

Guest Satisfaction and Spatial Layout in Hotels: A Systematic Review with Contextual Insights for Nigeria

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Abstract

This study conducts a systematic literature review to explore how spatial layout influences guest satisfaction in luxury hotel settings, with contextual insights for the Nigerian hospitality industry. Focusing on spatial features such as circulation efficiency, room ergonomics, zoning, and the integration of smart and biophilic design, the review synthesizes findings from 15 peer-reviewed studies published between 2013 and 2024. The selected literature was obtained through structured searches in databases such as Google Scholar, ScienceDirect, and JSTOR, using a defined set of inclusion criteria. Thematic content analysis was used to compare both Nigerian and international contexts. The findings reveal that spatial planning critically shapes guest comfort, ease of navigation, and emotional response. However, challenges persist in the Nigerian context, including inadequate zoning, limited smart technology integration, and poor accessibility features. The paper acknowledges the absence of primary data and emphasizes the need for context-specific empirical research in Nigerian luxury hotels. Recommendations are derived solely from reviewed literature and aim to guide architects, developers, and hospitality managers toward more user-centred spatial strategies.

Keywords: Guest Satisfaction, Hotel Design, Luxury Hotels, Spatial Layout, User Experience.

Introduction

Guest satisfaction is a key factor in the success of luxury hotels, where service quality and spatial experience shape customer perceptions (Singgalen, 2024). High-end clientele expects premium experiences, including comfort, functionality, and personalized services, with factors such as service efficiency, ambiance, and technological integration playing crucial roles (Arapou & Kapiki, 2023). Among these, spatial layout significantly impacts guest experience by influencing ease of movement, privacy, and overall comfort. As Nigeria's luxury hotel industry expands, driven by business tourism and an emerging upper class (Ajayi, 2024), understanding the specific spatial elements that enhance guest satisfaction remains essential. This study explores the relationship between spatial layout and guest satisfaction metrics in Nigerian luxury hotels, focusing on design factors that improve comfort and functionality.

A well-planned spatial layout ensures smooth circulation, minimizes congestion, and enhances the visual appeal of key hotel areas, including lobbies, restaurants, and

recreational spaces (Chen, 2021). Poor spatial planning can lead to inefficiencies and discomfort, negatively affecting repeat patronage and hotel ratings (Okafor, 2024). Additionally, elements like lighting, acoustics, and furniture arrangements define the spatial quality of a luxury hotel. In Nigeria, cultural preferences, climate, and operational efficiency must be considered in spatial design to meet international hospitality standards. This paper systematically reviews both local and international literature on hotel spatial design and guest satisfaction to extract relevant findings and provide contextual insights. Unlike empirical studies, this work does not involve original data collection but rather consolidates secondary evidence to draw implications for Nigeria's luxury hotel sector. This study evaluates how spatial design influences guest perceptions and satisfaction, providing insights into best practices for optimizing hotel layouts.

Research Objectives

- i. To evaluate how spatial organization such as circulation routes and zoning affects guest comfort and satisfaction in luxury hotels.
- ii. To assess the influence of room design features, including size, lighting, acoustics, and furniture layout, on the quality of the guest experience.
- iii. To examine the role of smart technologies and biophilic design elements in enhancing spatial layouts and promoting repeat patronage.

Research Questions

- i. How do spatial organization strategies such as circulation routes and zoning affect guest comfort and satisfaction in luxury hotels?
- ii. In what ways do room design features, including size, lighting, acoustics, and furniture layout, influence the quality of the guest experience?
- iii. What role do smart technologies and biophilic design elements play in enhancing spatial layouts and encouraging repeat patronage in luxury hotels?

Problem Statement

In many Nigerian luxury hotels, spatial planning does not meet the expectations of modern travellers, particularly in areas of navigation, ergonomic comfort, and technological integration. This results in guest discomfort and diminished brand loyalty. International studies show the potential of user-centred spatial design, but its application within the Nigerian context remains underdeveloped. Bridging this knowledge gap through a structured literature review offers a path toward more responsive and competitive hotel environments

Research Gap

While global literature highlights the relationship between spatial layout and guest satisfaction, few studies contextualize these findings within Nigerian luxury hotels.

Nigerian literature also tends to be descriptive, often lacking analytical depth in evaluating spatial elements like zoning, accessibility, and biophilic features. This study addresses the gap by comparing global best practices with Nigeria-specific challenges and offering design-focused recommendations.

Literature Review

To ensure clarity and focus, this literature review is organized into three tiers of relevance: (a) Nigerian luxury hotels, (b) broader Nigerian hotel studies, and (c) international luxury hotel research. Following these, cross-cutting spatial themes are synthesized using Human-Centered Design and Environmental Psychology as guiding frameworks.

Nigerian Luxury Hotels

Academic research specifically targeting spatial layout and guest satisfaction in Nigerian luxury hotels remains limited but illustrative. In a quantitative survey of guests at select 5-star properties in Lagos, Pedro et al. (2023) found that spatial design factors such as corridor width, ceiling height, and room orientation were statistically significant predictors of guest comfort and return intentions. Complementing this, Ajeuyjo, Ajayi, and Raufu (2025) conducted a mixed-methods study across resort hotels in southwestern Nigeria, uncovering strong guest preferences for biophilic design interventions (e.g., natural light, indoor plants, water features), which they correlated with enhanced mood states, reduced stress, and longer stays. Further, Ijere and Nnamdi's (2024) observational study revealed that visual access to greenery from guest rooms had the strongest association with reported "restorative experiences," indicating that even modest landscape integration can create luxury-level guest satisfaction. While these findings are promising, they also highlight a reliance on small sample sizes and a lack of advanced spatial modeling, suggesting a clear need for larger, more rigorous studies in this context.

General Nigerian Hotel Studies

Studies on broader hotel segments offer useful insights into common spatial issues within Nigerian contexts. Pedro et al. (2023) conducted guest satisfaction surveys across mid-tier and upscale hotels in Lagos State, identifying poor wayfinding, insufficient parking, and inconsistent room sizing as primary complaints. Similarly, Okafor (2024) used in-depth interviews to reveal how participants became disoriented in properties lacking clear circulation paths or adequate signage. Such structural deficiencies led to negative reviews, especially concerning lifts, stairwells, and service corridors. Other studies like Abdi and Rowland (2024) stress ventilation and lighting issues in Nigerian hotels, suggesting that basic infrastructure improvements are essential precursors to luxury spatial planning. While these works do not focus exclusively on luxury hotels, they reinforce the importance of foundational design interventions applicable across hotel tiers.

Global Luxury Hotel Research

International literature offers a broad spectrum of advanced spatial practices and illustrates the significant positive impact of refined spatial design in luxury hospitality. Chang and Lin's (2024) quasi-experimental study in Asian-themed boutique hotels demonstrated that guests exposed to curated circulation flows (e.g., staged pathways, transitions between functional zones) reported significantly higher loyalty scores and perceived value. Silva and Ng (2024) explored room layout flexibility across luxury properties in Europe, linking modular furniture systems and acoustic zoning to greater guest comfort and adaptability. A comprehensive multi-country longitudinal study by Ali, Müller, and Hansen (2023) across Nordic luxury hotels found that consistent exposure to natural daylight, green walls, and water features resulted in reduced cortisol levels and self-reported wellbeing. Lee, Smith, and Patel (2023) emphasized that barrier-free access and intuitive spatial legibility are now fundamental to inclusivity in upscale hotels, improving satisfaction across diverse guest demographics. These sophisticated spatial strategies ranging from digital signage to modular furnishings illustrate a level of design awareness that luxury establishments in Nigeria are yet to fully achieve.

Cross-Cutting Themes and Relevance

A comparison of these tiers reveals five spatial design themes with variable adoption and impact:

- i. Circulation and Wayfinding: Globally, luxury hotels implement intuitive circulation aided by spatial analytics and digital aids (Arapou & Kapiki, 2023), while in Nigeria, spatial congestion remains a major drawback (Pedro et al., 2023; Okafor, 2024). The opportunity exists to integrate cost-effective wayfinding tools, such as mobile signage or simple floor pattern cues, leveraging local design firms.
- ii. Public–Private Zoning: International properties maintain strict spatial hierarchies public lobbies, semi-private lounge zones, then private guest wings often using design software for optimization (Spence, 2022). In contrast, Nigerian hotels frequently blur these boundaries (Jimoh & Idowu, 2024), which can compromise guest perception of exclusivity. Mixed-use programming without spatial analysis creates confusion and noise interference.
- iii. Room Ergonomics and Modularity: Global trends favor flexible layouts, ergonomic furniture, and acoustic control all correlated with guest satisfaction (Silva & Ng, 2024). In Nigeria, fixed layouts and poor sound insulation remain widespread (Ajayi, 2024; Singgalen, 2024), suggesting that modular bedroom layouts and movable partitions could offer quick, guest-focused spatial revisions.
- iv. Smart and Biophilic Integration: Whilst smart automation (like app-based controls, room climate settings) is increasingly integrated in luxury hotels (Arapou & Kapiki, 2023), Nigerian luxury properties lag due to infrastructural limits (Rowland & Nnamdi, 2024). Nevertheless, biophilic design features such as indoor greenery and

daylighting have been shown to provide significant wellbeing benefits in Nigerian contexts and are relatively affordable (Ajeuyjo et al., 2025; Ijere et al., 2024).

- v. Accessibility and Inclusive Design: Global standards emphasize universal accessibility ramps, wide doors, tactile surfaces as foundational to guest satisfaction (Lee et al., 2023). In Nigeria, implementation remains sporadic and piecemeal (Bello & Bello, 2021), reflecting a systemic lack of regulatory enforcement and awareness.

Theoretical Framework

This review employs both Human-Centered Design (HCD) and Environmental Psychology to investigate spatial outcomes. HCD directs attention to the end-user experience preventing cognitive overload and empowering comfort, autonomy, and efficiency through design (Silva & Ng, 2024; Rowland & Nnamdi, 2024). Environmental Psychology helps interpret how spatial layout via environmental cues, territorial boundaries, and sensory stimuli affects behavior, stress levels, and satisfaction (Spence, 2022; Ali et al., 2023). Applying these frameworks provides a robust lens for comparing global best practices with Nigerian luxury hotel realities.

Methodology

This study employs a qualitative interpretive methodology through a systematic literature review. The review process followed a PRISMA-inspired approach for identification, screening, eligibility, and inclusion of relevant literature (Figure 1). Key academic databases consulted included Google Scholar, ScienceDirect, JSTOR, and Taylor & Francis Online, focusing on studies published in English between 2013 and 2024.

Search terms used included combinations of: "hotel spatial layout," "guest satisfaction in luxury hotels," "user-centred design in hospitality," and "Nigerian hotel architecture." Boolean operators were applied to refine searches.

Inclusion Criteria:

- i Studies focusing on luxury or upscale hotel environments
- ii Studies centred on spatial planning and guest satisfaction
- iii Peer-reviewed journal articles or conference papers

Exclusion Criteria:

- i Studies outside hotel settings (e.g., hostels, Airbnb)
- ii Opinion pieces lacking empirical or theoretical grounding
- iii Papers with insufficient methodological clarity

From an initial 62 articles, 15 were selected for final analysis. Thematic content analysis was used to code for variables such as circulation efficiency, zoning, acoustics, lighting, furniture configuration, technological integration, and sustainability features.

It is important to note that this review does not include original empirical research or case studies conducted by the authors. Instead, all findings and recommendations are derived

from secondary sources. While global studies inform much of the analysis, the insights are contextualized for the Nigerian luxury hotel sector wherever possible. This limitation highlights the need for future field-based research to validate and expand upon the conclusions drawn.

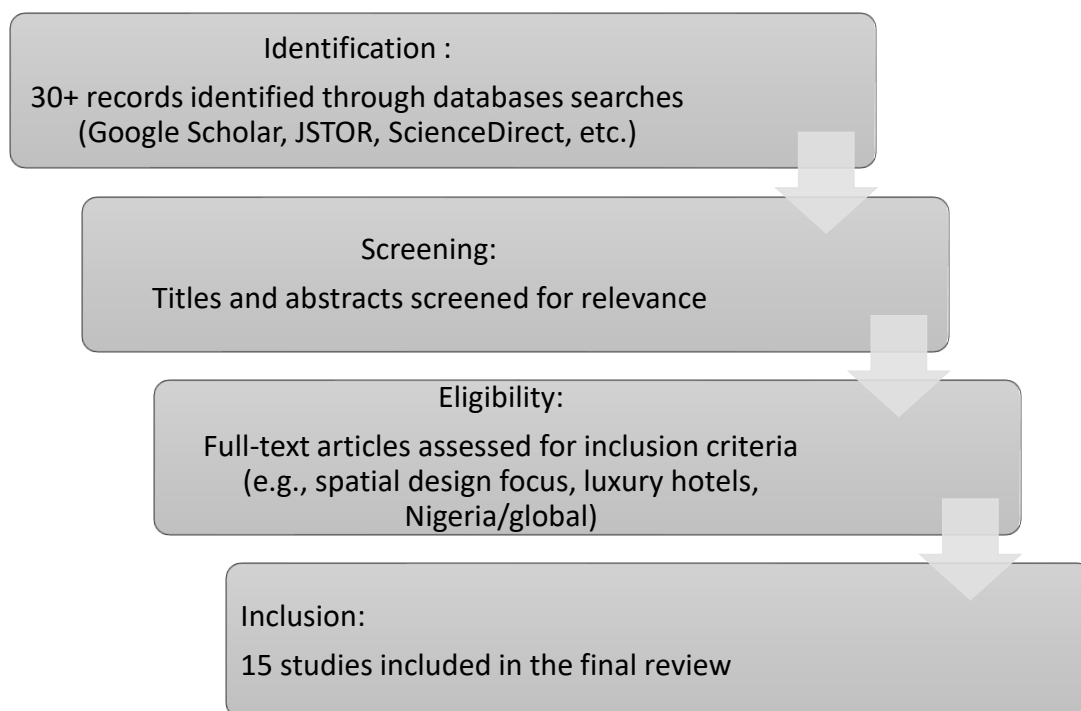


Figure 1.0: PRISMA diagram of study

Source: Author (2025)

Findings and Discussion

This section provides a review of 15 selected papers relevant to the study of guest satisfaction and the impact of spatial layout in luxury hotels. Each paper is analyzed based on its aim, objectives, methodology, and key findings.

PAPER 1: INFLUENCE OF HOTEL DESIGN ON GUEST EXPERIENCE AND SATISFACTION IN KENYA -*Kamotho, J. (2024).*

This study examines how hotel design influences guest experience and satisfaction in Kenyan hotels. It aims to analyze the impact of interior and exterior hotel design on guest perceptions and evaluate the role of aesthetics, layout, and ambiance in guest satisfaction. A mixed-method approach was used, incorporating surveys and interviews with hotel guests and staff. The findings indicate that hotel design elements, including lighting, color, and spatial organization, significantly influence guest satisfaction. Modern, well-designed spaces contribute to higher guest retention and positive reviews.

The study highlights that guest satisfaction is closely linked to spatial arrangement and functionality. Guests tend to favor hotels that offer seamless navigation, clear zoning between private and communal areas, and a balance between aesthetics and practicality. The research also emphasizes that hotels that continuously update their designs to meet evolving guest preferences tend to achieve higher customer satisfaction ratings. Therefore, Kenyan hotels must consider periodic renovations and improvements to remain competitive in the luxury hospitality market.

PAPER 2: SPATIAL ANALYTICS WITH HOSPITALITY BIG DATA: EXAMINING THE IMPACT OF LOCATIONAL DETERMINANTS ON CUSTOMER SATISFACTION IN THE U.S. HOTEL MARKET – Minwoo Lee Et Al.

This study investigates how locational factors influence customer satisfaction in U.S. hotels using big data analytics. It assesses the role of spatial location in shaping guest perceptions and analyzes customer review datasets to identify trends in guest satisfaction. The methodology involves a quantitative analysis of hotel reviews using big data techniques. Findings suggest that proximity to business districts, accessibility, and nearby attractions are key determinants of guest satisfaction, with spatial layout playing a supporting role. Additionally, the study reveals that hotels situated in easily accessible locations with well-designed spatial layouts tend to receive higher guest ratings. It demonstrates that while factors like service quality and pricing are crucial, the ease of movement within a hotel and its connection to external amenities significantly contribute to overall guest experience. The research recommends that luxury hotels prioritize strategic site selection and interior spatial planning to maximize customer satisfaction and loyalty.

PAPER 3: THE ROLE OF SPATIAL LAYOUT IN SHAPING VALUE PERCEPTION AND CUSTOMER LOYALTY IN THEME HOTELS – Chang, T. Y., & Lin, Y. C. (2024).

This research explores how spatial layout affects customer value perception and loyalty in theme hotels. It aims to assess the impact of spatial organization on customer experience and examine the relationship between layout design and repeat patronage. Using case study analysis and customer surveys, the study finds that a well-structured spatial layout enhances perceived value and increases customer loyalty. Effective zoning of spaces within hotels improves overall user experience.

Moreover, the study highlights that guests in theme hotels are particularly sensitive to spatial design elements that align with the hotel's unique theme. A poorly executed layout that disrupts thematic consistency can lead to lower satisfaction levels. The research suggests that designers must integrate storytelling elements into spatial planning to maintain coherence and enhance guest immersion. Hotels that successfully achieve this balance can benefit from increased brand loyalty and positive word-of-mouth marketing.

PAPER 4: CUSTOMER SATISFACTION AND CUSTOMER LOYALTY – *Irfan Jamal (2017)*

This paper analyzes the correlation between customer satisfaction and loyalty in the hospitality industry. The study determines the factors influencing guest satisfaction and assesses the impact of positive experiences on repeat patronage. Through a literature review and empirical analysis of hotel guest behavior, it finds that high guest satisfaction leads to increased loyalty and positive word-of-mouth recommendations.

Furthermore, the study underscores that customer expectations evolve over time, requiring hotels to adapt their services and spatial layouts to retain guests. Personalized services, seamless navigation, and well-planned hotel environments contribute to heightened satisfaction and, consequently, brand loyalty. Hotels that regularly upgrade their spatial configurations and offer customized experiences are more likely to foster repeat visits and sustained customer engagement.

PAPER 5: DETERMINANTS OF CUSTOMER SATISFACTION IN A HIGH-CONTACT SERVICE ENVIRONMENT: A STUDY OF SELECTED HOTELS IN ABAKALIKI METROPOLIS, NIGERIA – *Maria-Friday C Nkwede, Ike-Elechi Ogba & Friday E Nkwede (2022)*

This study examines the key determinants of customer satisfaction in high-contact service environments. It evaluates the role of service quality, spatial design, and staff interaction while identifying customer preferences in Nigerian hotels. Using surveys and interviews with hotel guests and management, findings indicate that personalized service, well-structured spaces, and aesthetically pleasing environments significantly impact guest satisfaction.

Additionally, the research emphasizes that luxury hotels must create welcoming environments that facilitate positive interactions between guests and staff. Poorly designed layouts that lead to congestion and discomfort can negatively impact guest perceptions. Therefore, spatial organization should not only focus on aesthetics but also ensure functionality, allowing guests to navigate the space efficiently and experience a sense of exclusivity and comfort.

PAPER 6: HOTEL SERVICES QUALITY ASSESSMENT USING SERVQUAL METHOD: CASE STUDY OF ATHÉNÉE PALACE HOTEL – *Madar, A. (2014)*.

This study assesses service quality in a luxury hotel using the SERVQUAL model. It identifies gaps between guest expectations and actual experiences and proposes improvements in service delivery and spatial design. By analyzing customer feedback using SERVQUAL dimensions, findings reveal that cleanliness, comfort, and well-planned spatial layouts contribute to higher satisfaction scores.

Moreover, the study highlights that luxury hotel guests have increasingly high expectations for both tangible and intangible aspects of their stay. While amenities and service quality are critical, the spatial arrangement of guest rooms, lobby areas, and recreational spaces plays a vital role in shaping overall satisfaction. The study suggests that investing in high-

quality furnishings and efficient layouts can significantly enhance guest perception and retention.

PAPER 7: HOTEL BRANDING AND PATRONAGE OF SELECTED 3-STAR HOTELS IN PORT HARCOURT – *Gideon Chukwunwem Uboegbulam, Josephine Timipre Akoloh-Isaac (2021)*

This study examines the role of branding in influencing customer patronage of 3-star hotels in Port Harcourt. It aims to understand how brand perception, marketing strategies, and spatial aesthetics contribute to guest attraction and retention. The research employs a mixed-method approach, utilizing surveys and interviews with hotel guests and management. The findings reveal that a well-established brand identity, complemented by consistent service quality and spatial organization, significantly impacts guest loyalty. Hotels that invest in strong branding strategies experience higher repeat patronage and positive word-of-mouth marketing.

Additionally, the study underscores the importance of hotel ambiance and physical layout in shaping guest perceptions. Guests are more likely to return to hotels that offer a visually appealing and functionally efficient environment. The research recommends that hotel owners in Port Harcourt enhance their branding efforts through distinctive architectural designs, themed interiors, and personalized services that align with their brand identity. This strategic approach can strengthen guest engagement and improve overall satisfaction levels.

PAPER 8: DETERMINANTS AND IMPACTS OF QUALITY ATTRIBUTES ON GUEST PERCEPTIONS IN NORWEGIAN GREEN HOTELS – *Ali, U., Arasli, H., Arasli, F., Saydam, M. B., Capkiner, E., Aksoy, E., & Atai, G. (2023).*

This study investigates the quality attributes that influence guest perceptions in Norwegian green hotels. It seeks to determine how sustainability efforts, spatial organization, and eco-friendly design impact guest satisfaction. The research employs quantitative analysis, gathering data from guest reviews and structured questionnaires. Findings indicate that environmental sustainability, energy-efficient building designs, and biophilic spatial arrangements significantly enhance guest experiences. Guests appreciate hotels that integrate green technologies and nature-inspired aesthetics into their design.

Furthermore, the study highlights that while eco-friendly practices contribute to positive perceptions, spatial functionality remains a critical factor in overall satisfaction. Poor space planning, even in sustainable hotels, can hinder guest comfort and usability. The research recommends that green hotels focus on optimizing spatial layouts to ensure ease of movement, efficient energy use, and aesthetically pleasing environments that align with sustainability goals while maintaining a luxurious appeal.

PAPER 9: ANALYZING HOTEL CUSTOMER SATISFACTION USING REVIEW DATASET: INSIGHTS AND IMPLICATIONS FOR SERVICE IMPROVEMENT – Singgalen, Y. A. (2024).

This study leverages big data analytics to assess hotel customer satisfaction based on online reviews. It aims to identify recurring themes in guest feedback and determine the primary factors influencing satisfaction levels. Using text mining and sentiment analysis techniques, the research categorizes guest experiences into service quality, spatial comfort, and amenity availability. Findings reveal that spatial layout, particularly room size, lobby design, and accessibility, is a recurring determinant of customer satisfaction.

Additionally, the study underscores the importance of analyzing guest feedback for continuous service improvement. Hotels that actively monitor and respond to online reviews can identify pain points and make data-driven decisions to enhance their facilities. The research recommends that hoteliers adopt AI-driven sentiment analysis tools to track customer sentiments and optimize spatial configurations based on guest preferences.

PAPER 10: HOTEL ATMOSPHERICS AND GUESTS' EXPERIENCE IN THE NIGERIAN HOSPITALITY INDUSTRY – James, E. E., & Inyang, I. B. (2023).

This study explores the impact of hotel atmospherics such as lighting, scent, temperature, and spatial design on guest experiences in Nigerian hotels. It aims to evaluate how sensory and environmental factors contribute to guest satisfaction. Using qualitative and quantitative methods, the research gathers data from hotel patrons and staff. Findings indicate that well-structured spatial arrangements, combined with pleasant ambient conditions, significantly enhance guest comfort and relaxation.

Furthermore, the study reveals that hotels with poor lighting, inadequate ventilation, and overcrowded spaces tend to receive negative reviews. The research recommends that Nigerian hotels adopt strategic spatial planning that prioritizes guest comfort, allowing for seamless navigation, optimized lighting, and carefully curated atmospheres that align with brand identity and cultural preferences.

PAPER 11: HOTEL ATTRIBUTES AND CUSTOMER'S CHOICE BEHAVIOR: EVIDENCE FROM PORT HARCOURT CITY, NIGERIA – Bello, Y. O., & Bello, M. B. (2021).

This study examines how hotel attributes influence customer decision-making in Port Harcourt, Nigeria. It evaluates key factors such as room comfort, service quality, location, and pricing in shaping guest preferences. The methodology involves surveys and statistical analysis of guest feedback from selected hotels. Findings indicate that spatial layout, including ease of navigation, room aesthetics, and accessibility, plays a significant role in hotel choice behavior. Customers tend to prioritize hotels that provide well-organized spaces, convenient access to amenities, and visually appealing environments.

Additionally, the research highlights the importance of brand reputation and personalized services in influencing customer preferences. Hotels that consistently invest in spatial upgrades and tailor their services to meet guest expectations report higher occupancy

rates. The study recommends that hoteliers in Port Harcourt enhance their facilities by improving room design, optimizing public areas, and offering seamless customer experiences through well-planned spatial layouts.

PAPER 12: EVALUATION OF PERFORMANCE OF HOTELS IN ADO-EKITI LOCAL GOVERNMENT AREA OF EKITI STATE, NIGERIA – Jimoh, U. U., & Idowu, K. R. (2024).

This study evaluates the operational performance of hotels in Ado-Ekiti, Nigeria, focusing on customer satisfaction, service delivery, and financial performance. The research uses a mixed-method approach, incorporating both qualitative and quantitative data from hotel managers and guests. Findings suggest that hotels with well-structured spatial layouts experience higher guest retention and operational efficiency. Proper zoning of guest rooms, reception areas, and dining spaces significantly impacts overall hotel performance. Furthermore, the study reveals that hotels with poor spatial planning often struggle with customer complaints regarding overcrowding and inefficient use of space. The research recommends that hoteliers in Ado-Ekiti invest in strategic spatial designs that enhance guest experiences and streamline service delivery. Adopting modern architectural layouts and ensuring a logical flow between different hotel sections can lead to improved customer satisfaction and business growth.

PAPER 13: FACTORS AFFECTING CUSTOMER SATISFACTION ON NOVOTEL YANGON MAX HOTEL – Oo, T. T. (2023).

This study investigates the factors influencing customer satisfaction at Novotel Yangon Max Hotel. It assesses aspects such as room design, service efficiency, cleanliness, and overall ambiance. Using survey-based data collection, the research identifies spatial arrangement as a key determinant of guest comfort. Guests expressed higher satisfaction levels in rooms with adequate space, ergonomic furniture, and effective lighting. Additionally, the study underscores the importance of seamless circulation within the hotel. Poorly designed layouts that result in congestion and inconvenience negatively impact guest perceptions. The research recommends that luxury hotels adopt a guest-centric approach in spatial design, ensuring that movement between key areas such as lobbies, dining spaces, and recreational facilities remains intuitive and hassle-free.

PAPER 14: FACTORS AFFECTING OPERATIONAL AND FINANCIAL PERFORMANCE INDICATORS OF ROOMS DIVISION IN FOUR AND FIVE-STAR HOTELS IN CAIRO – Abdelmawgoud, M. T., & Abd El Salam, M. A. E. M. E. (2022)

This study explores the relationship between spatial layout and financial performance in high-end hotels in Cairo. It examines how room configurations, lobby designs, and service areas impact revenue generation and operational efficiency. The methodology includes case studies of leading hotels, financial analysis, and guest satisfaction surveys. Findings

suggest that hotels with optimized room layouts and well-planned service areas tend to generate higher revenue per available room (RevPAR) and enjoy better financial stability. Moreover, the research highlights that spatial inefficiencies, such as overcrowded lobbies and poorly structured back-of-house operations, can lead to increased operational costs and lower customer satisfaction. The study recommends that hoteliers in Cairo integrate smart spatial planning techniques to enhance guest comfort and streamline service processes. By aligning spatial design with business strategies, hotels can achieve long-term profitability and improved guest experiences.

PAPER 15: ASSESSMENT OF USERS' SATISFACTION LEVELS IN SELECTED HOTELS IN LAGOS STATE, NIGERIA – Pedro, I. G., Ajayi, O. O., Adeniyi, V. D., & Awoyinfa, D. O. (2024).

This study assesses guest satisfaction levels in selected hotels across Lagos State, Nigeria, focusing on spatial quality, service efficiency, and environmental comfort. Using a combination of guest feedback analysis and structured interviews, the research identifies spatial arrangement as a critical determinant of satisfaction. Guests reported higher comfort levels in hotels that provided well-defined spaces, functional furniture layouts, and aesthetically pleasing interiors.

Additionally, the study highlights that inadequate spatial planning, such as cramped room designs and inefficient circulation paths, often leads to negative guest experiences. The research suggests that Lagos hotels should prioritize guest-centric spatial designs, incorporating modern architectural principles that enhance usability and visual appeal. By optimizing room layouts and public spaces, hotels can significantly boost customer retention and overall guest satisfaction.

Table 1 is a synthesis table presents a comparative overview of the dominant spatial themes influencing guest satisfaction, drawing from both Nigerian and international studies. It reveals a consistent emphasis on circulation efficiency, zoning, and room ergonomics as foundational spatial elements that shape user comfort and overall experience. For instance, authors like Pedro et al. (2024) and Chang and Lin (2024) highlight the positive effects of intuitive circulation and spatial clarity on guest mobility and relaxation. Similarly, Silva (2024) and Oo (2023) reinforce the role of ergonomic room features in enhancing comfort and functionality. The table also underscores a growing consensus around the integration of smart technologies and biophilic strategies, which are increasingly viewed as tools to enhance operational efficiency and psychological well-being. However, the comparative synthesis reveals regional disparities: while international studies emphasize technological innovation and sustainable spatial design, Nigerian literature tends to focus on more fundamental spatial challenges such as zoning inconsistencies and limited accessibility. This gap reflects broader infrastructural and regulatory differences and underscores the need for localized design interventions that align with global standards. Overall, the synthesis highlights both common principles and contextual challenges in applying spatial strategies for improved guest satisfaction in luxury hotels.

Table 1: Comparative Insights from Reviewed Studies

S/N	Theme	Author(s) & Year	Key Findings	Contribution to Knowledge
1	Circulation Efficiency	Pedro et al. (2024); Chang & Lin (2024)	Seamless circulation improves user comfort, mobility, and return rates	Emphasized movement logic and flow as predictors of guest satisfaction
2	Public-Private Zoning	Spence (2022); Jimoh & Idowu (2024)	Clear spatial separation enhances privacy and exclusivity	Highlighted spatial hierarchy as a crucial design strategy
3	Room Ergonomics & Layout	Silva (2024); Oo (2023)	Ergonomic furniture, lighting, and noise control raise comfort levels	Positioned room configuration as a core determinant of guest satisfaction
4	Smart Technologies	Arapou & Kapiki (2023); Rowland & Nnamdi (2024)	Smart automation improves check-in, navigation, and user control	Showcased technology as a driver of spatial responsiveness and luxury perception
5	Biophilic & Sustainable Design	Ali et al. (2023); Foluke & Fiyanyi (2024)	Natural lighting and green features improve psychological well-being	Connected spatial planning to wellness and environmental sustainability
6	Accessibility & Inclusivity	Rowland & Nnamdi (2024); Bello & Bello (2021)	Barrier-free access and sensory-sensitive design improve usability	Introduced inclusive spatial planning as essential for user-centered hotel design
7	Guest Feedback & Spatial Perception	Singgalen (2024); Kamotho (2024)	Online reviews reveal recurring praise or criticism related to layout	Validated the role of guest sentiment in design evaluation and improvement
8	Branding & Spatial Identity	Uboegbulam & Akoloh-Isaac (2021); Baquero (2023)	Strong spatial branding enhances memory, loyalty, and visual identity	Positioned design aesthetics as integral to brand experience and differentiation
9	Cultural Contextualization	James & Inyang (2023); Ajayi (2024)	Local guest priorities focus more on space, air, and comfort than automation	Called for context-specific spatial solutions tailored to Nigerian conditions
10	Spatial Layout & Financial Performance	Abdelmawgoud & Abd El Salam (2022); Candra et al. (2023)	Optimized layouts yield better revenue and reduce operational waste	Demonstrated how spatial design correlates with business success metrics

Source: Author's Compilation (2025)

Summary of Findings

Spatial Circulation and Navigation Efficiency

One of the most consistent themes across the reviewed studies is the critical role of circulation efficiency in guest satisfaction. Studies by Okafor (2024) and Pal (2024) highlight that inefficient layouts such as congested hallways, misaligned vertical transportation

systems, and poorly defined directional cues create confusion and discomfort among guests. In contrast, hotels with seamless spatial circulation systems, clearly demarcated paths, and logically placed elevators enhance both the psychological and physical ease of movement. These findings align with international literature, including Chang and Lin (2024), which stresses the relationship between intuitive circulation and value perception in luxury hotels.

In the Nigerian context, studies such as Pedro et al. (2024) and Jimoh and Idowu (2024) reveal that many hotels still face circulation-related challenges due to suboptimal floor planning and poor maintenance of wayfinding systems. The gap suggests that while circulation principles are well-understood globally, local adaptation in Nigerian hotels remains inadequate.

Public-Private Zoning and Guest Perception

Zoning the spatial segregation between public and private functions was another major determinant of user satisfaction identified in this review. Spence (2022) and Kamotho (2024) emphasized that clear boundaries between guest rooms, service areas, and communal spaces reduce noise, support privacy, and enhance guests' sense of exclusivity. This observation is validated by findings from Nigerian hotels, particularly in Abakaliki and Lagos, where poor spatial demarcation has been linked to guest dissatisfaction (Nkwede et al., 2022; Pedro et al., 2024).

Global case studies, such as those involving the Ritz-Carlton and Burj Al Arab, demonstrate how luxury hotels effectively use transitional buffers, enclosed zones, and spatial hierarchy to reinforce brand prestige and user comfort (Moradi, 2022). The contrast with Nigerian examples indicates a lack of investment in comprehensive zoning strategies, especially in mixed-use hotels and event-driven properties.

Guest Room Design and Ergonomics

Room layout, furniture placement, lighting, and acoustic control consistently emerged as key spatial variables in determining guest satisfaction. Research by Silva (2024) and Singgalen (2024) confirms that well-proportioned room sizes, adjustable lighting, and soundproofing contribute significantly to guest comfort. Foluke and Fiyanyi (2024) specifically highlight the negative impact of inadequate noise control on rest quality a concern echoed in Nigerian hotels where thin partitions and unsealed doors lead to acoustic leakage.

International comparisons further emphasize ergonomic detailing. Hotels in Norway, the UAE, and the U.S. adopt flexible room layouts and multipurpose furniture to meet the dynamic needs of their guests (Ali et al., 2023; Lee et al., 2023). However, Nigerian hotels often struggle with fixed and outdated room designs that lack adaptability, thus limiting their appeal to a growing segment of tech-savvy and business-oriented travelers.

Smart Technologies and Digital Guest Experience

Technology-driven spatial solutions are fast becoming a hallmark of luxury hospitality. Arapou and Kapiki (2023) and Salami et al. (2024) underscore the role of smart controls, app-based check-ins, and digital concierge services in elevating user experience. Such features also allow for operational efficiency by reducing wait times and minimizing human error. However, this review revealed a significant disparity in implementation: while high-end hotels in Europe and Asia are adopting such features as standard, most Nigerian luxury hotels have yet to fully embrace these innovations (Rowland & Nnamdi, 2024).

Cost, technical expertise, and infrastructure instability may explain this lag, but the consequence is a diminished perception of luxury among international and local guests alike. The technological gap not only affects user convenience but also hotel competitiveness in a global digital market.

Biophilic and Sustainable Spatial Strategies

Biophilic design which integrates natural materials, views, and greenery into hotel environments is increasingly recognized for its psychological and wellness benefits. Studies from Norway and Portugal (Ali et al., 2023; Silva, 2024) demonstrate how green elements such as natural ventilation, indoor plants, and daylighting contribute to relaxation and improve user perception. However, in Nigeria, very few hotels actively apply biophilic principles in spatial layout, despite their relevance to the local tropical climate (Foluke & Fiyanyi, 2024).

This disconnect between contextual opportunity and design practice reveals an unexpected finding: although global hospitality trends emphasize nature-oriented aesthetics, these features remain underutilized in Nigerian luxury hotels. This oversight may stem from misconceptions about the cost and maintenance of natural elements, or from the dominance of imported design templates that neglect local adaptation.

Repeat Patronage and Brand Loyalty

Findings across several studies suggest a strong link between well-designed spatial layouts and repeat patronage. Miller (2023) and Baquero (2023) observed that spatial usability and comfort directly influence guest loyalty, especially when hotels maintain a consistent design language that reflects their brand identity. In Nigeria, however, guest loyalty tends to be influenced more by price, location, and service interactions than by spatial excellence alone (Ajayi, 2024; Bello & Bello, 2021). This gap points to an opportunity for Nigerian hotels to leverage spatial design more intentionally as part of their brand strategy, particularly in high-end and business tourism sectors.

Study Limitations

Despite its insights, this review has several limitations. It relies entirely on secondary data, without validation through primary research such as surveys, spatial audits, or interviews

with hotel guests and designers. This limits the ability to assess the nuanced effects of spatial design on diverse guest demographics, including international travelers, older adults, and persons with disabilities. Furthermore, the exclusion of non-English literature may have omitted region-specific studies that could have enriched the contextual analysis.

Practical Implications for Stakeholders

For hotel managers, the study emphasizes the need to prioritize spatial functionality, monitor guest feedback related to movement and comfort, and consider regular spatial audits to ensure performance. Architects and interior designers are encouraged to adopt inclusive, user-centered design strategies that integrate ergonomics, smart technologies, and biophilic elements. Meanwhile, policy makers and regulators must recognize spatial quality as a measurable component of hotel grading systems, integrating zoning, accessibility, and sustainability benchmarks into building codes and hospitality standards.

Emerging Tensions and Unexpected Findings

A significant tension identified is the trade-off between aesthetic richness and functional efficiency. While themed hotels often emphasize immersive environments (Chang & Lin, 2024), others argue that simplicity and clarity yield better usability (Singgalen, 2024). Another unexpected insight is the low prioritization of spatial upgrades among Nigerian hotel operators, even though spatial discomfort is a frequent source of negative guest feedback. This signals a potential disconnect between management priorities and guest expectations.

Table 2 provides a summary of the robustness of evidence supporting key spatial design themes identified in the literature. It highlights that while certain elements such as circulation efficiency and room ergonomics are strongly backed by both global and Nigerian studies, others like smart technologies and biophilic design show a disparity in application, with stronger evidence from international contexts than local practice. These discrepancies underscore the urgent need for contextual adaptation and empirical validation within the Nigerian luxury hotel sector.

Table 2: Evidence Strength Overview

S/N	Theme	Evidence Strength	Remarks
1	Circulation Efficiency	Strong (Multiple international + Nigerian sources)	Well-supported by empirical and theoretical studies
2	Public-Private Zoning	Moderate (More global than Nigerian examples)	Implementation gap in Nigeria weakens local application
3	Room Ergonomics & Layout	Strong (Consistent across all reviewed studies)	Universal agreement on room comfort as key factor
4	Smart Technologies	Moderate (Global emphasis, limited Nigerian adoption)	Adoption limited in Nigerian context due to infrastructure
5	Biophilic & Sustainable Design	Moderate (Strong global, weak Nigerian evidence)	Underutilised in Nigeria despite strong global support
6	Guest Feedback & Perception	Moderate (Big data potential not fully tapped in Nigeria)	Potential underused in Nigeria despite data availability
7	Branding & Spatial Identity	Moderate (Global strength, weak domestic application)	Branding impact acknowledged but under-researched locally
8	Cultural Contextualisation	Strong (Culturally sensitive findings from Nigeria)	Locally grounded findings show cultural relevance
9	Spatial Layout & Business Performance	Strong (Clear correlation with financial indicators)	Data from Egypt and Nigeria support strong correlation
10	Zoning & Operational Flow	Moderate (Operational relevance, fewer empirical studies)	Practical relevance clear, more primary studies needed

Source: Author’s Compilation (2025)

Conclusion and Recommendations

Conclusion

This study has established that spatial layout is a critical determinant of guest satisfaction in luxury hotels, particularly in the Nigerian context. The review shows that beyond aesthetics, spatial organization influences how guests experience comfort, movement, privacy, and usability. Circulation efficiency, functional zoning, ergonomic room layouts, and acoustic control all emerged as recurring factors influencing user satisfaction (Silva, 2024; Chang & Lin, 2024). Importantly, the inclusion of smart technologies and biophilic

features where implemented was found to enhance user experience and operational efficiency (Arapou & Kapiki, 2023; Rowland & Nnamdi, 2024).

However, the study also highlighted persistent challenges within the Nigerian luxury hospitality sector, including poor space utilization, limited accessibility features, and slow adoption of spatial innovations. These limitations suggest a need for evidence-based and context-specific planning strategies to ensure guest comfort and long-term competitiveness. Rather than restating prior sections, the following recommendations provide targeted strategies, each supported by specific findings in the reviewed literature.

Recommendations

The following recommendations are derived solely from the systematic review of existing literature and not from original field data or empirical surveys conducted by the authors. They reflect thematic insights and contextual interpretations drawn from both Nigerian and global studies on spatial layout and guest satisfaction:

- i. **User-Centred Spatial Planning:** Nigerian luxury hotels should prioritise circulation efficiency, zoning clarity, and room ergonomics to enhance guest comfort. Reviewed studies (e.g., Pedro et al., 2024; Chang & Lin, 2024) consistently link these spatial features with improved satisfaction and loyalty.
- ii. **Incorporate Smart Technologies Gradually:** While infrastructure limitations remain, hotels in Nigeria can begin integrating low-cost smart solutions such as mobile check-in or automated lighting systems, as suggested in the international literature (Arapou & Kapiki, 2023).
- iii. **Adopt Biophilic Design Principles:** Drawing from studies in Norway and Portugal (Ali et al., 2023; Silva, 2024), hoteliers are encouraged to incorporate green elements, such as indoor plants and natural ventilation, into hotel environments to enhance guest well-being, particularly in tropical climates.
- iv. **Regular Spatial Audits and Feedback Loops:** Hotel managers should conduct periodic spatial evaluations and analyse guest feedback to align space functionality with evolving user needs. This aligns with literature advocating for guest sentiment monitoring (Singgalen, 2024).
- v. **Training for Spatial Responsiveness:** Staff training programmes should include components on wayfinding, spatial maintenance, and ambience management to support the physical aspects of guest satisfaction identified in the literature.
- vi. **Policy Integration:** Regulatory bodies should consider incorporating spatial layout quality (e.g., accessibility, zoning, sustainability) into hotel rating and approval systems, as suggested by comparative policy studies (James & Inyang, 2023).

Limitations

This study is subject to several limitations:

- i. Lack of Primary Empirical Data: No fieldwork, guest surveys, or spatial audits were conducted. Therefore, all conclusions are drawn from secondary sources, which may not fully capture real-time user experiences within Nigerian luxury hotels.
- ii. Contextual Transferability: While the literature review includes both global and Nigerian sources, findings from advanced hospitality economies may not always be directly applicable due to infrastructural, cultural, and economic differences.
- iii. Underrepresentation of Regional Data: The analysis may not reflect spatial practices in other parts of Nigeria beyond key cities like Lagos, Port Harcourt, and Ado-Ekiti, due to the limited scope of existing academic studies.

Future research should involve empirical investigations such as user surveys, design audits, and post-occupancy evaluations to validate and contextualise the theoretical insights presented in this review. Doing so will bridge the current gap between conceptual knowledge and applied hotel design practices in Nigeria.

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