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How Sustainability Practice Shape Financial Performance in The Hospitality Industry: The Moderating Role of Firm Size

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Abstract: This study investigates the impact of energy conservation and environmental communication on the financial performance of star-rated hotels in Bali, focusing on the moderating role of firm size. SEM-PLS analysis confirms that energy conservation and environmental communication positively influence financial performance. However, firm size does not moderate the relationship between energy conservation and financial performance, but it does moderate the effect of environmental communication. These findings align with stakeholder theory, emphasizing the importance of sustainability in the hospitality industry. The study offers valuable insights for investors and regulators, recommending that they incorporate sustainability metrics into hotel investment evaluations and policy development. Hotels with strong sustainability practices, particularly in energy conservation and environmental communication, may achieve better financial performance. Investors can use these sustainability practices as part of their due diligence process. Additionally, regulators may consider implementing sustainability certification programs or incentivizing hotels that adopt such strategies. Although the study is limited to star-rated hotels in Bali, its findings lay the groundwork for future research in different regions and tourism segments. Expanding research to include various destinations and hospitality types, such as eco-resorts or airlines, can offer a broader understanding of sustainability's financial impacts. Future studies should explore these areas to contribute to a more comprehensive understanding of how sustainability practices influence the financial performance of businesses in the global hospitality industry.

Keywords: energy conservation, environmental communication, firm size, financial performance.

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INTRODUCTION

Amid the complexities of the contemporary world, one pressing issue stands at the forefront: environmental degradation. From the spectre of global warming to the relentless depletion of natural resources and the pervasive threat of pollution, our planet's challenges are urgent and multifaceted. In response, adopting

sustainable practices has become a crucial strategy in the fight against environmental degradation. Stakeholders increasingly pressure companies to adopt sustainable practices and actively contribute to achieving sustainable development goals (Cantele & Zardini, 2018). Climate change, human capital issues, and related risks have driven companies and regulators to recognize the urgency of environmental, social, and governance aspects and disclosure (Ruan & Liu, 2021).

The presence of companies in society is closely intertwined with stakeholders. Stakeholder theory posits that corporate management should be conducted holistically, acknowledging the company's fiduciary role and stakeholder obligations (Goyal, 2020). This view is reinforced by studies such as those conducted by Harrison et al. (2010), who found that stakeholder-oriented management can unlock the potential for creating corporate value. Stakeholder theory, as proposed by Freeman (2010), has served as a foundation for research in various fields, including finance, accounting, information technology, healthcare, strategic management, public policy, and corporate ethics. In a review of ten studies on this theory, Laplume et al. (2008) found that seven of them demonstrated a positive association between stakeholder management and business financial performance. This finding aligns with the research by Choi & Wang (2009), which confirms that stakeholder engagement consistently and significantly contributes to improved financial performance.

The application of stakeholder theory is also becoming increasingly relevant in the hospitality industry, particularly in response to the growing emphasis on sustainability due to environmental and societal concerns (Singh et al., 2023). Stakeholder pressure, including green governance, energy accounting, and sustainability-focused human resource management, has positively impacted hotel sustainability performance (Saputra & Laksmi, 2024). Furthermore, the implementation of environmentally friendly practices not only strengthens a hotel's reputation as a sustainable entity but enhances customer satisfaction, loyalty, and financial benefits (Ashaal et al., 2024). Thus, stakeholder theory provides a solid foundation for sustainability strategies in the hospitality sector, where active stakeholder involvement plays a key role in achieving financial and operational excellence.

Hotels consume a significant amount of energy for room cooling, lighting, heating, elevators, kitchen equipment, laundry, and cleaning, contributing approximately 10–15% of turnover (Wan et al., 2017). Most of the energy used in hotels is wasted (Parpairi, 2017). Hotels typically have low energy efficiency levels, resulting in air emissions, water and soil pollution, air noise, and the exploitation of natural and other resources (Bohdanowicz et al., 2001). Sustainability practices in any form can help establish optimal conditions for addressing 21st-century business and environmental challenges, among others (Greenwood & Holt, 2010). Sustainability practices in the hotel industry encompass all aspects of waste, water, and energy management and must demonstrate an absolute commitment to holistic environmental concerns (Fukey & Issac, 2014). Studies have shown that service industries like hotels contribute to these environmental issues (Hutchinson et al., 1996). Disregarding environmental issues by hospitality businesses can create difficulties for companies (Singjai et al., 2018). According to Bohdanowicz (2006), about 70% of a hotel's environmental impact is due to excessive resource consumption, leading to resource wastage and increased operational costs.

Research by Erdogan & Baris (2007) highlights the importance of managing and developing the hospitality industry by implementing sustainable practices. They assert that this requires efficiency in energy use and the implementation of environmental management policies. Energy use reduction is considered a crucial step, as nearly half of carbon emission reduction potential can be achieved through energy conservation (International Energy Agency, 2008). In this context, sustainability practices in the hotel industry can effectively reduce the negative impacts of greenhouse gases by adopting energy conservation practices. The importance of

communication is also revealed as a key element in implementing sustainable practices. Communication serves as a means of conveying information regarding organizational values, responsibilities, and public expectations believed by organizations and plays a central role in creating and reinforcing these values. Therefore, sustainability practices in the hotel industry can be successfully implemented through energy conservation and effective environmental communication.

Previous research shows inconsistent results regarding the relationship between company sustainability practices and financial performance. Buallay et al. (2022) found a significant relationship between ESG scores and operational and market performance, but not financial performance. They also observed a nonlinear (inverted U-shape) relationship between sustainability performance and profitability. Su & Chen (2020) study reveals that hospitality firms' financial performance is more sensitive to sustainability indices addition or deletion events, underscoring the growing significance of ESG initiatives in the hospitality sector. Rodríguez-Fernández et al. (2019) found that governance practices significantly impact financial performance in listed travel and leisure companies, underscoring the need for further research and industry-specific analysis. Bodhanwala & Bodhanwala (2022) discovered that different ESG dimensions have varying impacts on financial and stock market performance across tourism-related industries, with the hotel industry showing the highest ESG compliance. Conversely, Demiraj et al. (2023) reported a significant negative relationship between ESG scores and ROA in European tourism companies.

Teng et al. (2014) affirm that natural resource conservation positively impacts hotel financial performance. Energy conservation in hotels enhances financial outcomes by reducing operating costs, increasing profitability, and attracting environmentally conscious guests by implementing energy-efficient systems (Singh et al., 2023). Research by Arenhart et al. (2022) and Gu (2023) further supports this claim, demonstrating that investments in energy-efficient systems and sustainable practices contribute to long-term financial gains, positive brand marketing, and improved guest retention. Conversely, irresponsible resource consumption in hotels can lead to severe environmental consequences and jeopardize economic sustainability (Leonidou et al., 2013). Therefore, existing literature on hotel resource efficiency emphasizes the dual benefits of prioritizing environmental responsibility and financial performance (Hsiao et al., 2014; Mensah, 2006; Trung & Kumar, 2005).

Environmental communication is crucial in fostering sustainable practices within the hotel industry by bridging the gap between a hotel's sustainability initiatives and stakeholder engagement. As consumer awareness of environmental issues continues to rise, hotels are increasingly adopting green initiatives to meet guest expectations, comply with regulatory standards, and enhance their economic performance (Acampora et al., 2022). Effective environmental communication ensures that these efforts are visible and understood by guests, employees, investors, and the broader community, thereby strengthening a hotel's reputation and competitive advantage.

One key aspect of environmental communication is using environmental certifications and eco-labels, which serve as credible indicators of a hotel's commitment to sustainability. Certifications such as Green Key, LEED, and EarthCheck validate a hotel's environmental efforts, enhance its market value, and positively influence guest perceptions (Bernard & Nicolau, 2022; Acampora et al., 2022). Hotels that transparently communicate their eco-friendly initiatives can shape consumer behaviour by encouraging guests to adopt sustainable practices during their stay, such as reusing towels, reducing water consumption, and minimizing waste. Research suggests that guests are more likely to exhibit loyalty towards hotels that actively promote and demonstrate environmental responsibility, as these practices align with their values and ethical considerations (Acampora et al., 2022).

In the hospitality industry, environmental communication is recognized as a strategic tool for conserving resources, optimizing energy usage, and improving overall sustainability performance (Horng et al., 2017). Hotels use various communication strategies, including digital marketing campaigns, in-room informational materials, staff training programs, and corporate sustainability reports, to inform stakeholders about their environmental initiatives. By effectively communicating sustainability efforts, hotels can encourage voluntary guest participation in conservation programs, foster environmentally responsible behaviour, and enhance brand credibility (Jameson & Brownell, 2012).

Studies indicate that hotels implementing environmental practices often experience superior financial outcomes, with green hotels in high-income countries reporting an average profit margin increase of 1.7% (Zhang & Xie, 2021). This is primarily attributed to operational cost savings from resource efficiency, increased guest willingness to pay a premium for eco-friendly accommodations, and improved brand loyalty. Moreover, effective environmental communication can drive behavioural change among guests and employees, enhancing resource and energy conservation. This, in turn, positively impacts both environmental and financial performance by reducing operational expenses and reinforcing a hotel's long-term sustainability (Sakshi et al., 2020).

Sakshi et al. (2019) found that implementing sustainable practices in the hospitality sector positively impacts financial performance. Supporting this finding, Ameer & Othman (2012) studied 3,000 companies across developed and developing countries, revealing that firms adopting sustainable practices tend to achieve higher financial performance. These findings suggest that sustainability initiatives contribute positively to corporate financial outcomes. Singal (2014) further examined this relationship and found that, on average, hotel companies allocate more significant investments toward environmental programs than businesses in other industries. The study also demonstrated a positive correlation between hotel environmental management practices and improved financial performance. These findings reinforce the argument that emphasizing environmental sustainability can enhance the financial performance of hotel companies. Based on the findings above, this research proposes the following hypotheses:

Hypothesis 1. Energy conservation significantly influences financial performance.
Hypothesis 2. Environmental communication significantly influences financial performance.

In the context of firm size, larger companies are considered more proactive or committed to environmental management. At the same time, small and medium-sized enterprises may lack the resources or internal governance structures to engage in environmental management (Mowforth & Munt, 1998). Larger firms generally demonstrated higher levels of sustainability implementation, with small and medium-sized firms showing poor capacity building and human capital development (Otali et al., 2020). Dzeraviaha (2022) states that Larger firms often have more excellent resources and economies of scale to implement environmental initiatives, while smaller companies may be more flexible and innovative.

Firm size reflects the level of its operational activities, where the larger a company, the larger its activities (Apriliyanti, 2018). The literature generally indicates that larger hotels are more proactive or committed to environmental management (Mowforth & Munt, 1998; Edwards, 2000; Mensah, 2006). Large companies also face more pressure to perform environmentally from various stakeholders and are more sensitive to damage to their reputation (Branzei et al., 2004). However, some studies have not produced apparent differences in environmental management performance between large and small hotels (Kirk, 1998; Erdogan & Tosun, 2009). Bowen (2002) states that although there is strong evidence that firm size is related to implementing proactive

environmental practices, empirical environmental studies have not fully identified a consistent relationship between firm size and environmental responsiveness (Bowen, 2002). Therefore, this research aims to test the role of firm size in strengthening the influence of environmental communication and energy conservation on financial performance.

Hypothesis 3. Firm size strengthens the influence of energy conservation on financial performance.
Hypothesis 4. Firm size strengthens the influence of environmental communication on financial performance.

By examining interconnected concepts and theories in previous research, the conceptual framework in this study is presented in Figure 1.

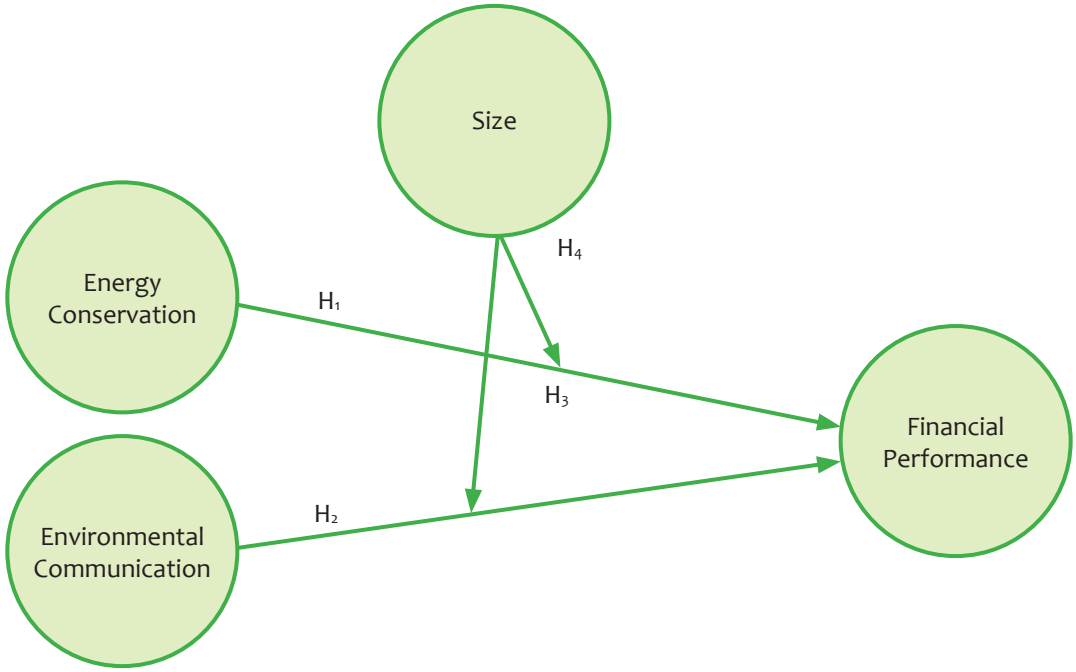

Figure 1 Conceptual Framework

While sustainability practices in the hospitality industry have been widely discussed, limited research has examined their financial impact in developing countries like Indonesia, where economic and regulatory contexts differ from those in developed nations. Additionally, the role of firm size in moderating the relationship between sustainability initiatives and financial performance remains underexplored. This study contributes to sustainability management and accounting literature by integrating stakeholder theory with sustainability practices, specifically within the Balinese hotel industry, to bridge these gaps. It emphasizes the financial and operational implications of ESG initiatives, highlighting how energy efficiency, green governance, and environmental communication drive cost reduction, brand value, and profitability. This study advances industry-specific sustainability accounting by addressing inconsistencies in prior research on the ESG-financial performance relationship, reinforcing the critical role of stakeholder engagement and governance in achieving both environmental and economic sustainability.

METHODS

This research examines the influence of sustainability practices and financial performance on firm size as a moderating variable. A quantitative approach is used to test several research hypotheses from survey studies in the form of figures or numbers, which are then processed using statistical tests. The sampling method used in this research was a simple random sampling method. This research involved 111-star hotels in Bali Province. To test the hypothesis and produce a suitable model, this research uses a variance-based or component-based approach with Structural Equation Modeling Partial Least Square (SEM-PLS), namely SmartPLS version 3.3.3. SmartPLS is a statistical approach to analyze complex relationships between variables in conceptual models. With this method, this research can test and validate conceptual models involving latent and observation variables. Thus, the SEM-PLS method with SmartPLS allows researchers to explore and understand the complex relationships between variables in a study. SEM-PLS has gained popularity in various research fields, including business and education (Hair & Alamer, 2022; Becker et al., 2022). While PLS-SEM offers advantages in handling complex models, prediction-focused research, and non-normal data distributions (Hair & Alamer, 2022), its application presents challenges that may affect result generalizability. Researchers often provide insufficient justification for using PLS-SEM and inadequately assess and report measurement and structural models (Guenther et al., 2023).

The first step in using SEM-PLS is determining a conceptual model that reflects the relationship between the desired variables. Then, researchers build structural and measurement models based on this conceptual model. After that, data collection and statistical analysis were carried out using SmartPLS, which allows researchers to test hypotheses, evaluate model quality, and produce path estimates that describe the relationship between the variables in the model. Moderation effect testing is carried out using SEM-PLS, where the significance test parameter output is seen in the total effect table, not in the coefficient table because the moderation effect is tested for not only the direct effect from the independent variable to the dependent variable (direct effect) but also the interaction relationship. Between the independent variable and the moderating variable on the dependent variable (indirect effect). The results of testing the moderation effect can be seen from the probability value (p-value). If the p-value is smaller than 0.05, there is a moderating effect, and vice versa.

RESULTS AND DISCUSSION

The measurement model in this study comprises a reflective measurement model where research variables are measured reflectively. The evaluation of the reflective measurement model consists of validity assessment (convergent validity and discriminant validity) and reliability evaluation. Validity assessment is reflected by loading factor values ≥ 0.708 and average variance extracted (AVE) values ≥ 0.50. In contrast, discriminant validity evaluation can be observed through cross-loadings, the Fornell-Larcker criterion, and heterotrait-monotrait ratio (HTMT). On the other hand, reliability evaluation is indicated by composite reliability values ≥ 0.70 and Cronbach's alpha values ≥ 0.70. Discriminant validity testing in Smart PLS is an analysis used to measure the extent to which the indicators used in the research model have the ability to distinguish between the measured constructs. In this process, if indicators with discriminant validity values are below the threshold usually set at 0.708 (Hair et al., 2019), those indicators are considered unable to differentiate one construct from another and are therefore eliminated from the analysis. This is done to ensure that only indicators contribute significantly to understanding the constructs within the retained model, thus making the analysis results more valid and

reliable. In the validity testing, all indicators have values above 0.708, thus deemed appropriate discriminant validity.

In Table 1, it is illustrated that the energy conservation variable is measured by five valid indicators with outer loadings ranging from 0.883 to 0.877. This indicates that all these indicators validly reflect the measurement of energy conservation. The level of variable reliability is acceptable, as indicated by Cronbach's alpha and composite reliability above 0.70 (reliable). The level of convergent validity, indicated by the AVE value of 0.764 > 0.50, meets the criteria for good convergent validity. Overall, the variation in the measurement indicators contained within the variable reaches 76.4 per cent.

The environmental communication variable is measured by four valid indicators with outer loadings ranging from 0.889 to 0.961. This means that all these indicators validly reflect the measurement of environmental communication. The level of variable reliability is acceptable, as indicated by Cronbach's alpha and composite reliability above 0.70 (reliable). The level of convergent validity, indicated by the AVE value of 0.874 > 0.50, meets the criteria for good convergent validity. Overall, the variation in the measurement indicators contained within the variable reaches 87.4 per cent.

The financial performance variable is measured by four valid indicators with outer loadings ranging from 0.891 to 0.931. This means that all these indicators validly reflect the measurement of financial performance. The level of variable reliability is acceptable, as indicated by Cronbach's alpha and composite reliability above 0.70 (reliable). The level of convergent validity, indicated by the AVE value of 0.832 > 0.50, meets the criteria for good convergent validity. Overall, the variation in the measurement indicators contained within the variable reaches 83.2 per cent.

Table 1 Outer Loading, Composite Reliability dan Average Variance Extracted

Variable	Indicator	Outer Loading	Cronbach's Alpha	Composite Reliability	AVE
Energy Conservation (X1)	$X_{1.1}$	0.877	0.923	0.925	0.764
	$X_{1.2}$	0.884			
	$X_{1.3}$	0.883			
	$X_{1.4}$	0.851			
	$X_{1.5}$	0.874			
Environmental Communication (X2)	$X_{2.1}$	0.919	0.931	0.933	0.827
	$X_{2.2}$	0.899			
	$X_{2.3}$	0.900			
	$X_{2.4}$	0.921			
Financial Performance (Y)	$Y_{1.1}$	0.931	0.899	0.902	0.832
	$Y_{1.2}$	0.914			
	$Y_{1.3}$	0.891			

Source: PLS Data Processing

Furthermore, to test discriminant validity, Fornell-Larcker and heterotrait monotrait ratio (HTMT) values are also examined, as shown in Table 2.

Table 2 Fornel Larcker Criteria

	Energy _Conservation	Environmental _Communication	Financial_ Performance	Size
Energy _Conservation				
Environmental _Communication	.754			
Financial_Performance	.576	.568		
Size	.375	.369	.127	
Size x Environmental _Communication	.097	.159	.375	.230
Size x Energy _Conservation	.106	.090	.395	.211

Source: PLS Data Processing

A discriminant validity evaluation needs to be conducted by examining the Fornell-Larcker criteria. Discriminant validity is a form of evaluation to ensure that variables are theoretically distinct and empirically proven or through statistical testing. The Fornell-Larcker criteria state that the square root of the AVE of a variable should be greater than the correlations between variables. The same observation is made for other variables. These results indicate that the discriminant validity of the variables is fulfilled.

Table 3 Heterotrait Monotrait Ratio (HTMT)

	Heterotrait-monotrait ratio (HTMT)
Environmental _Communication ↔ Energy _Conservation	.754
Financial_Performance ↔ Energy _Conservation	.576
Financial_Performance ↔ Environmental _Communication	.568
Size ↔ Energy _Conservation	.375
Financial_Performance ↔ Environmental _Communication	.369
Size ↔ Financial_Performance	.127

Source: PLS Data Processing

Hair et al. (2019) recommend HTMT because this measure of validity is considered more sensitive or accurate in detecting discriminant validity. The recommended value is below 0.90. Test results showing HTMT values below 0.90 for variable pairs indicate that discriminant validity is met. Variables distribute the variation in measurement indicators of the items that measure them more strongly than distributing variance on items of other variables.

The evaluation of the structural model relates to testing the hypotheses regarding the influence between research variables. The output results of direct and indirect effects testing in the structural model (inner model) can be seen in Figure 2.

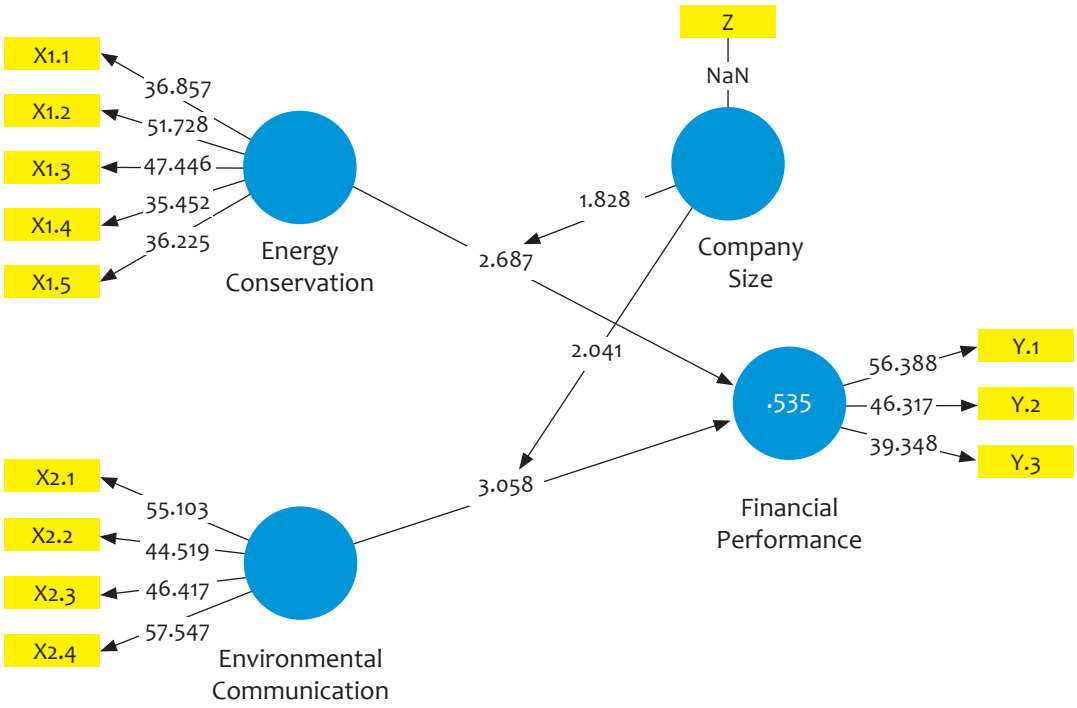

Figure 2 Structural Model (Inner Model)

Hypothesis testing using PLS can be observed from the bootstrapping results in the t-statistic table to examine the influence of exogenous variables on endogenous variables at a significance level of five per cent. Two-tailed testing for a significance level of five per cent considers an exogenous variable to affect the endogenous variable if it has a minimum t-statistic of 1.96, whereas, for one-tailed testing, the minimum t-statistic is 1.65.

The results reveal that for some hypotheses, the p-value is less than 0.05, and the statistical t-value exceeds 1.96 (see Table 4). In such cases, the hypotheses are accepted. Conversely, if the p-value exceeds 0.05, the hypotheses are rejected. Consequently, in this study, one hypotheses were rejected, while three hypotheses were accepted. Further elaboration is provided in the subsequent section.

Table 4 Results of Hypothesis Testing with Partial Least Square

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	Description
Energy _Conservation → Financial Performance	.319	.317	.119	2.687	.007	Significant
Environmental _Communication → Financial Performance	.364	.369	.119	3.058	.002	Significant
Size x Energy _Conservation → Financial _Performance	.238	.228	.130	1.828	.068	Not Significant
Size x Environmental _Communication → Financial Performance	.224	.223	.110	2.041	.041	Significant

Source: PLS Data Processing

Hypothesis testing utilizing the Partial Least Squares (PLS) approach yielded p-values less than 0.05 and t-statistic values exceeding 1.96. Hence, it is concluded that Hypothesis 1, asserting that energy conservation has a positive and significant influence on the financial performance of star-rated hotels in Bali, is upheld. This finding implies that energy conservation plays a crucial role in enhancing the financial performance of these hotels.

The results of this study reinforce the idea that energy conservation practices can improve operational efficiency, reduce energy expenditures, and increase overall profitability. Star-rated hotels implementing sustainable policies, including energy conservation, can cultivate a positive reputation among guests and stakeholders, yielding long-term financial benefits. These findings align with stakeholder theory, which posits that businesses have diverse stakeholders who influence and are influenced by organizational policies and actions. In the context of star-rated hotels in Bali, key stakeholders include hotel owners, management, employees, guests, local governments, and the surrounding community. Energy conservation is a policy that affects multiple stakeholders, and this study provides empirical evidence that such initiatives positively and significantly impact hotel financial performance.

Implementing energy conservation measures can reduce hotel operational costs, thereby enhancing profitability. Hotel owners are likely to support these initiatives as they contribute to increased investment value. Likewise, hotel management, which oversees daily operations and energy-related policies, benefits from improved efficiency, as demonstrated by these findings. Additionally, if energy conservation strategies are executed without compromising service quality, they can enhance guest satisfaction by fostering a positive perception of sustainability and corporate social responsibility. The significant and positive effect of energy conservation on financial performance underscores the broader support for sustainability initiatives, which, in turn, strengthens stakeholder relationships and enhances the hotel's market position.

Previous studies support these research findings. Sakshi et al. (2019) found a positive correlation between sustainability practices in the hospitality industry and financial performance. Similarly, Ameer & Othman (2012) identified that companies implementing sustainability initiatives tend to achieve higher financial performance. Energy conservation in hotels enhances financial outcomes by reducing operating costs, increasing profitability, and attracting environmentally conscious guests by adopting energy-efficient systems (Singh et al., 2023). Moreover, studies by Arenhart et al. (2022) and Gu (2023) further corroborate this claim, demonstrating that investments in energy-efficient systems and sustainable practices contribute to long-term financial gains, improved brand perception, and enhanced guest retention. These cumulative findings highlight energy conservation's financial and strategic advantages within the hospitality industry.

Hypothesis testing utilizing the PLS approach yielded p-values less than 0.05 and t-statistic values exceeding 1.96. Thus, it is concluded that hypothesis 2, proposing that environmental communication has a positive and significant influence on the financial performance of star-rated hotels, is supported. This implies that environmental communication significantly contributes to driving or enhancing the financial performance of star-rated hotels in Bali.

The accepted hypothesis can be elucidated through various mechanisms driving this positive effect. Environmental communication practices can enhance a hotel's reputation by demonstrating a strong commitment to sustainability and environmental responsibility, thereby increasing its appeal to guests and the broader community. Star-rated hotels that actively communicate their green initiatives may attract environmentally conscious travellers who prefer sustainable accommodations. Additionally, guest satisfaction may improve due to the positive perception of a hotel's corporate social responsibility (CSR) efforts. Higher guest satisfaction and brand loyalty often lead to increased bookings, positive reviews, and repeat customers, all of which contribute to better financial performance.

Beyond customer perception, environmental communication also plays a crucial role in regulatory compliance and risk management. Hotels can mitigate potential legal risks and strengthen their relationships with local authorities by publicly showcasing adherence to environmental regulations and sustainability policies. This proactive approach not only prevents fines or regulatory issues but can also open opportunities for incentives, grants, or certifications that enhance the hotel's market positioning. Furthermore, in a highly competitive hospitality industry, environmental communication serves as a differentiating factor. Hotels that successfully market their sustainability initiatives can gain a competitive edge, attracting a broader market segment, including eco-conscious travellers and corporate clients seeking sustainable lodging options.

These findings align with stakeholder theory, which emphasizes the importance of addressing the interests and concerns of all stakeholders in ensuring business success. Environmentally conscious guests, investors, and local communities are key stakeholder groups that hotels must engage with. Hotels can foster stronger relationships with these stakeholders by effectively communicating their sustainability initiatives. Environmentally responsible hotels are more likely to attract and retain eco-conscious guests, who may be willing to pay a premium for accommodations that align with their values. This loyalty and customer retention contribute to long-term financial gains. A strong corporate image as a sustainable and responsible business can also increase investor confidence, improve employee morale, and encourage positive community engagement. These factors collectively enhance a hotel's financial performance through increased revenue streams, cost savings from resource efficiency, and positive word-of-mouth marketing.

These research findings are supported by previous studies demonstrating the financial benefits of environmental communication in the hospitality industry. Zhang & Xie (2021) found that hotels implementing environmental practices and effectively communicating their sustainability efforts tend to experience better financial outcomes, with green hotels in high-income countries reporting an average profit margin increase of 1.7%. Additionally, research by Sakshi et al. (2020) confirmed that environmental communication positively influences both environmental and financial performance by encouraging resource conservation, reducing operational costs, and strengthening guest loyalty. These studies reinforce the notion that environmental communication is an ethical imperative and a strategic tool for enhancing profitability and long-term business sustainability in the hospitality sector.

Hypothesis testing using the Partial Least Squares (PLS) approach yielded p-values greater than 0.05 and t-statistics below the critical value of 1.96, indicating that the moderating effect of firm size on the relationship between energy conservation and financial performance in star-rated hotels is statistically insignificant. As a result, Hypothesis 3, which posited that firm size influences this relationship, is refuted. While there may be interactions among firm size, energy conservation, and financial performance, the findings suggest that firm size does not exert a significant moderating effect in the context of the Bali hotel industry.

One possible explanation for this result is the growing emphasis on sustainability in the hospitality sector. Both guests and investors increasingly expect hotels, regardless of size, to implement energy conservation measures. If consumer demand for eco-friendly accommodations and investor preferences for sustainable business models remain consistent across different hotel sizes, the financial performance benefits of energy conservation may not vary significantly based on firm size. Additionally, Bali's tourism-driven hospitality industry is highly competitive, requiring both large and small star-rated hotels to adopt sustainability practices as part of their operational standards rather than as a unique value proposition. Given that energy conservation has become a baseline expectation rather than a competitive differentiator, the impact of financial performance is likely influenced more by the effectiveness of its implementation than by hotel size.

Another contributing factor is the proportional nature of energy conservation investments. Technologies such as LED lighting, innovative HVAC systems, and renewable energy sources scale relative to a hotel's operational capacity. While larger hotels may have higher overall energy costs and, therefore, more significant absolute savings potential, smaller hotels may achieve similar percentage-based financial improvements relative to their size. This proportionality may diminish the moderating role of firm size in the relationship between energy conservation and financial performance.

These findings align with previous studies. Lucato et al. (2017) found no significant correlation between energy conservation and financial performance, and firm size did not moderate this relationship. Similarly, (Semenova et al., 2024) observed that firm size does not mediate the long-term relationship between energy conservation and financial performance. These studies further support the notion that while energy conservation can influence financial performance, firm size does not significantly alter the strength of this relationship.

These results may reflect the unique characteristics of the star-rated hotel industry in Bali or specific contextual factors that constrain the moderating effect of firm size. The structure and operational dynamics of hotels in Bali, shaped by regulatory frameworks, sustainability certifications, and market-driven sustainability expectations, may contribute to the absence of a significant moderating effect on firm size. Furthermore, the choice of analytical method, specifically Structural Equation Modelling-Partial Least Squares (SEM-PLS), may have influenced these findings, as SEM-PLS is subject to certain limitations and underlying assumptions.

Hypothesis testing utilizing the PLS approach yielded p-values less than 0.05 and t-statistic values exceeding 1.96. Hence, it is concluded that hypothesis 4, which posits that firm size moderates the influence of environmental communication on the financial performance of star-rated hotels, is affirmed. This finding suggests that firm size has the potential to moderate the relationship between environmental communication and the financial performance of star-rated hotels.

Research findings indicate that the impact of environmental communication on financial performance may vary depending on the company's size, particularly within the context of star-rated hotels in Bali. Larger hotels, endowed with more significant financial resources, organizational capacity, and market reach, are often better positioned to support and execute environmental communication programs effectively. As a result, they may experience more substantial financial benefits due to their ability to attract and retain environmentally conscious guests, enhance corporate image, and strengthen relationships with stakeholders, including investors, regulatory bodies, and local communities. These findings underscore the importance of understanding and adapting strategies based on firm size when managing star-rated hotels. By recognizing the moderating role of firm size in shaping the relationship between environmental communication and financial performance, hotel managers can tailor their sustainability initiatives to maximize impact and achieve optimal financial outcomes. Smaller hotels, while potentially facing resource constraints, can still leverage environmental communication strategies effectively by focusing on targeted messaging, local engagement, and partnerships that enhance their visibility and appeal.

This study contributes valuable insights to the field by addressing the limited research on the moderating role of firm size in the relationship between sustainability practices and financial performance within the hospitality industry. The findings emphasize that while firm size does not moderate the effect of energy conservation on financial performance, it does influence the relationship between environmental communication and financial outcomes. This highlights the importance of firm size in shaping how sustainability practices affect a hotel's financial success, offering a foundation for future research to explore this dynamic in various hospitality contexts.

CONCLUSION

The primary finding of this study is that energy conservation practices have a positive and significant impact on the financial performance of star-rated hotels in Bali. This underscores that implementing sustainable policies, such as energy conservation, can enhance operational efficiency, reduce energy costs, and ultimately improve profitability. The managerial implications of this finding are that owners and management of star-rated hotels should consider integrating energy conservation policies into their business strategies to enhance financial performance. Furthermore, this research found that environmental communication practices also positively and significantly impact the financial performance of star-rated hotels in Bali. Effective communication about sustainable practices and environmental responsibility can improve hotel reputation, guest satisfaction, and compliance with environmental regulations and differentiate hotels in a competitive market. The managerial implications of this finding suggest that star-rated hotels should integrate environmental communication into their marketing strategies and ensure that the messages conveyed to stakeholders align with the sustainability practices implemented. Although firm size does not moderate the influence of energy conservation on financial performance, the findings indicate that firm size may moderate the relationship between environmental communication and financial performance. This suggests that larger star-rated hotels may have an advantage in implementing more effective environmental communication practices as they allocate more significant resources to sustainability-related initiatives. As a result, these hotels can maximize the impact of environmental communication on financial performance through enhanced brand positioning, stakeholder engagement, and customer loyalty. Given the growing importance of sustainability in the hospitality industry, hotel finance and accounting departments should adopt standardized frameworks to measure and report the financial impact of sustainability initiatives. Finance departments should track metrics such as energy cost savings, return on investment (ROI) from energy-efficient technology, and guest satisfaction scores related to sustainability initiatives. Hotels should align their sustainability reporting with internationally recognized frameworks such as the Global Reporting Initiative (GRI) to enhance transparency and comparability. Hotel accounting departments should analyze energy conservation and environmental initiatives data to inform budget allocations and long-term investment strategies. The research findings provide valuable insights for investors and regulators assessing the sustainability performance of star-rated hotels. These findings highlight that hotels with strong sustainability practices, particularly in energy conservation and environmental communication, may yield better financial performance. Investors can use sustainability metrics as their due diligence when evaluating potential hotel investments. The results support the development of policies that encourage sustainability in the hospitality sector. Regulators may consider implementing sustainability certification programs or offering incentives for hotels that adopt energy conservation and environmental communication strategies. While this study provides significant contributions to understanding sustainability practices in the hospitality industry, it has several limitations. The study is limited to star-rated hotels in Bali, which may affect the generalizability of the findings. Bali's tourism industry has unique characteristics, including a strong focus on sustainable tourism and regulatory frameworks that may not be applicable to other regions. Future research should expand to other destinations to compare results across different tourism markets. The study focuses solely on star-rated hotels. Other segments of the tourism industry, such as budget hotels, boutique accommodations, and eco-resorts, may exhibit different sustainability practices and financial impacts. Future research should explore the impact of energy conservation and environmental communication on financial performance in different countries to gain broader insights into sustainability practices in the tourism industry. This can help identify best practices and contextual factors influencing sustainability success. Investigating sustainability practices across different

tourism industry segments, such as airlines, cruise lines, and restaurants, can provide a more comprehensive understanding of sustainability's financial implications. By addressing these areas, future research can contribute to a more holistic understanding of how sustainability policies impact the financial performance of tourism businesses, ultimately fostering a more sustainable global hospitality industry.

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