

Evaluation Of Architectural Acoustics in Transient Hotels: A Case Study of Selected Hotels in Ikeja, Lagos State, Nigeria.

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Abstract- This study evaluates architectural acoustics in three transient hotels (Radisson Blu, Sheraton, and Marriott) in Ikeja, Lagos State, Nigeria, to inform design policies that enhance guest comfort. Transient hotels often prioritise aesthetics over acoustics, leading to noise complaints and reduced satisfaction. A mixed-methods approach combined case studies with questionnaires administered to 100 guests and staff. Descriptive and thematic analyses revealed that the Marriott Hotel performed best acoustically due to modern interventions (acoustic panels, double-glazed windows). The Sheraton Hotel recorded the highest noise complaints, attributed to poor soundproofing. Primary noise sources were traffic, neighbouring rooms, and internal activities, peaking in evenings. Guests demanded improved soundproofing, quiet zones, and maintenance. Findings underscore the need for early integration of acoustic design in transient hotels to support sustainability and competitiveness. Recommendations include standardised metrics, advanced materials (mass-loaded vinyl, acoustic metamaterials), and guest-centric strategies.

Index Terms- Architectural Acoustics, Transient Hotels, Guest Comfort, Noise Control, Sustainable Design, Lagos State

I. INTRODUCTION

Architectural acoustics significantly shape guest experiences in hospitality settings, especially transient hotels serving short-term business and leisure travellers (Mackie, 2024). These hotels frequently overlook acoustic design in favour of aesthetics and functionality, resulting in poor sound insulation and noise-related dissatisfaction (Nering et al., 2022; Wienand, 2025).

Existing research focuses mainly on residential and commercial buildings, with limited attention to transient hotels in noisy urban contexts like Lagos (Torresin et al., 2020; Zhang, 2020). This study

addresses this gap by evaluating acoustics in three prominent Ikeja hotels, examining socio-economic user profiles, acoustic elements, noise sources, guest feedback, and impacts on comfort.

Research Objectives

1. Examine socio-economic characteristics of guests.
2. Evaluate current acoustic design elements.
3. Identify primary noise sources.
4. Analyse guest feedback on noise levels and comfort.
5. Assess impacts on overall guest experience.

II. LITERATURE REVIEW

Architectural acoustics studies sound interaction with built environments, encompassing absorption, reflection, reverberation, and control (Ajiboye, 2024; Papadakis et al., 2022). In hospitality, poor acoustics cause stress, sleep disruption, and reduced satisfaction (Nering et al., 2022; Roy & Siebien, 2019). Transient hotels face unique challenges due to high turnover, urban locations, and mixed-use spaces. Effective solutions include acoustic panels, mass-loaded vinyl, double-glazed windows, and metamaterials (Australia, W., 2021; Aydin & San, 2024).

Key gaps identified: limited focus on guest-room acoustics, early design integration, holistic sound perception, standardised metrics, and acoustic branding in developing urban contexts like Lagos.

III. METHODOLOGY

3.1 Preamble This chapter outlines the research process, data sources, instruments, collection, and analysis methods.

3.2 Research Design A mixed-methods case-study design was adopted. Three transient hotels in Ikeja were evaluated for acoustic performance, supplemented by questionnaires for user perceptions.

3.3 Population and Sampling Target population: guests and staff of selected hotels. Purposive sampling selected hotels based on popularity and noise exposure. Simple random sampling distributed 100 questionnaires.

3.4 Sample Size 100 respondents across Radisson Blu (50), Sheraton (30), and Marriott (20).

3.5 Instruments

- Case studies: architectural appraisal, observations, photographs, interviews.
- Structured questionnaire (5 sections): socio-economic characteristics, acoustic elements, noise sources, feedback, open-ended suggestions.

3.6 Data Collection Literature review, field observations, and questionnaires.

3.7 Data Analysis Quantitative: descriptive statistics (frequencies, percentages, charts). Qualitative: thematic analysis of open-ended responses. Results presented via tables, figures, and narratives.

IV. RESULTS AND DISCUSSION

4.1 Socio-Economic Characteristics of Users (Section A)

Table 4.1 Number of respondents and percentages rating of respondents' age group

Age Group	Number	Percentage (%)
18–25	20	20
26–35	45	45
36–45	25	25
46–60	10	10
60 and above	5	5

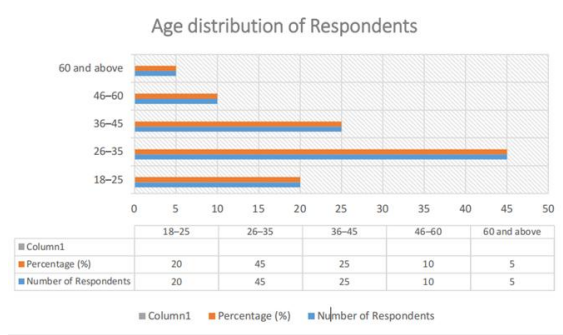


Figure 4.1: Age distribution of respondents

Source: Author's field work (2025)

Table 4.2 Frequency and corresponding percentages showing the gender of the respondents

Gender	Frequency	Percentage (%)
Male	57	57
Female	43	43

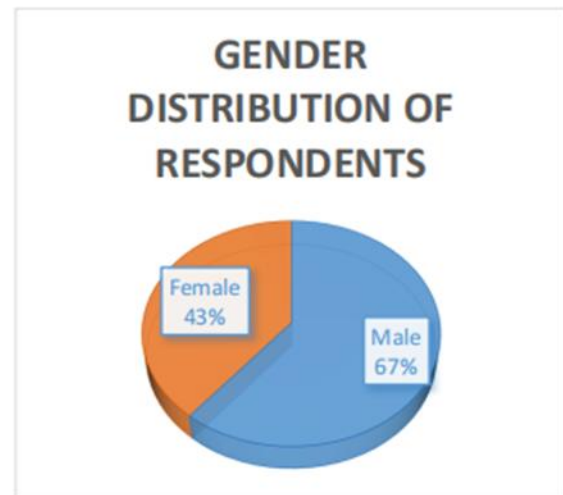


Figure 4.2: Gender distribution of respondents

Source: Author's field work (2025)

Table 4.3 Frequency and corresponding percentages showing the occupation of the respondents

Occupation	Frequency	Percentage (%)
Student	35	35
Self-employed/Business Owner	25	25

Occupation	Frequency	Percentage (%)
Employed (Full-time)	30	30
Prefer not to say	10	10

Table 4.4 Number and corresponding percentages showing the monthly income of the respondents

Monthly Income	Frequency	Percentage (%)
Below ₦50,000	20	20
₦50,000–₦150,000	45	45
₦150,001–₦300,000	20	20
₦300,001–₦500,000	10	10
Above ₦500,000	5	5

Table 4.5 Number and corresponding percentages showing the length of stay of the respondents

Length of Stay	Frequency	Percentage (%)
Less than 1 night	25	25
1–3 nights	68	68
4–7 nights	6	6
More than 7 nights	1	1

Table 4.6 Number and corresponding percentages showing the purpose of visit of the respondents

Purpose of Visit	Frequency	Percentage (%)
Business	45	45
Leisure/Tourism	30	30
Family Visit	15	15
Conference/Event	10	10

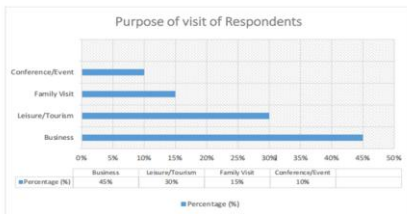


Figure 4.6: Purpose of Visit for the Respondents.
Source: Author's field work (2025)

4.2 Acoustic Elements in the Hotel (Section B) Table 4.7 Respondents rating of acoustic elements in Radisson Blu Hotel, Ikeja Table 4.8 Respondents rating of acoustic elements in Sheraton Hotel, Ikeja Table 4.9 Respondents rating of acoustic elements in Marriott Hotel Ikeja

4.3 Primary Sources of Noise (Section C) Table 4.10 Respondents rating of primary source of noise in the hotels

Table 4.10: Respondents rating of primary source of noise in the hotels

Question	Response Options	Radisson Blu (%)	Sheraton Hotel (%)	Marriott Hotel (%)
Experience with Noise Disturbance	Yes	40%	70%	30%
	No	60%	30%	70%
Main sources of noise	Traffic (e.g., vehicles)	10%	30%	5%
	Neighboring rooms	25%	50%	15%
	Hotel staff activities	15%	40%	10%
	Hotel equipment	10%	35%	10%
	Nearby nightlife	20%	45%	10%
	Construction/Road work	5%	25%	5%
When do disturbances occur?	Other	5%	10%	5%
	Morning (6 AM–12 PM)	15%	30%	10%
	Afternoon (12 PM–6 PM)	20%	40%	15%
	Evening (6 PM–10 PM)	30%	60%	20%
Frequency of disturbances	Night (10 PM–6 AM)	25%	50%	10%
	Constantly	5%	20%	0%
	Frequently (several times/day)	15%	30%	10%
	Occasionally (1–2 times/day)	15%	15%	10%
Rarely	65%	35%	80%	

Source: Author's field work (2025)

4.4 Guest Feedback on Noise Levels (Section D)

Table 4.11 Respondents rating on noise level

Table 4.11: Respondents rating on noise level

Criteria	Sheraton Hotel (%)	Marriott Hotel (%)	Radisson Blu (%)
Noise Levels in Guest Rooms			
Very Quiet	15	40	35
Quiet	40	30	40
Neutral	30	25	15
Noisy	15	5	10
Very Noisy	0	0	0
Noise Levels in Common Areas			
Very Quiet	0	0	0
Quiet	15	35	20
Neutral	35	55	45
Noisy	50	10	35
Very Noisy	0	0	0
Reported Noise Issues to Staff			
Yes	10	5	10
No	90	95	90

Source: Author's field work (2025)

4.4.1 Thematic Analysis of Open-Ended Noise Reduction Suggestions Table 4.12 Respondents rating open-ended questions on noise reduction

Theme	Sample Responses	Count	Percentage
Acoustic Improvements	Acoustic panels, soundproof walls, heavy doors	40	40%
Zoning/Quiet Zones	“Have a quiet zone...”	25	25%
Maintenance & Noise Reduction	Repair plumbing, reduce generator noise, lounge noise	35	35%

4.5 Case Studies

4.5.1 Radisson Blu Hotel Ikeja:

The Radisson Blu Hotel Lagos Ikeja, located in the heart of Ikeja, Lagos State, Nigeria, represents a significant development in the city's hospitality environment. Originally established as the

Renaissance Hotel Ikeja, the property underwent a rebranding to Radisson Blu on January 1, 2018.



Plate 4.5.1: image showing the lounge area of Radisson Blu hotel, Ikeja.

Source: Researchers field survey, (2025)



Plate 4.5.2: image showing the interior of guestroom at of Radisson Blu hotel, Ikeja.

Source: Researchers field survey, (2025)

4.5.2 Sheraton Hotel Ikeja:

Established in September 1985, Sheraton Lagos Hotel is a prominent five-star establishment located in Ikeja, Lagos State. The inception of the hotel was driven by Ikeja Hotel Plc, a company founded by the late Chief Goodie Ibru in 1975. The company aimed to provide world-class hospitality services to meet the growing demands of both local and international travelers. Over the years, Ikeja Hotel Plc expanded its portfolio, acquiring significant stakes in other notable Nigerian hotels, including Sheraton Abuja Hotel and Federal Palace Hotel & Casino.



Plate 4.5.3: image showing the lounge room at Sheraton Hotel Ikeja

Source: Researchers field survey, (2025)

Plate 4.5.4: image showing the lounge room area of Marriott Hotel Ikeja

Source: Researchers field survey, (2025)

4.5.3 Marriott Hotel Ikeja:

Established in December 2021, Lagos Marriott Hotel Ikeja is a contemporary five-star hotel located in the heart of Ikeja, Lagos State. It is part of the global Marriott International chain, renowned for delivering high-end hospitality services. The hotel was developed as part of a strategic initiative to raise hospitality standards in Nigeria and cater to the growing demand from international business travelers and local guests seeking luxury accommodations.

4.6 Summary of Findings Marriott outperformed the others; traffic and adjacent-room noise were dominant issues; guests strongly recommended better soundproofing and maintenance.

V. SUMMARY AND CONCLUSION

5.1 Summary The study confirms superior acoustics at Marriott, challenges at Sheraton, and the critical role of early acoustic integration.

5.2 Further Research Cost-benefit analysis of retrofits and health impacts in Nigerian urban hotels.

5.3 Conclusion Integrating acoustics at the design stage is essential for guest comfort, sustainability, and competitiveness in transient hotels.

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