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# A performance-based perspective on sustainable interior design (SID) as a catalyst for hotel's performance effectiveness

[Facilities](#) • [Article](#) • 2026 • DOI: 10.1108/F-11-2025-0226 [Che Abdullah, Siti Noorfairus](#)<sup>a</sup> ; [Khalil, Natasha](#)<sup>b</sup> ; [Haron, Siti Norsazlina](#)<sup>c</sup> ; [Hamid, Md Yusof](#)<sup>d</sup> <sup>a</sup> Kulliyah of Architecture and Environmental Design, International Islamic University Malaysia, Kuala Lumpur, Malaysia[Show all information](#)

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## Abstract

**Purpose** – While many hotels have embraced the green agenda through initiatives such as energy-efficient systems, waste reduction and eco-friendly amenities, the integration of sustainable design and materials in interior spaces remains underdeveloped. This oversight has led to suboptimal operational performance, manifesting in increased maintenance costs, higher energy consumption and reduced guest satisfaction. This study aims to analyse the strength of the relationship between sustainable interior design (SID) requirements and hotel performance effectiveness (HPE) during the operational phase. It addresses the existing gap where sustainable design integration in interior spaces is often neglected, leading to inefficiencies in maintenance, energy consumption and guest satisfaction. **Design/methodology/approach** – A quantitative research design using a questionnaire survey was conducted among 237 maintenance managers of 4- and 5-star hotels across Malaysia.

Partial least squares structural equation modelling (PLS-SEM) was used to test eight hypothesized relationships between SID criteria and HPE. This method allowed assessment of complex constructs and predictive relevance while ensuring reliability and validity of the measurement and structural models. Findings – The SEMp-value indicated that energy efficiency was the most important SID for hotel performance, followed by ergonomic, green awareness and signage, sustainable site planning and management and finally health and social flexibility. Advocating for the incorporation of eco-friendly materials, sustainable furnishing and interior energy solutions that aligns with functional, technical, environmental and social performance and hedonic aspects for hotel customers, ultimately supporting a more sustainable and profitable future for the hospitality industry. The findings underscore the necessity for a holistic approach to sustainability, which helps hotels to improve operational efficiency, cost savings and enhanced guest experiences. The proposed model portrayed a nexus of facilities management and interior design fields that underscores the necessity for a sustainability approach to improve hotel's operational efficiency. However, biophilic design, water consumption and environmental comfort did not show significant relationships with performance, indicating the need for greater awareness and implementation of these aspects. Research limitations/implications – The study was limited to 4- and 5-star hotels in Malaysia and primarily reflected the perspectives of maintenance managers. Broader inclusion of other stakeholders, such as designers and guests, could enrich the findings. Furthermore, contextual differences in hotel size, brand standards and environmental certifications may influence the generalizability of results. Originality/value – This study establishes empirical evidence linking SID practices with hotel operational performance. It is among the first to quantitatively model the SID–HPE relationship using PLS-SEM in the Malaysian hospitality context. The findings provide actionable insights for hotel operators, designers and policymakers to integrate SID principles into operational strategies for enhanced sustainability and profitability. © 2026 Emerald Publishing Limited

## Author keywords

Building performance; Facilities management; Hotel performance effectiveness; Operational stage; PLS-SEM; Sustainable interior design

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