orientation focuses on fostering pro-environmental behavior and implementing strategies that protect the environment to enhance organizational performance (Mensah et al., 2023). This orientation plays a central role in promoting sustainability practices by encouraging environmentally friendly actions that align with an organization's goals. It reflects a business's commitment to environmental preservation, integrated into its operational and strategic dimensions (Danso et al., 2020). Furthermore, it involves a moral responsibility to safeguard the environment, motivating employees to contribute actively to reducing environmental harm (Wahab, 2021).

Key elements of environmental sustainability orientation include minimizing hazardous waste, adopting environmentally friendly raw material procurement policies, educating employees on sustainable practices, and supporting broader environmental goals such as climate change mitigation. These practices are vital for fostering both exploitative and exploratory green innovations, which are essential for achieving sustainable development and reducing environmental burdens (Vincenza et al., 2022). Prior research by Adomako et al. (2021) demonstrates that prioritizing environmental sustainability enhances corporate environmental performance, emphasizing the importance of a sustainability-focused strategy.

Environmental Performance

Environmental performance refers to the measurable impact of an organization's activities on the environment, encompassing practices like using recycled materials, adopting eco-friendly resources, and minimizing hazardous waste (Aftab et al., 2023). It reflects the effectiveness of an organization's environmental strategy, which is geared toward resource optimization, pollution control, and waste reduction (Sahoo et al., 2023).

Factors influencing environmental performance include the adoption of environmentally friendly product and process innovations, the integration of ecological principles into business operations, and the development of sustainable products (Singh et al., 2020). Moreover, efforts such as reducing emissions, saving water and energy, managing hazardous materials, and promoting reuse and recycling activities are crucial to improving environmental performance (Kraus et al., 2020). Studies by (Khan et al., 2020) highlight the dual role of environmental performance in supporting both sustainability and economic growth by implementing effective environmental cost management and resource conservation strategies.

Environmental Innovation

Environmental innovation, often referred to as green innovation, is an effective approach to addressing environmental issues while improving organizational performance. It combines efficient resource use with cost reductions and carbon emissions mitigation (Albitar et al., 2023). This innovation focuses on modifying or developing processes, products, and technologies to enhance environmental and economic outcomes (Khan et al., 2020).

Green innovation encompasses areas such as manufacturing, production processes, and design, helping organizations reduce waste, pollution, and emissions while improving profitability through resource efficiency (Nadeem et al., 2020). Additionally, it strengthens a company's competitive position by fostering innovative solutions to global challenges like climate change (Iqbal et al., 2021). Environmental innovation also mediates the relationship between external knowledge acquisition (technical and market) and firm performance, linking knowledge-based practices to improved environmental and economic outcomes (Guo et al., 2019).

Environmental Hostility

Environmental hostility reflects challenging business conditions, such as intense competition, resource scarcity, and regulatory pressures, which can create a stressful and adverse environment for organizations (Nadeem et al., 2020). It represents an external factor that influences strategic decision-making and resilience, often pushing companies to prioritize survival strategies for short-term profitability (Isip et al., 2023). Hostile conditions arise from various factors, including shifting consumer preferences, technological advancements, government regulations, and market demands (Onwe et al., 2020). Despite these challenges, environmental hostility can also drive green innovation by encouraging organizations to allocate resources and build capacity for sustainable initiatives (Zhang et al., 2021).

In this study, environmental hostility is proposed as a moderating variable that may influence the relationship between environmental sustainability orientation and environmental performance. Previous studies (Shirokova et al., 2016; Wang, 2019) have highlighted its significance in understanding how external environmental challenges impact organizational strategies and outcomes.

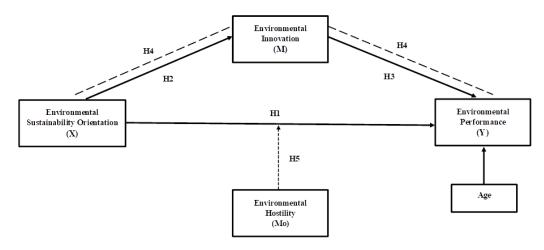


Figure 1. Research Model

- H1: Environmental Sustainability Orientation has a positive and significant effect on Environmental Performance in Canggu Tourism Village
- H2: Environmental Sustainability Orientation has a positive and significant effect on Environmental Innovation in Canggu Tourism Village

- H3: Environmental Innovation has a positive and significant effect on Performance Environment in Canggu Tourist Village
- H4: Environmental Innovation mediates the relationship between Environmental Sustainability Orientation and Environmental Performance in Canggu Tourism Village
- H5: Environmental Hostility moderates relationship orientation Sustainability Environment and Environmental Performance

METHODS

This study adopts a quantitative approach, emphasizing systematic data collection and statistical analysis to explore the relationships among variables. The variables examined include environmental sustainability orientation as the independent variable, environmental performance as the dependent variable, environmental innovation as the mediating variable, environmental hostility as the moderating variable, and age as the control variable. Data analysis was conducted using the Partial Least Squares Structural Equation Modeling (PLS-SEM) method, which is well-suited for analyzing complex relationships and constructing models of fit based on covariance matrices (Hair et al., 2019; Ringle et al., 2024). Additionally, Importance-Performance Analysis (IPMA) was employed to identify key constructs for improvement and prioritize actionable areas, providing insights into the differential impact of specific dimensions on environmental performance (Ringle & Sarstedt, 2016).

The study targeted tourism stakeholders in the Canggu Tourism Village area, specifically individuals and groups directly involved in the tourism sector. Data collection utilized a judgment sampling technique, a non-probabilistic approach that selects respondents based on their relevance to the research objectives (Hair et al., 2020). A total of 122 respondents participated in the study, with data gathered through both online and offline surveys. Online surveys were distributed via Google Forms, providing access to respondents through social media, which proved beneficial in reaching individuals who might otherwise be difficult to contact (Bougie & Sekaran, 2019). Offline surveys complemented the online method by ensuring inclusivity and diversity in the respondent pool.

Respondents' opinions were measured using a 5-point Likert scale, where one indicated "strongly disagree" and five indicated "strongly agree." This scale enabled the quantification of subjective perceptions across all variables, ensuring consistency and reliability in the data collected. This methodological approach integrates robust analytical tools with systematic sampling and comprehensive data collection, providing meaningful insights into the relationships between environmental sustainability orientation, environmental performance, and associated factors in the context of Canggu Tourism Village.

RESULT

Respondent Characteristics

The study included 122 respondents, primarily aged between 26 and 35 years (51.6%), followed by those aged 18 to 25 years and 36 to 45 years (both at 18.9%). A smaller proportion of respondents fell within the 46 to 55 years (8.2%) and 56 to 65 years (2.5%) age brackets. Regarding education, the majority held a Bachelor's degree (53.3%), followed by those with a Diploma (23.8%), SMA/SMK equivalent (21.3%), and SMP (1.6%). Respondents represented a wide range of tourism-related businesses, including restaurant owners, villa operators, bicycle rental services, tourism managers, hotel operators, tourist attraction managers, tattoo business owners, MSME stall operators, café owners, and souvenir businesses, among others.

Outer Model Testing

The outer model evaluation assessed the validity and reliability of the data. The results indicated that all data indicators were valid, with outer loading values greater than 0.7 and Average Variance Extracted (AVE) values exceeding 0.5 (Hair et al., 2021). Reliability was confirmed with Cronbach's Alpha values above 0.6 and Composite Reliability values exceeding 0.7. Additionally, discriminant validity was established, with HTMT values below 0.90. These findings confirm the data's consistency and appropriateness for measuring the variables.

Table 1. Convergent Validity & Internal Consistency

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Construct	Cronbach's alpha	Rho_A	Rho_C	AVE	
Environmental Sustainability Orientation	0,832	0,847	0,874	0,537	
Environmental Innovation	0,839	0,839	0,886	0,610	

Construct	Cronbach's alpha	Rho_A	Rho_C	AVE
Environmental Performance	0,758	0,764	0,839	0,512
Environmental Hostility	0,833	0,891	0,895	0,739

Source: Research Data, 2024

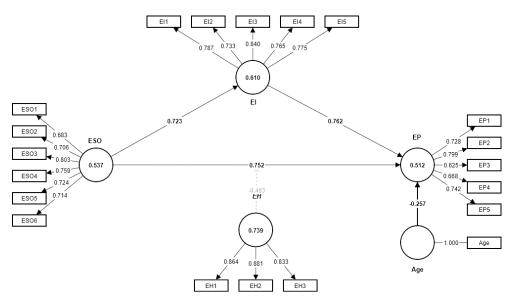


Figure 2. Outer Model Evaluation

Inner Model Testing

The hypothesis testing results are summarized in Table 2. The findings demonstrate significant positive relationships between Environmental Sustainability Orientation (ESO) and both Environmental Performance (EP) and Environmental Innovation (EI), with path coefficients (β) of 0.404 and 0.723, respectively. Additionally, Environmental Innovation positively impacts Environmental Performance (β = 0.429, t = 4.424, p < 0.05), confirming its mediating role in the relationship between ESO and EP. These findings support hypotheses H1, H2, H3, and H4. However, hypothesis H5 was not supported, indicating that Environmental Hostility (EH) does not moderate the relationship between ESO and EP. This finding suggests that environmental hostility can divert resources toward addressing immediate challenges, potentially hindering long-term environmental innovation and growth. The R² values for environmental innovation (0.523) and environmental performance (0.696) indicate that ESO explains 52.3% and 69.6% of the variance in these constructs, respectively, with the remaining variance influenced by other factors.

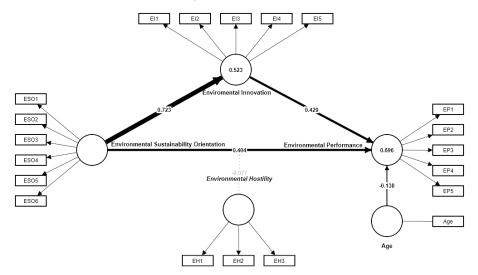


Figure 3. Structural Model Assessment Results

Table 2. Hypotheses Testing

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Path	Std. Beta	Std. Error	t- value	Bias	Confidence Interval Bias Corrected		Decision		
					5.00%	95.00%			
ESO -> EP	0.404	0.115	3.502	0.017	0.178	0.565	Supported		
ESO -> EI	0.723	0.074	9.808	0.000	0.567	0.818	Supported		
EI -> EP	0.429	0.097	4.424	-0.001	0.273	0.593	Supported		
ESO -> EI -> EP	0.310	0.083	3.728	0.001	0.187	0.461	Supported		
EH x ESO -> EP	-0.077	0.082	0.947	0.028	-0.178	0.054	Not Supported		
Age -> EP	-0.138	0.079	1.756	0.011	-0.293	-0.026	Supported		
	ESO -> EP ESO -> EI EI -> EP ESO -> EI -> EP EH x ESO -> EP	Path Std. Beta ESO -> EP 0.404 ESO -> EI 0.723 EI -> EP 0.429 ESO -> EI -> EP 0.310 EH x ESO -> EP -0.077	Path Std. Beta Error ESO -> EP 0.404 0.115 ESO -> EI 0.723 0.074 EI -> EP 0.429 0.097 ESO -> EI -> EP 0.310 0.083 EH x ESO -> EP -0.077 0.082	Path Std. Beta Std. Error t- Error value ESO -> EP 0.404 0.115 3.502 ESO -> EI 0.723 0.074 9.808 EI -> EP 0.429 0.097 4.424 ESO -> EI -> EP 0.310 0.083 3.728 EH x ESO -> EP -0.077 0.082 0.947	Path Std. Beta Std. Error value t- value Bias ESO → EP 0.404 0.115 3.502 0.017 ESO → EI 0.723 0.074 9.808 0.000 EI → EP 0.429 0.097 4.424 -0.001 ESO → EI → EP 0.310 0.083 3.728 0.001 EH x ESO → EP -0.077 0.082 0.947 0.028	Path Std. Beta Std. Error t- value Bias Confide Bias ESO → EP 0.404 0.115 3.502 0.017 0.178 ESO → EI 0.723 0.074 9.808 0.000 0.567 EI → EP 0.429 0.097 4.424 -0.001 0.273 ESO → EI → EP 0.310 0.083 3.728 0.001 0.187 EH x ESO → EP -0.077 0.082 0.947 0.028 -0.178	Path Std. Beta Std. Error value t- value Bias Bias Corrected Bias Corrected ESO → EP 0.404 0.115 3.502 0.017 0.178 0.565 ESO → EI 0.723 0.074 9.808 0.000 0.567 0.818 EI → EP 0.429 0.097 4.424 -0.001 0.273 0.593 ESO → EI → EP 0.310 0.083 3.728 0.001 0.187 0.461 EH x ESO → EP -0.077 0.082 0.947 0.028 -0.178 0.054		

Source: Research Data, 2024

Importance-Performance Analysis (IPMA)

The IPMA results for Environmental Performance highlight the significant influence of Environmental Sustainability Orientation (ESO) (importance = 0.714), followed by Environmental Innovation (EI) (importance = 0.429). Environmental hostility and age were found to have relatively lower predictive importance (-0.048 and -0.138, respectively). This analysis underscores ESO as the most critical factor in predicting and enhancing environmental performance, emphasizing the need for targeted interventions to improve this construct. The IPMA results provide actionable insights for policymakers and tourism stakeholders in Canggu Tourism Village, helping to identify and prioritize areas for improvement to achieve sustainability goals.

Discussion

The findings of this study provide critical insights into the relationship between environmental sustainability orientation, environmental innovation, and environmental performance within the context of tourism actors in Canggu Tourism Village. These insights highlight the practical implications of adopting sustainable practices and identify key areas for improvement in managing environmental challenges. The results reveal that Environmental Sustainability Orientation (ESO) significantly influences both Environmental Performance (EP) and Environmental Innovation (EI), supporting hypotheses H1 and H2. Tourism actors in Canggu have demonstrated a commitment to sustainability by promoting eco-friendly transportation, practicing wise waste management, and participating in biodiversity restoration efforts. These findings emphasize that a strong sustainability orientation not only benefits the environment but also enhances organizational resilience and competitiveness.

The study confirms the mediating role of Environmental Innovation in the relationship between ESO and EP (H3 and H4). By fostering innovation, tourism businesses can adopt more efficient resource utilization strategies, reduce pollution, and introduce environmentally friendly products and processes. In Canggu Tourism Village, this has been reflected in the adoption of biodegradable materials and renewable energy solutions. These practices not only contribute to improved environmental performance but also enhance the attractiveness and reputation of the destination. Contrary to expectations, Environmental Hostility (EH) did not moderate the relationship between ESO and EP, resulting in the rejection of H5. In this study, environmental hostility appears to act as a constraint, diverting resources and attention toward short-term problem-solving rather than long-term innovation. This highlights the need for targeted interventions to mitigate the adverse effects of hostile environmental conditions, such as improving resource access and fostering collaboration among stakeholders to overcome external barriers.

The study's R² values indicate that ESO explains 69.6% of the variance in EP and 52.3% of the variance in EI, suggesting a substantial impact of sustainability orientation on environmental outcomes. However, the remaining unexplained variance indicates that other factors, such as organizational culture, stakeholder engagement, or regulatory frameworks, may also influence environmental performance. Future research could explore these additional variables to develop a more comprehensive understanding of the drivers of sustainability in tourism.

The results from the Importance-Performance Analysis (IPMA) further highlight the critical role of ESO as the most influential factor in predicting EP. Tourism actors in Canggu should prioritize strengthening sustainability-oriented practices, such as improving waste management systems, promoting eco-friendly business models, and investing in environmental education for stakeholders. Moreover, enhancing environmental innovation by fostering collaborative networks and accessing external knowledge could further amplify the positive impacts on environmental performance.

While this study provides valuable insights, it is important to acknowledge its limitations. The findings are context-specific to Canggu Tourism Village and may not be generalizable to other regions with different cultural or environmental contexts. Additionally, the study focuses on a limited number of variables, leaving room for future research to incorporate additional factors, such as regulatory influence, market dynamics, and consumer behavior. Further exploration of the role of environmental hostility in varying contexts could also yield deeper insights into its moderating effects.

CONCLUSION

This study highlights the pivotal role of environmental sustainability orientation as a strategic approach that emphasizes environmental aspects in business operations, including reducing hazardous material usage, preventing pollution, and minimizing waste. The findings indicate that businesses adopting this orientation achieve better environmental performance, which is further enhanced by the mediating role of environmental innovation. This relationship underscores the importance of fostering innovative solutions to environmental challenges as a means to improve resource efficiency, reduce emissions and waste, and comply with environmental regulations. Interestingly, the study found that environmental hostility does not significantly moderate the relationship between sustainability orientation and environmental performance. However, the control variable, age, demonstrated a significant influence, reflecting its relevance in shaping environmental outcomes. The results suggest that tourism businesses that prioritize sustainability and innovation are better equipped to mitigate environmental risks, enhance their operational efficiency, and align with sustainability standards. The Importance-Performance Analysis (IPMA) further confirms that environmental sustainability orientation plays the most critical role in predicting environmental performance. Environmental innovation also contributes significantly, suggesting that businesses must prioritize innovative strategies in addressing environmental concerns. These findings emphasize the necessity of integrating sustainable practices and encouraging innovation within business strategies to minimize environmental impacts and achieve long-term sustainability goals.

This research provides valuable insights into the impact of sustainable business practices on environmental performance. By adopting a strong environmental sustainability orientation, businesses can enhance resource efficiency, reduce pollution, and foster compliance with environmental regulations. Encouraging environmental innovation further amplifies these benefits, enabling organizations to develop and implement effective solutions to sustainability challenges. For policymakers and business leaders, the findings highlight the importance of incorporating sustainability into core business strategies. Efforts should focus on promoting eco-friendly practices, investing in innovative technologies, and fostering a culture of environmental responsibility across all levels of the organization. This approach not only improves environmental outcomes but also enhances the competitive advantage of businesses in a market increasingly driven by sustainability concerns.

Future research can expand on these findings by increasing the sample size to improve validity and generalizability. Additional variables, such as community environmental awareness, village characteristics, and other contextual factors, can be incorporated to develop a more comprehensive understanding of environmental performance. Considering the mediating and moderating effects of these variables may also refine the research model. A multidisciplinary approach should be adopted to explore the long-term impact of environmental sustainability orientation on environmental performance, integrating perspectives from economics, sociology, and environmental sciences. Researchers should examine the influence of geographical location, socioeconomic conditions, and evolving sustainability awareness to provide a more holistic understanding of the complex interplay between sustainability strategies and environmental outcomes. By doing so, future studies can offer deeper insights into sustainable business practices and their implications for global sustainability initiatives.

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