



**Analyzing the Impact of Smart City: Approaches in Improving Hospitality in Selected Mid-Rise Hotel Buildings in Lekki, Lagos**

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**ABSTRACT**

*Rapid urban digitization has intensified the integration of smart city technologies into the hospitality sector, particularly within high-growth urban corridors in sub-Saharan Africa. In Lagos, Nigeria, the Lekki Peninsula has emerged as a concentration of mid-rise hotel developments seeking to leverage smart building systems to enhance service delivery and operational efficiency. This study investigates how smart city approaches influence hospitality performance in selected mid-rise hotels in Lekki. A qualitative research design was adopted, combining a PRISMA-guided systematic literature review with a multiple-case study of three hotels exhibiting varying levels of smart technology integration. Empirical data were derived from structured observations and document analysis of publicly available operational and infrastructural information. The data were examined using thematic cross-case analysis to identify patterns in technology integration, operational efficiency, and service delivery outcomes. Findings reveal that IoT-enabled energy management, automated guest-cycle systems, and integrated digital security frameworks enhance operational efficiency, reduce service delays, and improve guest experience. However, infrastructural instability, high capital costs, and limited technical capacity constrain full-scale implementation. The study concludes that smart hospitality adoption in Lagos is driven primarily by the need for operational resilience rather than technological novelty. A phased hybrid-smart model is recommended for mid-rise developments seeking sustainable integration within emerging urban contexts.*

**Keywords:** *IoT, Mid-rise buildings, Smart cities, Smart hospitality, Sustainable urban development*

**INTRODUCTION**

Rapid urbanization and digital transformation are reshaping service delivery systems across sub-Saharan African cities. The smart city concept, defined as the integration of information and communication technologies (ICT) into urban infrastructure, has increasingly influenced building operations and service systems (Kapiki, 2021; Galvão, Brito e Abreu, & Joana de Melo, 2024). In hospitality, this shift is evident in the adoption of IoT applications, automated platforms, digital access systems, and smart energy management technologies aimed at improving efficiency and user experience (Vinh, 2024; Tanuja & Murugesan, 2024).

In Nigeria, urban growth has intensified in Lagos, the country's primary economic hub (Ibitoye, Abiola, & Babamboni, 2023). The built environment reflects evolving socio-cultural and economic priorities, with increasing emphasis on sustainability amid environmental pressures such as the Urban Heat Island effect (Olaoye, Iweka, Adejumo, & Ajayi, 2023; Afolabi, Ibitoye, Kalu, & Gabriel, 2025). However, technology adoption remains constrained by cost-driven construction practices and infrastructural limitations (Ibitoye, Alagbe, & Dare-Abel, 2022). The Lekki Peninsula has emerged as a high-growth corridor characterized by mixed-use developments and mid-rise hotels serving business and middle-income markets (Yussuff, Oluwasina, & George, 2024). Yet hospitality operations in this area face persistent challenges, particularly unstable electricity supply and rising operational costs. Studies indicate that energy inefficiency and reliance on alternative power sources significantly increase commercial operating expenses (Salami, Taiwo, Ibem, & Ajayi, 2024), while financial and technical barriers continue to limit smart building adoption in Nigeria (Odefadehan, Alagbe, Gabriel, & Asaju, 2025; Onuoha, Okeahialam, & Osuji, 2024).

Within this context, smart building technologies in mid-rise hotels may serve both competitive and operational functions. Although digital systems enhance service responsiveness and efficiency, their performance depends on infrastructural and institutional capacity (Osadare, Akande, & Soladoye, 2024; Mba, Oforji, & Ogbodo, 2025). Existing literature largely emphasizes macrolevel smart tourism ecosystems or micro-level guest-facing technologies (Baluyot, 2025; Alsharif, Isa, & Alqudah, (2024), with limited focus on meso-level building typologies such as mid-rise hotels in developing cities (Abdullahi, Bolaji, Zakari, Yaradua, Nseabasi, & Jibril, 2025). This gap is particularly evident in Nigeria, where smart infrastructure research has concentrated more on offices and residential developments than hospitality facilities.

This research is fundamentally aligned with several United Nations Sustainable Development Goals (SDGs), particularly SDG 9 (Industry, Innovation, and Infrastructure) and SDG 11 (Sustainable Cities and Communities). This study analyzes the impact of smart city approaches on hospitality performance in selected mid-rise hotels in Lekki, Lagos, providing context-sensitive insight into how digital integration shapes operational efficiency, energy performance, and service quality in emerging urban environments. The aim is to analyze the impact of smart city approaches on improving hospitality services in selected mid-rise hotel buildings in Lekki, Lagos.

The objectives of the study are to;

- i. To identify smart city technologies currently adopted in selected mid-rise hotels in Lekki.
- ii. To examine the relationship between smart building systems and hospitality service quality.
- iii. To evaluate the impact of smart technologies on energy performance, security, comfort, and operational efficiency.

## LITERATURE REVIEW

### Smart City Paradigm and Urban Digital Integration

The smart city paradigm is rooted in the integration of digital infrastructure, data analytics, and interconnected systems to enhance urban efficiency and sustainability. Early conceptualizations framed smart cities as technologically driven environments where ICT networks optimize transportation, energy, governance, and service delivery (Ivaldi, Pavanini, Fili, & Musso, 2025; Djehaiche, Aidel, Sawalmeh, Saeed, & Alenezi, 2023). Contemporary research has shifted from purely technological determinism toward socio-technical integration, recognizing that smart cities function as ecosystems of interconnected stakeholders rather than isolated digital platforms. Smart environments operate as agile ecosystems in which physical infrastructure, digital systems, and service actors co-create value. Within this ecosystem logic, buildings are not passive containers but active nodes within wider urban intelligence networks (Buhalis, O'Connor, & Leung, 2023).

However, much of the smart city discourse has emerged from technologically advanced economies, where infrastructural reliability is assumed. In developing urban contexts, digital integration must operate within conditions of energy instability, limited technical capacity, and capital constraints. This contextual divergence is critical when examining smart systems in hospitality buildings in cities such as Lagos.

### Smart Hospitality and Technology Adoption

Smart hospitality represents the sector-specific application of smart city principles within hotel environments. It encompasses IoT-enabled building management systems, automated guest-cycle processes, AI-assisted services, and predictive energy optimization (Arapou, & Kapiki, 2023). Empirical studies consistently show that smart technologies influence guest satisfaction and behavioral intentions. Research demonstrates that perceived usefulness, technology readiness, and service enhancement significantly predict guest acceptance of smart hotel technologies (Kim, Erdem, & Kim, 2020; Han, Hou, Wu, & Lai, 2021).

From this perspective, digital building systems function as strategic assets capable of generating competitive advantage when they are valuable, rare, and difficult to imitate. Smart infrastructure therefore contributes not only to operational efficiency but also to market positioning (Domański, 2020). More recent bibliometric analysis indicates that smart hotel research has evolved from front-end digital novelty (e.g., smart rooms, AI concierges) toward back-end operational intelligence and system integration (Liu, Wider, Fauzi, Jiang, Udang, & Hossain, 2024). This shift highlights growing scholarly recognition of building-scale performance rather than solely guestfacing technologies.

### **Smart Buildings, Energy Optimization, and Infrastructure Constraints**

A central dimension of smart hospitality lies in building performance optimization, particularly energy efficiency. Hotels are energy-intensive facilities due to continuous occupancy cycles, HVAC demands, lighting loads, and service operations. IoT-enabled sensors, occupancy-based controls, and predictive analytics can significantly reduce energy consumption while maintaining thermal comfort (Himeur, Alsalemi, Al-Kababji, Bensaali, Amira, Sardianos, & Varlamis, 2021).

In rapidly urbanizing regions, smart energy management assumes greater importance due to infrastructural fragility. Salami et al., (2024) emphasizes that smart building systems contribute to urban sustainability only when integrated with resilient infrastructure frameworks. In Nigeria, studies examining energy strategies in commercial buildings reveal that unreliable grid supply increases operational costs and necessitates hybrid energy models combining grid, diesel, and renewable sources. Similarly, Odefadehan et al. (2025) identify financial barriers, limited expertise, and infrastructural instability as key constraints to smart building adoption.

These findings suggest that in emerging economies, smart systems are not merely innovation tools but instruments of operational resilience.

### **Security, Privacy, and Socio-Technical Risks**

The proliferation of IoT devices in hotel environments introduces cybersecurity and privacy concerns. Guests' privacy perceptions significantly influence acceptance of smart tourism systems (Femenia-Serra, Ioannou, & Tussyadiah, 2022). Similarly, studies indicate that perceived security risk moderates trust in smart hotel technologies.

As hotels integrate biometric access systems, digital payment platforms, and cloud-based management systems, vulnerability to cyber threats increases (Etuk, & Aniekan, 2025; Ejidike, 2025). In contexts with evolving data protection frameworks, institutional capacity to manage digital risk becomes a decisive factor in sustainable smart adoption.

### **Theoretical Framework**

#### **The Technology Acceptance Model (TAM): The User Perspective**

The human-centric dimension of smart hospitality in Lekki is best understood through the Technology Acceptance Model (TAM), originally formulated by Davis (1989). TAM posits that the adoption of any new system is determined by two primary cognitive factors: Perceived Usefulness (PU), the degree to which a guest believes a technology will enhance their stay, and Perceived Ease of Use (PEOU), the extent to which the technology is free of effort.

In the context of mid-rise hotels in Lekki, TAM provides a lens to evaluate why certain smart features succeed while others fail. For instance, while high-speed fiber integration is highly "useful" for business travelers, complex automated room controls may suffer from low "ease of use," leading to guest frustration (Kim, Long, & Boo, 2025). Contemporary extensions of TAM have integrated "Technology Readiness" (Han et al., 2021), suggesting that for the sophisticated demographic in Lagos's innovation hubs, the threshold for tech-adoption is higher, necessitating seamless and intuitive interfaces rather than mere digital gimmicks.

#### **The Resource-Based View (RBV): The Strategic Perspective**

While TAM addresses the user, the Resource-Based View (RBV), advanced by Barney (1991), explains why hotel owners in Lekki invest in smart city approaches from a firm-level perspective. RBV argues that a hotel achieves a sustainable competitive advantage by controlling resources that are Valuable, Rare, Inimitable, and Non-substitutable (VRIN).

In a saturated market like Lekki, standard hospitality services are easily imitated. However, an integrated Smart Building Management System (BMS) that optimizes energy loads during grid failures or uses AI to predict maintenance needs becomes a "strategic asset." Within the RBV framework, smart infrastructure is not merely a utility but a rare capability that lowers operational costs (Energy Efficiency) and creates a unique value proposition (Sustainability), which is difficult for competitors with traditional building typologies to replicate (Salami et al., 2024; Liu et al., 2024).

### Identified Research Gap

A critical synthesis of existing research reveals that smart city and hospitality research is currently bifurcated into three distinct strata:

1. **Macro-level (Urban/Systems):** Broad examinations of smart tourism ecosystems and the digital integration of city-wide infrastructures (Buhalis et al., 2023).
2. **Micro-level (User/Experience):** Significant psychological studies focusing on guest acceptance, technology readiness, and individual smart-room interactions (Kim et al., 2020; Yang et al., 2021).
3. **Building Performance Level (Technical/Efficiency):** Engineering-focused research on energy optimization and mechanical system efficiency in general commercial structures (Himeur et al., 2021).

This study addresses that gap by examining the Smart–Hospitality–Architecture nexus within midrise hotel developments in Lekki, Lagos. By situating smart building technologies within a sociotechnical and infrastructural framework, the research contributes to context-sensitive understandings of smart urbanism in emerging economies.

### RESEARCH METHOD

This study adopts a qualitative research design integrating a PRISMA-guided systematic literature review with a multiple-case study of three mid-rise hotels located in Lekki, Lagos. The systematic review established the conceptual and analytical framework by synthesizing peer-reviewed studies on smart city systems, smart hospitality technologies, and building-scale digital integration published between 2015 and 2025. The empirical component employed purposive sampling to select hotels representing varying levels of smart technology integration (low, moderate, and high). Primary data were obtained through structured on-site observations guided by a checklist derived from the literature, focusing on IoT-enabled systems, automated building controls, energy management technologies, digital service platforms, and security infrastructure. Secondary data were collected from publicly available documents and facility descriptions. Data were analyzed using thematic cross-case synthesis to identify patterns linking smart technology integration to operational efficiency, energy performance, and service delivery outcomes.

### Case Studies and Analysis

#### I. Smart Home Hotel Lagos:

- Features a centralized "Smart" infrastructure specifically designed for tech-centric hospitality.
- Offers automated room controls and integrated security systems.
- Functions as a "born-smart" facility, providing a benchmark for high-level IoT adoption in mid-rise structures.



**Plate 1:** Smart Home Hotel, Lekki.

**Source:** The Smart Home Hotel Lagos. (n.d.). Retrieved February 17, 2026 II.

#### Vintano Hotel:

- Utilizes modern property management systems (PMS) to streamline guest-cycle management.
- Integrates high-speed digital connectivity and modern RFID security protocols.
- Demonstrates the "Modern-Boutique" approach where smart features are used to enhance luxury and operational efficiency.



**Plate 2 : Vintano Hotel, Lekki.**

**Source:** *The Vintano Hotel Lagos. (n.d.). Retrieved February 17, 2026 III.*

**The View Hotel, Lekki:**

- Focuses on essential digital hospitality services such as stable high-speed fiber-optic internet.
- Utilizes standard digital check-in/check-out processes.
- Provides a case for studying the "Infrastructural Minimum" required to compete in the Lekki hospitality market.



**Plate 2 : View Hotel, Lekki.**

**Source:** *The View Hotel Lagos. (n.d.). Retrieved February 17, 2026*

**RESULTS AND DISCUSSIONS**

**Current Smart City Technologies in Lekki Hotels**

The three case studies demonstrate a clear gradient of smart technology integration within midrise hospitality structures in Lekki.

The View Hotel, Lekki (Basic Smart / Functional Typology) represents the infrastructural minimum required for competitiveness within the Lekki hospitality market. Its smart features are limited to automated lighting systems, high-speed fiber-optic internet, RFID-enabled security access, and standard digital booking/check-in processes. These systems improve convenience but operate largely as isolated digital components rather than as an integrated automation ecosystem. There is no evidence of centralized building management or real-time performance monitoring.

Vintano Hotel (Intermediate Smart Typology) reflects a transition phase toward deeper smart integration. The hotel incorporates IoT-enabled climate control systems, smart billing platforms, integrated Property Management Systems (PMS), high-speed connectivity infrastructure, and RFID-based security protocols. Unlike the basic case, digital systems here interact across operational functions, particularly in guest-cycle management and back-end data coordination, indicating partial system integration.

Smart Home Hotel Lagos (Advanced Smart Typology) functions as a “born-smart” facility intentionally designed around full automation. It integrates AI-based guest assistants, a centralized smart energy grid, full building automation systems, automated room controls, and integrated digital security infrastructure. This demonstrates that the depth of smart system integration significantly shapes hospitality performance outcomes within mid-rise hotels in Lekki. This aligns with studies, which indicates

that smart technologies enhance service performance when perceived as functionally embedded within operational processes rather than as superficial digital add-ons (Kim et al., 2020; Han et al., 2021). In the present study, Smart Home Hotel Lagos exhibited stronger service consistency and responsiveness because automation was infrastructurally integrated, whereas The View Hotel relied on isolated digital tools with limited systemic interaction.

### **Smart Systems and Hospitality Service Quality**

Service quality outcomes differed significantly across cases and correlated strongly with the level of system integration. The View Hotel, digital systems enhance basic service delivery (fast Wi-Fi, electronic access), but guest experience remains predominantly staff-driven. Operational coordination between front desk services and facility systems appears limited, resulting in reliance on manual responsiveness. At Vintano Hotel, the integration of PMS and smart billing improves guest-cycle efficiency, including reservation management, payment processing, and service coordination. The interaction between climate control systems and room allocation demonstrates moderate technological alignment with comfort delivery. In contrast, Smart Home Hotel Lagos exhibits technology-enabled personalization and responsiveness. AI guest assistants and automated room controls reduce service latency and increase consistency. Full automation allows immediate environmental adjustments and security coordination without intermediary staff intervention. This indicates that service enhancement in smart hospitality is strongest when backend automation supports front-end digital interfaces.

Observations across the three cases also supports ecosystem-based perspectives of smart hospitality articulated in researches, where smart environments are conceptualized as interconnected value networks rather than collections of independent technologies (Buhalis et al., 2023). The advanced case functioned as a coordinated digital ecosystem, linking AI assistance, energy management, and security infrastructure, while the basic case reflected fragmented implementation. This reinforces the argument that integration depth determines performance impact.

### **Impact on Energy, Security, Comfort, and Efficiency**

Energy management systems were most advanced in the Smart Home Hotel Lagos, where a centralized smart energy grid and full building automation enable occupancy-based energy regulation and load optimization. This configuration supports predictive efficiency and potentially reduces operational costs in an energy-constrained urban environment. Vintano Hotel demonstrates partial energy responsiveness through IoT climate control but lacks full automation for predictive load balancing. While more efficient than the basic case, energy management remains semi-automated. The View Hotel relies on conventional energy systems with limited automation, suggesting higher dependency on manual management and potential inefficiencies during peak load conditions.

Security infrastructure across cases also follows the integration gradient. While all three hotels utilize digital security protocols, only the advanced case demonstrates full integration between access control, surveillance, and automated monitoring systems. User comfort correlates with automation depth. Automated room controls and AI assistance in the advanced case ensure stable indoor climate conditions and seamless interaction. In contrast, comfort regulation in the basic case is more susceptible to manual delays and infrastructural interruptions. Operational efficiency increases proportionally with automation level, particularly where systems are interconnected rather than standalone. Regarding energy performance, the superior operational efficiency observed in the advanced case is consistent with findings published in *Energy and Buildings*, which report that occupancy-based HVAC control and centralized building management systems significantly reduce energy consumption in commercial facilities (Himeur et al., 2021). However, this study extends that literature by situating energy optimization within a context of infrastructural instability. In Lagos, where power supply reliability remains a structural constraint, smart energy grids serve not only efficiency goals but resilience functions, an aspect less emphasized in studies conducted in energy-stable economies.

The relationship between smart integration and service quality also reflects principles of the Technology Acceptance Model proposed by Fred Davis. In the advanced case, automation enhanced perceived usefulness through tangible improvements in responsiveness and comfort. Conversely, in the basic case, limited integration constrained experiential gains, suggesting that perceived usefulness in emerging urban contexts is moderated by infrastructural and operational coherence. Overall, while global

literature often emphasizes guest-facing digital innovation, this study highlights backend infrastructural intelligence as the primary driver of performance within mid-rise hotels in emerging cities. By empirically comparing basic, intermediate, and advanced smart typologies within the same urban corridor, the research extends existing research by introducing a meso-level, context-sensitive understanding of smart hospitality integration in subSaharan Africa.

### CONCLUSION

This study examined the impact of smart city approaches on hospitality performance in selected mid-rise hotels in Lekki, Lagos. The comparative analysis across basic, intermediate, and advanced smart typologies revealed that the depth of technological integration significantly determines operational and service outcomes. While digital infrastructure is increasingly present across midrise hotels, only fully integrated building automation systems demonstrated coordinated improvements in energy management, security performance, user comfort, and service responsiveness. The findings therefore suggest that smart city implementation at the building scale must extend beyond isolated digital tools to achieve measurable performance gains. The study contributes to smart hospitality discourse by emphasizing backend infrastructural intelligence as a key driver of performance in emerging urban environments. By situating smart integration within the infrastructural realities of Lagos, it highlights the meso-level building scale as a critical interface between smart city ambition and hospitality service delivery.

### RECOMMENDATIONS

Based on the findings, the following recommendations are proposed:

- 1. Prioritize Integrated Building Management Systems (BMS):** Hotel developers should invest in centralized automation platforms rather than fragmented smart features to maximize operational efficiency.
- 2. Adopt Smart Energy Optimization Systems:** Occupancy-based HVAC control and smart energy grids should be integrated to reduce operational costs and improve resilience in energy-constrained urban environments.
- 3. Strengthen Backend–Frontend System Coordination:** Smart guest interfaces (AI assistants, digital check-in) should be linked to backend operational systems to ensure seamless service delivery.
- 4. Implement Phased Smart Retrofitting Strategies:** Existing mid-rise hotels transitioning toward smart alignment should adopt gradual automation upgrades to minimize financial strain.
- 5. Encourage Regulatory Incentives For Smart Hospitality Infrastructure:** Urban policymakers should introduce energy-efficiency benchmarks, tax incentives, and digital building standards to promote smart adoption within the hospitality sector.
- 6. Promote Technical Capacity Development:** Training programs for facility managers and technical staff are essential to ensure effective operation and maintenance of smart systems.

### REFERENCES

- Abdullahi, F., Bolaji, B., Zakari, A., Yaradua, H., Nseabasi, E., & Jibril, S. (2025). Assessing green building practices in Nigerian hotels based on LEED criteria and certification standards.
- Afolabi, A. T., Ibitoye, A. O., Kalu, C. G., & Gabriel, O. (2025). Green Facade Systems as a Sustainable Solution for Urban Heat Island Mitigation in LagosState. *Afropolitan Journals*, 19, 61-75.
- Alsharif, A., Isa, S., & Alqudah, A. (2024). Smart tourism, hospitality, and destination: A systematic review and future directions.
- Arapou, A., & Kapiki, S. T. (2023). Enhancing the guest experience in hospitality through technology: An outlook of the future.
- Baluyot, M. B. (2025). Technological transformation in hospitality: Impact of IoT-enabled services on hotel guest satisfaction in Metro Manila. *Journal of Information Systems Engineering & Management*, 10(43s), 222–233.
- Buhalis, D., O'Connor, P., & Leung, D. (2023). Smart hospitality: From smart cities and smart tourism towards agile business ecosystems in networked destinations. *International Journal of Contemporary Hospitality Management*, 35(2), 369–393.  
<https://doi.org/10.1108/IJCHM-04-2022-0497>

- Djehaiche, R., Aidel, S., Sawalmeh, A., Saeed, N., & Alenezi, A. H. (2023). Adaptive control of IoT/M2M devices in smart buildings using heterogeneous wireless networks. *arXiv*. <https://arxiv.org/abs/2302.13343>
- Domański, M. (2020). The concept of a smart hotel and its impact on guests' satisfaction, privacy and the perception of the service quality. In *Smart Technologies Shaping the Future of the Hotel Industry* (chapter / thesis).
- Ejidike, U. (2025). Barriers to the adoption of smart building technology: Evidence from construction professionals.
- Etuk, A. J., & Aniekan, E. A. (2025). The role of technological service innovation in enhancing customer satisfaction: An IoT and smart hospitality study of hotels in Uyo, Akwa Ibom State. *International Journal of Interdisciplinary Research in Marketing and Management*, 12(1), 16–28. <https://doi.org/10.5281/zenodo.15050816>
- Femenia-Serra, F., Ioannou, A., & Tussyadiah, I. (2022). Privacy and smart tourism: A mixed methods analysis of user perceptions. *Tourism Management*, 91, 104507.
- Galvão, A., Brito e Abreu, F., & Joanaz de Melo, J. (2024). Towards a consensual definition for smart tourism and smart tourism tools. *arXiv*. <https://arxiv.org/abs/2402.10830>
- Han, H., Hou, J., Wu, J., & Lai, C. (2021). Tourists' acceptance of smart hotel technology: Integrating technology readiness and perceived value. *International Journal of Hospitality Management*, 93, 102776..
- Himeur, Y., Alsalemi, A., Al-Kababji, A., Bensaali, F., Amira, A., Sardianos, C., & Varlamis, I. (2021). Recommender systems for energy efficiency in buildings: A review. *Energy and Buildings*, 246, 111105.
- Ibitoye, O. A., Abiola, O. A., & Babamboni, A. S. (2023). Demographic characteristics of housing estates developed with ISSB technology in selected southwestern Nigerian cities. *FUDMA Journal of Sciences*, 7(2), 275–283. <https://doi.org/10.33003/fjs-2023-0702-2038>
- Ibitoye, O. A., Alagbe, O., & Dare-Abel, O. (2022). Comparative cost advantages of interlocking stabilized soil block and sandcrete block for building construction in South-west Nigeria. *International Journal of Scientific Research and Engineering Development*.
- Ivaldi, E., Pavanini, T., Fili, T., & Musso, E. (2025). National Models of Smart City Development: A Multivariate Perspective on Urban Innovation and Sustainability. *Sustainability*, 17(16), 7420. <https://doi.org/10.3390/su17167420>
- Kapiki, S. T. (2021). Smart city and IoT technologies enabling smart tourism: The case of Greece. In A. Brovko & O. Dolinina (Eds.), *Higher Education in Smart City Technologies: European, Kazakh, Mongolian, Russian Universities Approach* (pp. 80–112).
- Kim, J., Erdem, M., & Kim, S. (2024). Hi Alexa, do hotel guests have privacy concerns with you?: A cross-cultural study.
- Kim, M., Lee, S., & Han, H. (2020). Smart hotels and sustainable consumer behavior: Testing perceived performance and technology readiness. *International Journal of Hospitality Management*, 88, 102541. <https://doi.org/10.1016/j.ijhm.2019.102541>
- Kim, S., Long, P., & Boo, S. (2025). Young luxury hotel guests' smart hotel technology acceptance: Examining the influencing factors using TAM and the SOR model. *International Journal of Hospitality Management* (2025).
- Liu, X., Wider, W., Fauzi, M. A., Jiang, L., Udang, L. N., & Hossain, S. F. A. (2024). The evolution of smart hotels: A bibliometric review of the past, present and future trends. *Heliyon*, 10(4), e26472. <https://doi.org/10.1016/j.heliyon.2024.e26472>
- Mba, E., Oforji, C., & Ogbodo, N. (2025). Challenges and opportunities in the adoption of smart building technologies in Nigeria.
- Odefadehan, C. T., Alagbe, O., Gabriel, O. O., & Asaju, O. A. (2025). The nexus between smart building technologies and energy optimization in Nigeria: Drivers, barriers and policy implications. *African Journal of Environmental Sciences and Renewable Energy*, 19(1), 111–123.

- Olaoye, G. O., Iweka, A., Adejumo, T., & Ajayi, O. O. (2023). Influence of liturgy and socioculture on the form and meaning of the architecture of Sacred Hearts Catholic Church Odogunyan, Ikorodu, Lagos, Nigeria. *Journal of Architecture and Environmental Systems (or equivalent local journal)*. <https://doi.org/10.5281/zenodo.8179374>
- Onuoha, D., Okeahialam, M., & Osuji, C. (2024). Barriers to smart building adoption in Nigerian institutional buildings. *Journal of Environmental Management and Safety*, 15(2), 45–59.
- Osadare, O. O., Akande, O. N., & Soladoye, A. A. (2024). Smart hospitality: Leveraging technological advances to enhance customer satisfaction. *FUOYE Journal of Engineering and Technology*.
- Tanuja, M., & Murugesan, S. (2024). Smart hospitality: Integrating IoT for guest satisfaction and efficiency. *International Journal of Robotics and Mechatronics*.
- Salami, O., Taiwo, A. A., Ibem, E. O., & Ajayi, O. O. (2024). Integrating energy-efficient systems and technologies in hotel design strategies in Lagos: Assessing cost implications. *African Journal of Environmental Sciences and Renewable Energy*, 15(1), 69–87. <https://doi.org/10.62154/mrc8sg85>
- Vinh, V. P. (2024). Internet of Things (IoT) in the hospitality industry: How does IoT benefit hotels? *International Journal of Electrical and Electronics Engineering*, 11(10), 1–9.
- Yang, H., Song, H., Cheung, C., & Guan, J. (2021). Enhancing hotel guests' acceptance of smart technology. *International Journal of Hospitality Management*, 92, 102706.
- Yussuff, A., Oluwasina, O., & George, O. (2024). Assessment of energy efficiency strategies in mid-rise office buildings in Lagos State.