

Sustainability in Urban Hotels: A Case Study of Mandarin Oriental Jakarta

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| Article History | Abstract |
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| Received: 31 August 2025 Accepted: 11 November 2025 Published: 10 December 2025 | <p><i>This research presents qualitative single case study analyzing environmental sustainability practices at Mandarin Oriental Jakarta, a leading 5-star hotel, to address the limited detailed analyses of individual luxury urban Indonesian hotels employing data triangulation through interviews, participatory observations and social media documentation. The result of this research is divided into five crucial dimensions: energy efficiency, water management, waste and recycling management, eco-friendly product usage, and environmental certification. Findings reveal a sophisticated, multi-faceted program demonstrating a strategic blend of foundational efficiency and forward-thinking investments in energy, proactive water resource circularity, and externally validated leadership in waste-to-resource innovation. The hotel also shows commitment to integrated sustainable supply chains and a robust internal governance system actively pursuing top-tier international environmental certifications. This research offers practical insights for hotel policy refinement and significantly enriches academic understanding of the Green Hotel Concept, Sustainable Tourism, and the Green Industry, providing a detailed blueprint for sustainable luxury hospitality in a major metropolitan environment.</i></p> <p>Keywords: <i>Environmental Sustainability, 5-star Hotel, Sustainable Tourism, Green Hotel Concept</i></p> |



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INTRODUCTION

The tourism industry is experiencing an era of profound transformation as it confronts escalating global challenges related to climate change, environmental degradation, and social inequality. These challenges have reshaped expectations for how tourism and hospitality businesses operate, compelling them to pursue models of growth that are both inclusive and ecologically responsible (Hamsal & Abdinagoro, 2021). Within this paradigm shift, the concept of sustainability has emerged as a central framework for reconciling economic advancement with the protection of natural and social capital. Guided by the Triple Bottom Line (TBL) principle profit, people, and planet organizations are increasingly evaluated not only by their

financial performance but also by their environmental stewardship and societal contributions (Elkington, 1997).

Among the various tourism subsectors, the hotel industry plays a particularly critical role due to its extensive operational scale and continuous consumption of natural resources. Hotels typically operate around the clock, resulting in high levels of energy use, water consumption, and waste generation (Niwedya, Moses, & Singgih, 2015; Wang et al., 2022; Popsa, 2023). These conditions place the hospitality sector under mounting pressure to integrate sustainability practices across all aspects of management from infrastructure design to procurement, waste handling, and guest engagement. The adoption of sustainable operations is increasingly recognized not merely as a moral responsibility but as a strategic differentiator that enhances brand reputation, operational efficiency, and long-term competitiveness (Modica et al., 2020; Prakash et al., 2023).

In Indonesia, the discourse on sustainable tourism has grown significantly in recent years, supported by both policy and academic interest. However, much of the existing research has concentrated on eco-resorts, rural destinations, and community-based initiatives, leaving a relative void in the literature concerning sustainability implementation within luxury urban hotels (Widiana et al., 2022; Rahmafitria, 2014). This gap is critical because urban hotels operate in distinct contexts characterized by dense populations, higher energy demands, stricter regulatory frameworks, and more complex supply chains making their sustainability challenges both unique and multidimensional.

The Mandarin Oriental Jakarta, a flagship five-star property under the Mandarin Oriental Hotel Group (MOHG), offers a compelling case for examining these dynamics. As part of a global chain renowned for its sustainability commitments, the hotel has pledged support for the United Nations Sustainable Development Goals (SDGs), particularly in reducing its environmental footprint through responsible resource use, energy efficiency, and waste minimization. Despite this commitment, there remains limited scholarly exploration of how such global sustainability agendas are operationalized within Indonesia's metropolitan hospitality sector. Understanding this process is vital not only to assess the depth of implementation but also to identify the interplay between corporate sustainability frameworks and local socio-environmental realities.

Accordingly, this study aims to critically analyze the environmental sustainability practices of Mandarin Oriental Jakarta, focusing on how global sustainability commitments are translated into actionable strategies in an urban hospitality setting. In addition, this research uniquely integrates guest perception analysis derived from online reviews, offering a multidimensional perspective that bridges the organization's internal efforts with external stakeholder responses. This dual focus allows the study to move beyond the institutional narrative and assess the degree to which sustainability is visible and valued from a guest experience standpoint.

The conceptual foundation of this study rests on three interconnected frameworks: Sustainable Tourism, the Green Industry, and the Green Hotel Concept. Sustainable tourism, as

articulated by the United Nations World Tourism Organization (UNWTO, 2005), emphasizes balancing stakeholder needs while minimizing adverse ecological and cultural impacts. The Green Industry framework advocates for cleaner production, resource efficiency, and the adoption of eco-innovations as pathways toward a net-zero economy (Towoliu et al., 2018; 2020; Nyangchak, 2022). Complementarily, the Green Hotel Concept translates these macro-level principles into the hospitality context by integrating environmental management systems that improve efficiency, reduce costs, and enhance brand equity (Rahmafitria, 2014; Luo & Bhattacharya, 2006).

Drawing upon these frameworks, this study evaluates five critical dimensions of hotel environmental sustainability: energy management, water management, waste and recycling, eco-friendly product usage, and environmental certification and standards (Pereira, Silva, & Dias, 2021; Prakash et al., 2023). These dimensions directly correspond to the global sustainable development agenda, particularly SDG 6 (Clean Water and Sanitation), SDG 7 (Affordable and Clean Energy), SDG 12 (Responsible Consumption and Production), SDG 13 (Climate Action), and SDG 17 (Partnerships for the Goals). Through an exploratory qualitative single-case study approach, this paper provides both theoretical and empirical contributions by offering a nuanced understanding of sustainability in urban hospitality, demonstrating how luxury hotels can align their operations with the broader global sustainability framework while addressing localized challenges.

RESEARCH METHOD

This study employed an exploratory qualitative design using a single case study approach to gain an in-depth understanding of the environmental sustainability practices implemented by a five-star urban hotel in Jakarta. The qualitative paradigm was selected because it allows the researcher to capture the complexity, contextuality, and process-oriented nature of sustainability initiatives that cannot be fully quantified (Creswell & Poth, 2018). The single case study design was considered appropriate to explore the real-life application of sustainability principles in one of Indonesia's leading luxury hotels Mandarin Oriental Jakarta which has been recognized for its long-standing environmental commitment and alignment with global sustainability standards.

Research Site and Period

The fieldwork was conducted at Mandarin Oriental Jakarta, a property strategically located in the capital city's central business district. Data collection occurred over two main phases: (1) preliminary field observations between February and June 2024, and (2) extended data gathering through interviews, documentation, and participatory observation from February to June 2025. The longitudinal time frame ensured that the data reflected both the hotel's operational consistency and its evolving sustainability initiatives over time.

Research Instruments and Data Sources

In line with the qualitative approach, the researcher acted as the primary instrument, responsible for data collection, interpretation, and reflexive analysis. This role enabled adaptive questioning and contextual sensitivity throughout the research process while minimizing interpretive bias through continuous reflexivity and triangulation. Supporting instruments included:

1. Interview guides, designed to explore management strategies, implementation challenges, and sustainability outcomes;
2. Observation checklists, focused on operational practices related to energy, water, waste, and procurement;
3. Documentation review protocols, applied to social media posts, sustainability reports, and online guest reviews.

Data were categorized into two main sources:

1. Primary Data, obtained from in-depth semi-structured interviews with purposively selected key informants, including the hotel's sustainability champion, department heads, and operational staff. The purposive sampling ensured that participants possessed direct knowledge of environmental initiatives and decision-making processes. Participatory observations complemented interviews, providing contextual insights into daily operational practices.
2. Secondary Data, derived from the hotel's official reports, social media publications, and guest-generated content on Online Travel Agencies (OTAs) such as *TripAdvisor*. These materials offered external perspectives on how the hotel's sustainability practices are perceived by its stakeholders.

Data Validation and Triangulation

To enhance credibility and confirmability, data triangulation was conducted by cross-verifying evidence from interviews, observations, and document analyses. Additionally, theoretical triangulation was employed by interpreting the findings through the lenses of Sustainable Tourism, the Green Industry, and the Green Hotel Concept frameworks. This methodological combination ensured the robustness of interpretation and strengthened the theoretical grounding of the study. Researcher reflexivity and peer debriefing were also applied throughout the process to mitigate subjective bias.

Data Analysis Procedures

The study utilized a hybrid of thematic analysis and framework analysis to systematically interpret the qualitative data.

1. Thematic Analysis followed Braun and Clarke's (2006) six-step procedure, beginning with data familiarization, initial coding, theme development, and iterative refinement to identify patterns and relationships relevant to environmental sustainability practices.

2. Framework Analysis was subsequently applied to organize themes into predefined analytical categories energy management, water management, waste and recycling, eco-friendly products, and environmental certification derived from the literature (Pereira, Silva & Dias, 2021; Prakash et al., 2023).

Through this combined approach, the study was able to integrate empirical observations with theoretical constructs, enabling a comprehensive narrative that explains how sustainability practices are implemented, governed, and communicated within a luxury urban hospitality context.

RESULT AND DISCUSSION

This study addresses a critical gap in the literature by revealing how sustainability practices are operationalized within a luxury urban hospitality context, using the Mandarin Oriental Jakarta as a single, in-depth case. While previous research (Pereira, Silva & Dias, 2021; Papallou, Katafygiotou & Dimopoulos, 2024) predominantly examined sustainability practices in natural or resort-based environments, this study extends the discourse by situating sustainability within the urban complexity of Jakarta, where space limitations, high energy demand, and regulatory pressures present unique challenges. Furthermore, by integrating guest perception analysis, this study not only evaluates the hotel's internal environmental management systems but also explores the extent to which such initiatives are visible and valued by external stakeholders.

The findings indicate that Mandarin Oriental Jakarta operates a comprehensive, multi-layered environmental sustainability program aligned with the Mandarin Oriental Hotel Group's (MOHG) global framework. The implementation of these initiatives demonstrates both structural and behavioral integration—where sustainability is embedded in operational systems as well as in the corporate culture. Each sustainability dimension is discussed below in light of the three theoretical lenses guiding this study: Sustainable Tourism, the Green Industry, and the Green Hotel Concept, along with its contribution to specific Sustainable Development Goals (SDGs).

1. Energy Efficiency: Integrating Innovation and Operational Discipline

The findings reveal that Mandarin Oriental Jakarta employs a dual strategy combining operational efficiency and technological innovation. The widespread adoption of LED lighting, motion-sensitive controls, and key card-activated HVAC systems exemplifies foundational measures aligned with the Green Hotel Concept, which emphasizes resource optimization and cost reduction through environmental management (Rahmafitria, 2014). Moreover, the hotel's planned installation of solar panels and an Electric Vehicle (EV) charging station indicates a shift toward renewable energy investment, reflecting the Green Industry framework of transitioning from resource-intensive to low-carbon operations (Nyangchak, 2022).

These practices directly support SDG 7 (Affordable and Clean Energy) and position the hotel as an early adopter of sustainable innovation within Indonesia's luxury segment.

However, compared to similar studies in resort settings (e.g., Pereira et al., 2021), the urban implementation faces additional constraints such as limited rooftop space and dependency on local grid infrastructure, demonstrating that contextual adaptability is a key determinant of sustainability performance in metropolitan hotels.

2. Water Management: Advancing Resource Circularity

The hotel's approach to water management embodies the principles of Sustainable Tourism by reducing environmental impact without compromising service quality. The use of low-flow fixtures, dual-flush toilets, and greywater recycling demonstrates a proactive commitment to resource circularity, a concept increasingly emphasized in sustainable hospitality research (Papallou et al., 2024). Field observations and staff interviews confirmed the hotel's plan to install a cooling tower condensate recovery system, which further reinforces the move toward closed-loop resource systems.

Such initiatives contribute directly to SDG 6 (Clean Water and Sanitation) and reflect alignment with global sustainable tourism practices. The findings also reveal that employee engagement plays a crucial role in maintaining water efficiency—daily housekeeping routines include regular monitoring of leaks and fixture performance, suggesting that sustainability at Mandarin Oriental Jakarta is both a technical and behavioral process.

3. Waste and Recycling Management: From Disposal to Value Creation

Among the five dimensions, waste management emerged as the hotel's most advanced and externally validated sustainability practice. The establishment of a segregated waste system, elimination of single-use plastics, and transformation of organic waste into resources (such as biodiesel from used cooking oil and compost from food waste using the Black Soldier Fly program) exemplify a Green Industry transition model transforming waste streams into productive resources (Towoliu et al., 2020).

This initiative earned the hotel the "Best Waste Management" Award from the DKI Jakarta Provincial Government in 2024, providing strong external validation. More importantly, it demonstrates that urban hotels can function as micro-laboratories for circular economy innovation, even within infrastructure-constrained environments. The findings reinforce SDG 12 (Responsible Consumption and Production) and provide a replicable model for other metropolitan hotels seeking to balance operational demands with environmental responsibility.

4. Eco-Friendly Product Usage: Sustainability Through Supply Chain Governance

The hotel's procurement system reflects a systemic approach to sustainability, integrating environmental and ethical criteria into supplier selection and evaluation. By replacing plastic-based amenities with biodegradable alternatives such as bamboo toothbrushes and locally sourced toiletries, Mandarin Oriental Jakarta operationalizes the Sustainable Tourism principle of community inclusivity supporting local producers while reducing carbon intensity in the supply chain.

The implementation of a Supplier Code of Conduct ensures compliance with environmental, labor, and ethical standards, aligning with both Green Industry and Green Hotel Concept perspectives. These efforts not only enhance operational sustainability but also strengthen the hotel's market positioning as a responsible luxury brand. The alignment with SDG 12 (Responsible Consumption and Production) is explicit, reinforcing that sustainability extends beyond physical operations to include value chain accountability.

5. Environmental Certification and Standards: Institutionalizing Accountability

A central strength of Mandarin Oriental Jakarta's sustainability strategy lies in its governance and accountability framework. The establishment of a Sustainability Champion and a cross-departmental committee ensures systematic tracking of environmental KPIs and continual improvement. The hotel's plan to pursue full Global Sustainable Tourism Council (GSTC) certification signals a shift toward external validation and benchmarking against international best practices.

This move aligns closely with SDG 17 (Partnerships for the Goals) and the Green Hotel Concept, emphasizing collaboration and transparency as drivers of continuous improvement. The certification process not only strengthens organizational credibility but also integrates sustainability into corporate governance a defining characteristic of mature sustainability systems (Prakash et al., 2023).

6. Guest Perceptions: The Communication Gap in Sustainable Hospitality

Analysis of online guest reviews from Online Travel Agencies (OTAs) revealed that guests consistently acknowledge visible eco-friendly amenities such as bamboo toiletries and reusable packaging but rarely recognize the hotel's deeper infrastructural efforts (e.g., solar panel installation or greywater recycling). This indicates a communication gap between the hotel's comprehensive sustainability practices and guests' awareness.

This finding resonates with Luo and Bhattacharya's (2006) assertion that stakeholder perception mediates the business value of sustainability. In the context of urban luxury hospitality, environmental excellence must be coupled with effective communication strategies that translate complex operational initiatives into tangible guest experiences. Therefore, improving sustainability visibility through in-room messaging, digital storytelling, and staff training could enhance both guest engagement and brand differentiation.

Synthesis and Theoretical Implications

Taken together, these findings demonstrate that Mandarin Oriental Jakarta exemplifies the convergence of Sustainable Tourism, Green Industry, and Green Hotel frameworks within an urban luxury setting. The hotel's practices show a progressive evolution from compliance-based environmental management to strategic sustainability integration. This research confirms that contextual adaptability, organizational governance, and stakeholder

communication are the critical enablers for translating sustainability commitments into measurable outcomes.

Conceptually, this study expands the application of green hospitality theory by situating it in a high-density urban context, where sustainability innovation is often constrained by infrastructure and market pressures. Empirically, it contributes a nuanced model illustrating how global sustainability frameworks (such as the SDGs) can be localized through operational strategy, behavioral engagement, and corporate accountability.

CONCLUSION

The primary objective of this research was to conduct an in-depth analysis of the environmental sustainability practices implemented by Mandarin Oriental Jakarta as a five-star hotel. This study concludes that Mandarin Oriental Jakarta employs a comprehensive, multi-dimensional, and strategically managed program that is deeply integrated into its core operational framework. The hotel's implementation of these practices exhibits varying levels of maturity across five dimensions. In energy efficiency, a dual strategy of foundational measures and forward-looking investments was identified. Water management is characterized by a proactive commitment to resource circularity, evidenced by significant investments in recycling technologies that directly contribute to SDG 6. Waste management is the most advanced and externally validated dimension, with innovative waste-to-resource programs that have achieved official government recognition and directly align with SDG 12.

The hotel demonstrates an integrated strategy for using eco-friendly products by extending sustainability standards to its supply chain. The hotel's framework for environmental certification is defined by a robust internal governance system, which is strategically evolving towards achieving premier international validation, supporting SDG 17.

The integration of online guest review analysis revealed that while certain visible initiatives are appreciated, the deeper, systemic efforts are often not explicitly recognized in guest feedback. This highlights a key challenge in communication regarding hotel's full scope of environmental stewardship. There can be conclude that, Mandarin Oriental Jakarta has successfully integrated a sophisticated environmental sustainability program into its operations, positioning it as a notable practitioner within the luxury hospitality sector and making tangible contributions to global Sustainable Development Goals (SDGs).

Implications, Limitations, and Recommendations

Theoretically, this study enriches the Green Hotel Concept by providing a detailed case study of its application in a luxury urban hotel. Practically, this research serves as a structured and validated analysis for Mandarin Oriental Jakarta's management and provides a valuable reference for other hoteliers in the urban segment, offering concrete examples of successful initiatives and insights into common challenges.

The primary limitation is the single case study approach, which limits the generalizability of the findings. The researcher's role as a participant-observer also presents a potential for bias,

although objectivity was maintained. Based on the findings, the following recommendations are provided:

1. Recommendations for Mandarin Oriental Jakarta: Enhance guest communication strategies to highlight deeper sustainability efforts. Strategically invest in technological upgrades like motion sensors to further reduce energy consumption. Upon achieving GSTC certification, leverage it in marketing to solidify market leadership.
2. Recommendations for Future Research: Conduct comparative studies of multiple hotels to identify industry-wide trends. Develop a quantitative impact analysis to measure the financial return on investment for green technologies. And finally, conduct an in-depth investigation of the guest perspective using surveys and interviews to gain deeper insights into guest awareness and behavior.

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REFERENCES

- Elkington, J. (1997) 'The triple bottom line', *Environmental management: Readings and cases*, 2, pp. 49-66.
- Fitrah and Luthfiyah, M. (2018) *Metodologi penelitian: penelitian kualitatif, tindakan kelas & studi kasus*. CV Jejak (Jejak Publisher).
- Gainau, M.B. (2016) *Pengantar metode penelitian*. Pt Kanisius.
- Hamsal, M. and Abdinagoro, S.B. (2021) *Sustainable Tourism Pariwisata Wisata di Era Normal Baru*. Scopindo Media Pustaka.
- Luo, X. and Bhattacharya, C.B. (2006) Corporate Social Responsibility, Customer Satisfaction, and Market Value, Source: *Journal of Marketing*.
- Modica, P.D. et al. (2020) 'Consumer perceptions towards sustainable supply chain practices in the hospitality industry', *Current Issues in Tourism*, 23(3), pp. 358-375.
- Niwedya, N., Moses, D. and Singgih, L. (2015) Analisis Dampak Lingkungan Kegiatan Operasional Hotel Dengan Pendekatan Life Cycle Assessment (Lca) Dan Environmental Management Accounting (Ema) (Studi Kasus: Hotel Yasmin Makassar), *Prosiding Seminar Nasional Manajemen Teknologi XXIII Program Studi MMT-ITS*.
- Nyangchak, N. (2022) 'Emerging green industry toward net-zero economy: A systematic review', *Journal of Cleaner Production*. Elsevier Ltd. Available at: <https://doi.org/10.1016/j.jclepro.2022.134622>.
- Papallou, E., Katafygiotou, M. and Dimopoulos, T. (2024) 'Emerging Sustainability Trends in Tourist Facilities: A Comparative Assessment of Multiple Hotels and Resorts', *Sustainability (Switzerland)* 16(9). Available at: <https://doi.org/10.3390/su16093536>.
- Pereira, V., Silva, G.M. and Dias, Á. (2021) 'Sustainability practices in hospitality: Case study of a luxury hotel in Arrábida Natural Park', *Sustainability (Switzerland)*, 13(6). Available at: <https://doi.org/10.3390/su13063164>.
- POPŞA, R.E. (2023) 'Importance of sustainability in the hotel industry', *Expert Journal of Business and Management*, 11(2).
- Prakash, S. et al. (2023) 'Adopting green and sustainable practices in the hotel industry operations- an analysis of critical performance indicators for improved environmental quality', *Management of Environmental Quality: An International Journal*, 34(4), pp. 1057-1076. Available at: <https://doi.org/10.1108/MEQ-03-2022-0090>.
- Rahmafitria, F. (2014) 'Eco-Resort And Green Hotel In Indonesia An Application Of Sustainable Tourism Development', *Jurnal Manajemen Resort & Leisure*, 11(2), pp. 13-34.
- Smith, N.C. (2003) *California Management Review Corporate Social Responsibility: Whether or How?*

- Towoliu, B. I., Permana, D. E., Gahung, M. D., & Lumettu, A. (2018). Ecotourism Village Feasibility Assessment Analysis: The Case of Bahoi Village, in North Minahasa Regency, Indonesia. *Almatourism-Journal of Tourism, Culture and Territorial Development*, 9(17), 137-152.
- Towoliu, B. I. (2021). *Kajian Penilaian Desa Bahoi Sebagai Desa Ekowisata Di Kabupaten Minahasa Utara* Propinsi Sulawesi Utara. CV. Azka Pustaka.
- Towoliu, B. I., Runtuwene, T., Permana, D. E., Lumettu, A., Alelo, M., & Sangari, F. (2020, August). Coastal carrying capacity for mangrove ecotourism development, case study in Budo Village, North Minahasa Regency. In *First International Conference on Applied Science and Technology (iCAST 2018)* (pp. 132-135). Atlantis Press.
- United Nations Environment Programme (2005) *Making Tourism More Sustainable A Guide for Policy Makers* (English version), *Making Tourism More Sustainable A Guide for Policy Makers* (English version). World Tourism Organization (UNWTO). Available at: <https://doi.org/10.18111/9789284408214>.
- Wang, L.J. et al. (2022) 'Do hotel industry operations deteriorate air quality?', *Tourism Economics*, 28(7), pp. 1961-1970. Available at: <https://doi.org/10.1177/13548166211022423>.
- Widiana, I.K.A. et al. (2022) 'Documenting green hotel practices at The Apurva Kempinski Bali', *International Journal of Green Tourism Research and Applications*, 4(2), pp. 58-67. Available at: <https://doi.org/10.31940/ijogtra.v4i2.58-67>.