

Original Article

The Influence of Sustainability on Customers' Choice Behavior in Luxury Hotels Using Online Review Data

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Abstract

As sustainability appears as a central subject in the hospitality industry, luxury hotels in Nigeria face more pressure to include environmentally friendly practices while they still maintain a greater standard of service and relaxation. Using the analysis of user-generated content from online review platforms, this study evaluates the influence of sustainability on customers' choice behavior in the luxury hotel sector in Nigeria. Unlike conventional surveys, online reviews provide spontaneous, practical insights into visitors' opinion and decision-making processes. This research utilizes quantitative textual analysis, including frequency analysis, co-occurrence network analysis, and cluster analysis of reviews collected from Google Maps. Important sustainability-related terms such as, green hotel, eco-friendly, and energy saving are found through text mining and analyzed in connection with customer attitude and hotel ratings. The findings reveal that visible and good-integrated sustainability procedures usually increase customer satisfaction, particularly among environmentally conscious tourists. Nonetheless, there is evidence that in some situations, there is a perceived trade-off between luxury expectation and green measures. This illustrates the need for strategic communication of sustainability within the luxury visitor experience. This study adds to both academic and business discussions by providing concrete details of how sustainability influences customer choice in luxury hospitality and demonstrates how useful online reviews are as a methodological tool in hospitality research.

Categories: Consumer Behavior, Sustainable Tourism and Hospitality Management

Keywords: sustainability, luxury hotels, customer choice behavior, online reviews, nigeria hospitality industry

Introduction

Consumers are gradually considering environmental responsibility over past eras when selecting hotels, which has steered to a developing concern for sustainability in the global hospitality sector. According to a Statista, 81% of international visitors said they place a great value on sustainable travel, a trend that influences markets throughout the world, including Nigeria (Statista, 2022). The Nigerian luxury hotel sector, as of 2023, approximated to cost over \$2 billion, indicates a rise in customer requirements for environmentally friendly practices, such as lowering waste, preserving energy, and buying locally produced goods. About 40% of Nigerian hotel guests prefer lodgings with a strong environmental loyalty (Idoko and Kasim, 2019). Lagos being the center of hospitality in Nigeria, luxury hotels such as Eko Hotel & Suites and Transcorp Hilton Abuja are adopting eco-friendly practices like solar power and water recycling. With online review platforms like TripAdvisor, Booking.com, and Google Reviews increasingly indicating customer sentiments about green programs, the influence of sustainability on booking decisions is becoming more pronounced.

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platforms (Aakash and Gupta, 2022). Meaningful insights regarding the influence of sustainability features on customer happiness and booking plans can be extracted using text mining and sentiment analysis techniques (Puh and Bagić, 2023). Digital footprints left by visitors in online reviews can be used to trace the integration of Nigeria's sustainability practices, where the sell for luxury hotels is growing quickly (Babagbale, 2020).

By utilizing big data tools, sponsors can reveal customer preferences, showing which sustainability practices are most important to guests (Gursoy, 2019) and (Xie et al., 2015). Reviews that highlight eco-friendly features, sustainable sourcing, and energy-saving measures, for instance, can help hotels to understand what their customers see as most important. In a market where sustainability is performing a key role in selection, hotels in Nigeria are using this data to better their products and support their competitive edge. This facts strategy not only upgrades operational efficiency but also gives a chance for luxury hotels to match their offerings to the rising demand for eco-friendly travel. Keeping a competitive edge in the fast-changing hotel industry requires an understanding of how big data outlines consumer behavior, as sustainability becomes more significant to look into.

Several studies have looked at the link between sustainability and customer choice in the hospitality sector, with researchers weighing the growing desire from hotel guests for ecologically friendly operations (Han et al., 2010). According to studies, sustainability measures such as eco-certification programs, waste management, and energy efficiency completely improve consumer loyalty and brand view, especially in the luxury market (Robinot and Giannelloni, 2010). Sentiment analysis is to measure the effect of green practices on visitor satisfaction, while more recent research used big data analytics to analyze internet reviews as markers of customer opinions (Aakash and Gupta, 2022). In addition, online evaluations that positively mention sustainable characteristics are statistically associated with greater booking rates (Puh and Bagić, 2023).

While numerous studies have discovered the impact of sustainability on consumer behavior in the hospitality industry, Africa, especially Nigeria, has received little attention in most of these studies, which have largely concentrated on modern regions like Europe, North America, and Asia., There is a lack of empirical data, despite sustainability's increasing economic significance, on how it affects consumer decision-making behavior in Nigeria's luxury hotels. Furthermore, previous research frequently relies on traditional survey methods, which leaves a vacuum in the use of big data analytics, like the examination of online customer reviews, to provide natural, real-time insights into visitor perspectives.

This study aims to close that gap by observing how sustainability-related features affect Nigeria hotel selection decisions through the use of big data techniques like sentiment analysis and keyword extraction. The central research question guiding this investigation is, "How do sustainability practices reflected through online customer reviews influence consumer choice behavior in Nigeria's luxury hotels?" By answering this question, the study seeks to present hotel managers, marketers, and policymakers with actionable visions for enhancing customer satisfaction through naturally responsible practices.

Literature review

Luxury Hotels

Online reviews of luxury hotels are a rich barometer of guest experience, repeatedly spotlighting service quality, amenities, and perceived value. Previous studies consistently find that attentiveness, empathy, and tailored interactions drive favorable evaluations, and reviewers praise staff who anticipate needs and deliver personalized touches (Pavlatos and Paggios, 2009) and (Huang and Tsaih, 2022). Emotional responses further shape ratings, such as positive feelings often stemming from people-centric or wellness offerings, whereas frustration tends to cluster around pricing and promotional practices (Krey et al., 2024). Guests also weigh design against cost, noting that while five-star properties command higher rates, well-appointed four-star "affordable luxury" hotels can outperform on value for money and contemporary aesthetics, sometimes yielding higher satisfaction scores (Huang and Tsaih, 2022). These patterns give operators concrete signals about where to refine or reposition their propositions.

Yet the strategic value of reviews hinges on how hotels engage with them. Many negative posts still go unanswered or receive formulaic replies, eroding trust and amplifying reputational risk. Research suggests that effective responses should combine appreciation, apology, explanation, and, where appropriate, a make-good incentive (Ho, 2018). The persistent gap between managers' stated commitment to online reputation management and the ad hoc nature of their

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actual practices underscores an opportunity to embed review monitoring into formal quality-assurance systems. As affordable-luxury competitors narrow the experiential gap, traditional luxury hotels that systematically mine feedback and act on its nuanced cues, rather than treating it as a reactive chore, will be better positioned to maintain brand prestige and exceed evolving guest expectations.

Online Textual Review

Electronic word-of-mouth (eWOM) refers to “all informal communications directed at consumers through Internet-based technologies that concern the use or characteristics of specific goods and services, or their sellers.” The concept, the volume, the reach, and the strategic importance of eWOM have expanded at a remarkable pace (Litvin et al., 2018). TripAdvisor, for example, now hosts more than half a billion traveler reviews covering upward of eight million listings; Booking.com, Google Maps, and regional platforms contribute tens of millions of additional comments each year. Review widgets appear in metasearch engines, airline booking flows, mobile travel apps, and even in-flight entertainment systems, ensuring that opinion-rich text is consulted at nearly every touchpoint of the customer journey. Recent surveys show that roughly three-quarters of leisure travelers read online reviews during the inspiration or planning stage, and close to one in two travelers re-check a review platform immediately before finalizing a booking. For credence and experience services such as hotel stays, where cleanliness, ambience, or service quality can be accurately judged only after consumption, these unsolicited narratives substitute for marketer-controlled claims and traditional face-to-face word-of-mouth, providing prospective guests with concrete and credible cues about what actually awaits them.

A robust body of behavioral theory helps explain why such textual snippets exert disproportionate influence over choice. Rational-action theory, first articulated by Goldthorpe, proposes that risk-averse consumers rely on readily available quality signals to minimize expected loss (Goldthorpe, 1998). A high average rating serves as an economical proxy for lower risk and greater utility. Signal theory extends this logic by noting that unsolicited, effortful reviews tend to be viewed as more credible because they are costlier to fabricate, which heightens their persuasive power. Social-contagion theory clarifies the role of volume: when dozens or hundreds of prior guests voice similar opinions, the implied social proof nudges undecided travelers toward the apparent consensus. Serial-position and recency effects add an attentional dimension, as newer reviews displayed near the top of a list receive disproportionate cognitive weight, meaning that fresh comments often override older, possibly conflicting opinions. Finally, the Theory of Planned Behavior (TPB) frames online reviews as visible expressions of subjective norms; positive endorsements of eco-friendly practices or negative assessments of poor service inform travelers’ perceptions of what “people like me” approve or condemn, shaping attitudes and strengthening perceived behavioral control through concrete tips or warnings. Together, these mechanisms position text-based eWOM not as a peripheral cue but as a central, theory-grounded determinant of decision-making in modern hospitality markets (Goldthorpe, 1998). This study extends the literature by examining sustainability-related outcomes in an African luxury hotel context using large-scale textual data, addressing both a methodological and geographic gap.

Research Method

Data collection

In recent times, hotel visitors use online reviews to give their view or opinion. In this study, data were collected from Google Map reviews using Outscraper, mainly on 14 luxury hotels operating in Lagos and Abuja, which are the major cities in Nigeria, in order to get the accurate dataset needed for this research (Tripadvisor, 2025) and (Roadbook, 2025).

A total of 26,422 reviews were taken from 14 luxury hotels known for incorporating sustainability practices such as eco-friendly products, waste reduction, and solar panels. Reviews were selected based on recency and relevance to the hotel experience, covering the period from 2017 to May 2025. Rated data and information were collected randomly in the review process using a particular time frame. The data cleaning process was activated to remove reviews with less than four words, non-English content, duplicate entries, spam content, and emojis (Raharjo et al., 2024). A manual review was also observed to make sure that the information obtained was important and meaningful. Text normalization techniques such as stop-word removal, tokenization, and lowercasing were applied. This preprocessing step was necessary to prepare the data for analysis within the KH Coder environment. After this process, a total of 12,253 reviews were deemed

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fit for the next stage. Figure 1 shows an example of an online review from a customer, with the rating showing 5/5 on the Google Maps review platform, which signifies a positive review. It also includes the textual review showing the customer commenting on satisfaction.

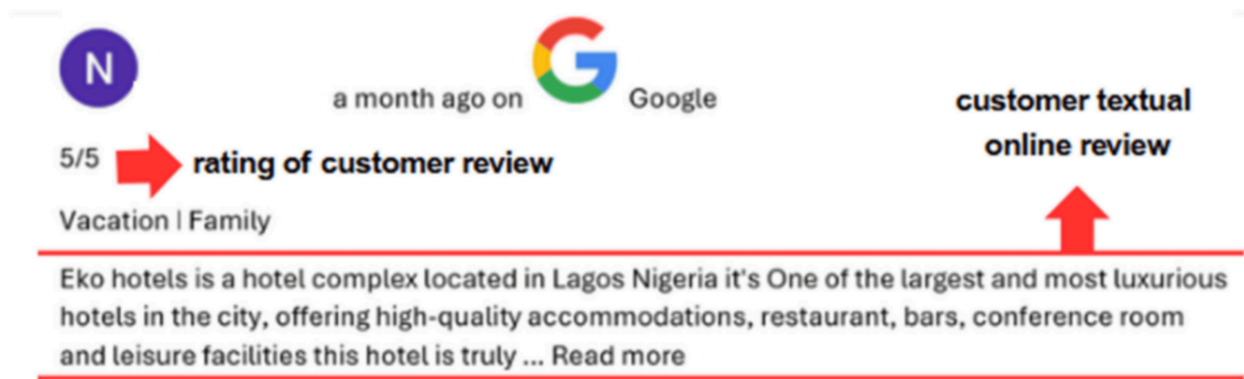


FIGURE 1: Sample of Google Maps review
Source: Google Maps review

Data analysis

Data analysis was conducted using KH Coder, powerful software for quantitative content analysis and text mining. KH Coder supports various forms of textual analysis, including co-occurrence network analysis (CONA), word frequency analysis, and cluster analysis. Data preprocessing requires cleaning, normalizing, and converting the data to guarantee its appropriateness for succeeding analysis with the help of KH Coder, a quantitative data analysis tool.

Figure 2 shows the research process. The process indicates the collection of data from Google Maps reviews of 14 top luxury hotels in Nigeria, which later passed through analysis with KH Coder.

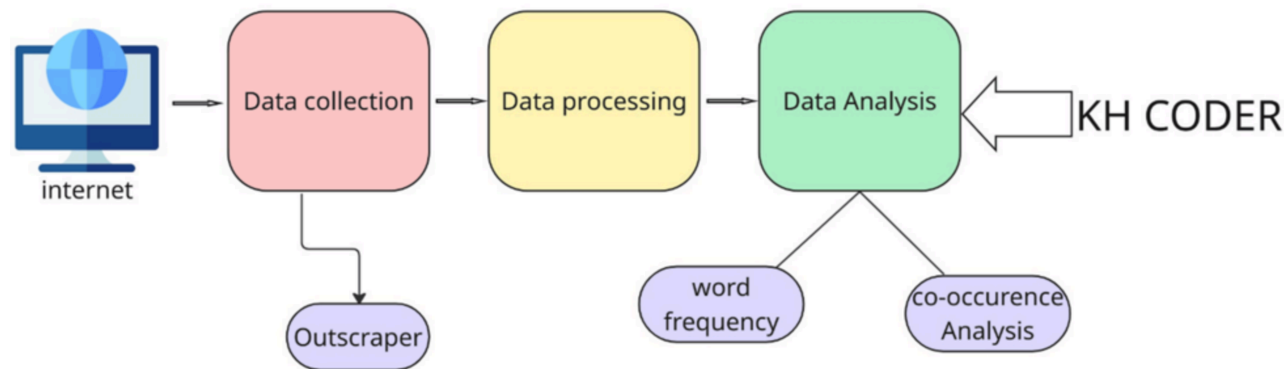


FIGURE 2: Research process
Source: Author

Different types of data were collected, such as hotel brands, overall score, writers' identification code, written date, and review. The overall score described the level of customer satisfaction in this study. The total reviews collected were 26,422 from 14 top luxury hotels in Nigeria, as shown in Table 1.

Ranks	Names of hotel	No. of reviews	website
1	Transcorp Hilton Abuja	1200	https://www.google.com/travel/hotels/s/RYNtvj9Vbs2ZJiaa8
2	Abuja Continental Hotel	4289	https://www.google.com/travel/hotels/s/YVA7w3VRLPcysJyn7
3	Amber Residence Ikeja GRA Lagos	1800	https://www.google.com/travel/hotels/s/TYbywo4Uq5MpnbcV6
4	BON Hotel Ikeja	1040	https://www.google.com/travel/hotels/s/A1GQq6NYKA2WTnUg8
5	The Nordic Villa	1080	https://www.google.com/travel/hotels/s/3kPEjW7bskEEp5Pn6
6	Radisson Hotel Lagos	1012	https://www.google.com/travel/hotels/s/2WaSuCv9swSrj9SD9
7	Grand Pela Hotel	2591	https://www.google.com/travel/hotels/s/WkFuEgSEFYbDd4Z6
8	Lagos Marriott Hotel Ikeja	2315	https://www.google.com/travel/hotels/s/1sEkeNtMx4MWQ5qB9
9	Hotel legend	2489	https://www.google.com/travel/hotels/s/9BVZLudXjqCwj1q69
10	Eco Hotel & suite	2754	https://www.google.com/travel/hotels/s/nGBPKaCz7rccAjth8
11	White Orchid Hotel	1510	https://www.google.com/travel/hotels/s/6KzRNvsVrLYgtT349
12	Nicon Luxury Hotel	510	https://www.google.com/travel/hotels/s/pQVtva mg61CK4kqF8
13	Sheraton Lagos Hotel	1300	https://www.google.com/travel/hotels/s/irSUMg4R2gxDj9iNA
14	Sojourner by Genesis	2532	https://www.google.com/travel/hotels/s/PMzVdXdC59g4JH8r8
Total/average		26422/ 1887	

TABLE 1: Number of reviews according to hotel brands

Source: Author

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Results And Discussion

Frequency word analysis

Table 2 contains the top 100 words most frequently used in customer reviews. These words indicate where customers focus their attention, which in turn helps hotel management to improve customer service and sustainability. The top five words were "hotel," "place," "nice," "good," and "great." Words related to food include "buffet," "bar," "food," "restaurant," "drinks," and "breakfast." Words related to services include "staff," "service," "friendliness," and "hospitality." Words related to facilities include "room," "resort," "view," "pool," "garden," "beach," and "bathroom." Words related to the location or name of the hotel include "located," "Lagos," "Abuja," "Sheraton," "Shefron," "Ikeja," and "Nigeria." For example, the word "crazy" appeared 622 times, which indicates customer concern and suggests that many guests were dissatisfied with services. Another word, "cry," indicates that some guests ended up being sad.

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No.	Word	Freq.	No.	Word	Freq.	No.	Word	Freq.	No.	Word	Freq.
1	hotel	6454	30	pool	997	59	visit	567	88	perfect	313
2	place	5741	31	services	995	60	notch	564	89	Shefron	310
3	nice	4866	32	time	970	61	airport	558	90	family	310
4	good	4821	33	security	864	62	bar	556	91	needs	303
5	great	3659	34	amazing	851	63	get	552	92	especially	303
6	staff	3049	35	always	846	64	quite	550	93	high	302
7	service	3041	36	charm	837	65	still	542	94	swimming	301
8	food	2597	37	star	819	66	facilities	540	95	relax	301
9	environmen t	2223	38	top	817	67	reception	523	96	stayed	296
10	rooms	1952	39	customer	812	68	though	522	97	people	296
11	beautiful	1731	40	home	793	69	space	502	98	around	292
12	stay	1718	41	awesome	789	70	business	470	99	warm	292
13	Lagos	1556	42	cry	749	71	standard	467	100	feel	290
14	experience	1544	43	like	737	72	class	461			
15	loved	1504	44	restaurant	727	73	fantastic	461			
16	Sheraton	1412	45	Sheraton	697	74	Nigeria	453			
17	ambience	1405	46	wonderful	696	75	need	439			
18	room	1404	47	also	695	76	bathroom	434			
19	beach	1376	48	Ikeja	691	77	staffs	428			
20	one	1320	49	hotels	676	78	international	424			
21	best	1271	50	Abuja	641	79	everything	423			
22	excellent	1221	51	parking	630	80	every	423			
23	friendly	1114	52	crazy	622	81	quality	415			
24	cool	1081	53	location	618	82	located	408			

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25	serene	1078	54	enjoyed	610	83	cozy	406
26	clean	1037	55	hospitality	596	84	loved	378
27	buffet	1017	56	courteous	586	85	atmosphere	372
28	really	1014	57	comfortable	585	86	neat	372
29	look	1012	58	breakfast	579	87	garden	368

TABLE 2: Top 100 frequent words from the online hotel review

Source: Author

The analysis of this finding is that the hotel management should have good representative and qualified customer service that will help attend to consumers feedback for better improvement in the hotel service and have a sustainable services for guest satisfaction.

Co-occurrence network analysis

The CONA shown in Figure 3, which was generated using KH Coder, provides a visual representation of frequently mentioned words and their relational patterns within customer reviews of luxury hotels in Nigeria. The network identifies key themes and clusters based on the frequency and co-occurrence of terms in user-generated content. Each node in the network represents a word, with the size of the node indicating its frequency in the dataset. Words such as “room,” “staff,” “hotel,” “food,” and “service” appeared most frequently, forming the central hub of the network. These words are strongly interconnected, suggesting that the core hotel experience - centered around comfort, hospitality, and amenities - is a dominant factor in customer evaluations.

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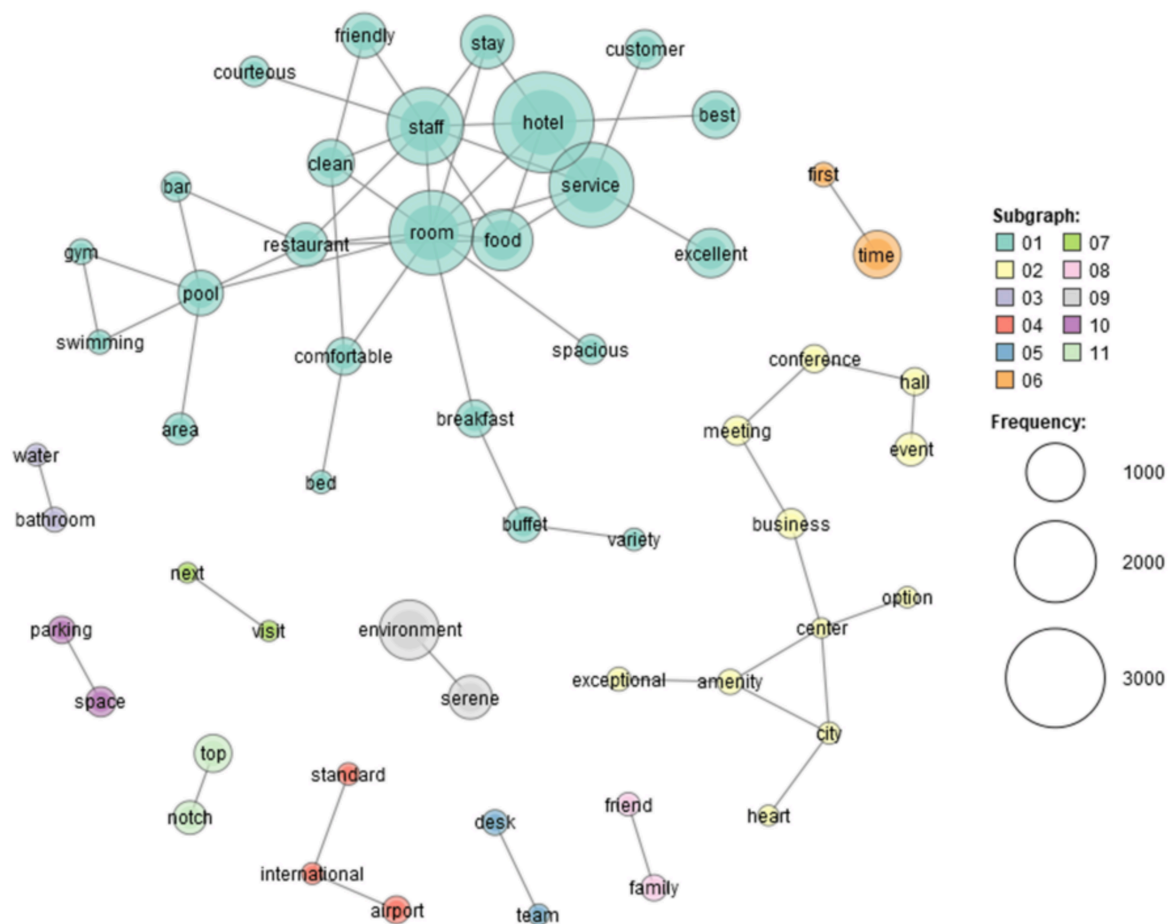


FIGURE 3: Co-occurrence network results

Source: Author

Distinct clusters emerged from the analysis. Cluster 1 (Light Green) represents Guest Experience and Service. This cluster includes high-frequency words like hotel, staff, room, food, stay, and friendly. The strong interconnections suggest that overall guest satisfaction is largely shaped by service quality, room conditions, and food experiences - core aspects of luxury hotel offerings. Cluster 2 (Teal Green) reflects comfort and facilities. Words such as clean, restaurant, pool, bar, gym, and spacious point to a customer focus on physical amenities and hygiene. These facilities are often associated with satisfaction, and if integrated with sustainability (e.g., green cleaning, energy-efficient pools), they can further enhance perception. Cluster 3 (Red) shows "Travel and Location" which include, airport, standard, and international. This smaller cluster indicates reviews mentioning location convenience, particularly for international travelers. Accessibility and global standards may influence traveler perceptions and expectations of sustainability, especially among eco-aware global travelers. Cluster 4 (Yellow) corresponds to "Business and event services." This subgraph includes terms like conference, meeting, business, hall, and option, reflecting reviews from business travelers. While not directly tied to sustainability, this group highlights a need for environmentally conscious meeting and event spaces. Cluster 5 (Blue) examines "Family and Companionship." Terms like, family, friend, and team indicate guests who traveled with others. Sustainable features that enhance shared experiences like spacious eco-suites or green recreational spaces could appeal to this demographic. Cluster 6 (Gray) relates to "Environmental Ambience." Although less dominant, this cluster includes important terms like environment and serene, suggesting that some guests value the ambiance and ecological setting of the hotel. These terms, while not highly frequent, are significant indicators of eco-conscious preferences. Cluster 7 (Orange) reflects "Time and First Impressions." Terms like time, first are likely tied to initial check-in experiences or short stays. Efficient and seamless eco-friendly services, like paperless check-in or smart room controls, could enhance these "first impression"

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moments. Cluster 8 (Purple) interprets "Nature and Essentials." Frequent words such as parking and space show that guests may comment on practical amenities like parking and room space. Introducing electric vehicle charging or green parking structures could appeal to sustainability-conscious guests. Cluster 9 (Light Blue) emphasizes "Wellness and Water." Words like bathroom and water highlight areas for water conservation practices, such as low-flow fixtures or water reuse systems, which are core components of hotel sustainability. Cluster 10 (Dark Green) reflects "Food Variety." Words such as buffet, breakfast, and variety show that guest satisfaction is influenced by food options. Offering locally sourced, organic, or plant-based choices aligns with sustainability trends and dietary preferences. Cluster 11 (Light purple) represents "Leisure and Environment." Words like net, visit, top, and notch suggest that guests are describing high-quality leisure experiences. When paired with green features (e.g., eco-travel offerings or nature-integrated designs), this supports sustainable luxury.

While sustainability related terms such as eco-friendly or green hotel were less prominent in frequency, they were contextually embedded within clusters focused on cleanliness, comfort, and ambiance. This implies that while customers may not always use direct sustainability vocabulary, they value outcomes associated with green practices, such as serene environments, cleanliness, and competence. As previous studies have indicated, customers tend to respond more to the benefits of sustainable practices than to the terminology itself (Gursoy, 2019). The CONA reveals that customer perceptions of luxury hotels in Nigeria are heavily influenced by core service elements such as room quality, staff behavior, food, and overall service experience. These features align with expectations commonly associated with luxury hospitality and reflect the priorities of both local and international guests.

CONA on review rating

Based on Figure 4, to further understand the relationship between sustainability-related language and guest satisfaction, a co-occurrence network was generated based on review ratings ranging from 1 to 5 stars. In this diagram, each square node represents a specific rating level, while circular nodes represent key terms found in the corresponding reviews. The connections illustrate the co-occurrence of words with each rating, revealing how different aspects of the hotel experience influenced customers' evaluations.

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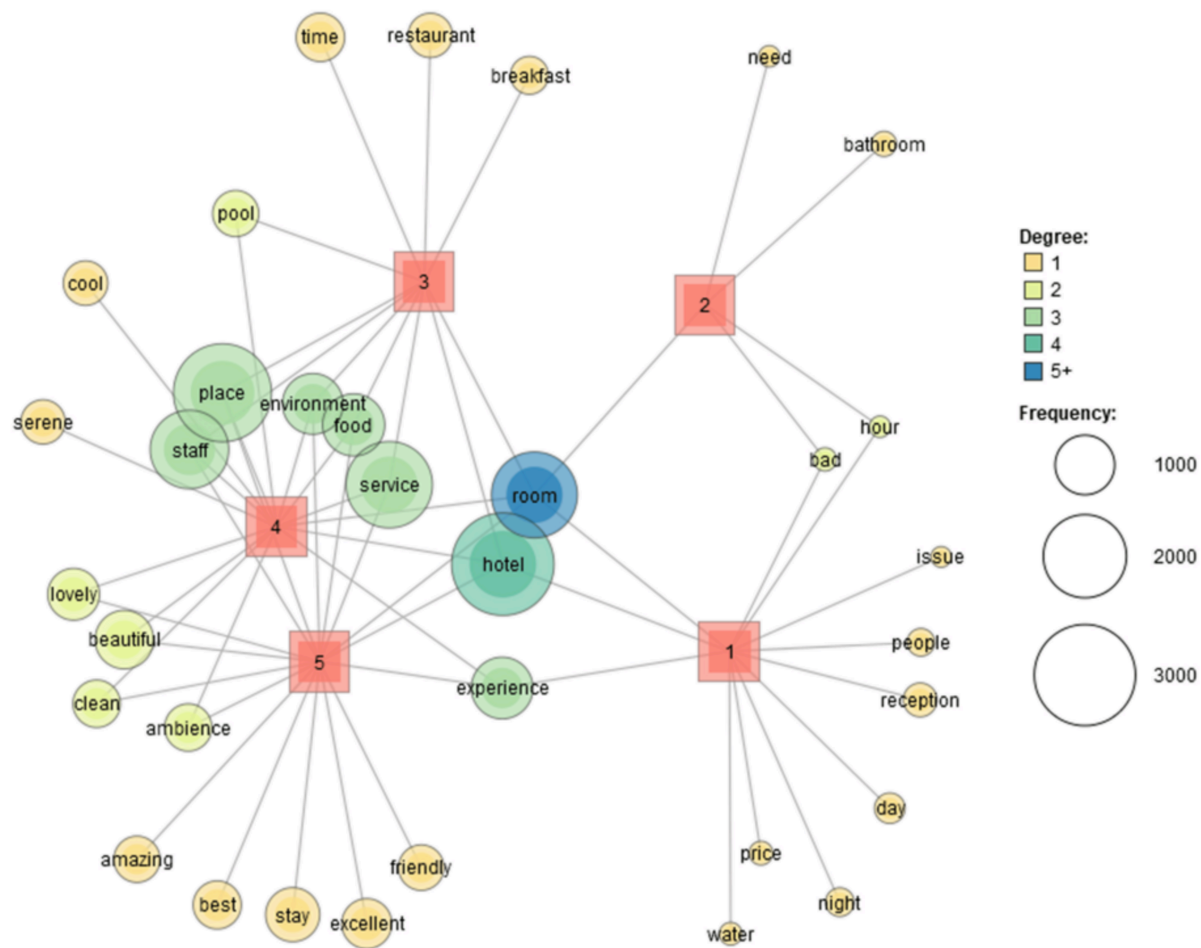


FIGURE 4: Co-occurrence review rating

Source: Author

Reviews associated with 1-star ratings contained mostly negative terms such as issue, price, reception, water, hour, bed, and people. These words suggest significant dissatisfaction related to service delays, value-for-money concerns, and operational shortcomings. The focus on these fundamental problems implies that sustainability efforts - if present - were likely overshadowed by more pressing service failures. Reviews rated 2-star featured words like need and bathroom, indicating that customers at this rating level experienced unmet expectations, especially in terms of basic facilities. While not overtly negative, these reviews reflect perceived deficiencies in comfort or hygiene. Hotels that employ water-saving or eco-designed bathrooms must ensure such features do not compromise guest comfort. Reviews with 3-star belong to the mid-level, known as neutral or mixed feedback, containing words such as restaurant, breakfast, time, and pool. These terms suggest that guests may have had average experiences, especially regarding food services or recreational facilities. This segment represents an opportunity for hotels to enhance satisfaction by improving consistency in service delivery - especially where sustainability intersects with dining or leisure. In 4-star reviews, words like place, staff, environment, food, and service were commonly used. This cluster reflects a high level of satisfaction, with guests acknowledging quality service and positively responding to the hotel's environmental setting. The presence of environment is particularly significant, as it indicates that sustainability-related features are being recognized and appreciated, even if not explicitly labeled as such. Reviews linked to 5-star ratings were dominated by highly positive and emotionally expressive terms such as beautiful, lovely, ambience, clean, amazing, best, serene, stay, and excellent. This cluster reveals that customers at this satisfaction level not only enjoyed their experience but also valued aspects associated with environmental quality. Words like serene, clean, and ambience are often the result of well-maintained, sustainably designed spaces, indicating a positive relationship between green practices and guest delight.

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This rating-based analysis reveals a pattern: while lower-rated reviews focus on operational issues and dissatisfaction, higher-rated reviews highlight environmental attributes and overall experience quality. Notably, sustainability-related outcomes such as cleanliness, tranquility, and ambiance appear more frequently in positive reviews. These results support the conclusion that when sustainability practices are successfully integrated into the luxury hotel experience, they can enhance customer satisfaction and loyalty - even if not explicitly mentioned using "green" language.

This study reveals that while core service elements like room, staff, food, and service dominate guest reviews, sustainability-related outcomes such as cleanliness, ambiance, and serenity significantly contribute to positive customer experiences, especially in 4- and 5-star ratings. This suggests that customers value sustainable practices when they enhance comfort and luxury (Han et al., 2010) and (Robinot and Giannelloni, 2010).

Although explicit terms like eco-friendly and green hotel were not frequently used, the presence of words like environment and serene implies that guests are indirectly responding to sustainable design and operations. Customers are often more influenced by the benefits of sustainability - such as aesthetics and comfort - than by green labels themselves (Han et al., 2010).

The rating-based co-occurrence network showed that low-rated reviews (1-2 stars) focused on unmet basic expectations (e.g., price, water, reception), overshadowing any potential green efforts. In contrast, high-rated reviews (4-5 stars) were rich in terms linked to satisfaction, reflecting appreciation for both service quality and environmental ambiance.

This confirms that sustainability positively influences satisfaction only when integrated into the broader luxury experience (Aakash and Gupta, 2022). Hotels must not only implement green practices but also make them visible and emotionally resonant. This study contributes to hospitality literature by applying big data analysis to a Nigerian context - an under-researched area in sustainability research. It supports earlier findings while offering new insights into how natural language analysis can uncover customer perceptions that traditional surveys may overlook. Table 3 also shows the words associated with sustainability.

Term	Definition	Example	Position
Sustainability	A long-term balance of environmental, social, and economic responsibilities	Reducing emissions, fair wages, local sourcing	Umbrella
Green Hotel	A hotel that implements eco-conscious systems and policies	Solar panels, eco-certified cleaning, recycling programs	Operate under sustainability practices
Eco-Friendly	Environmentally safe products or actions	Bamboo toothbrush, LED lighting, organic toiletries	Specific items

TABLE 3: Sustainability-related terms

Source: Author

Thus, sustainability enhances customer choice when it aligns with service excellence, emotional appeal, and visible value (Babagbale, 2020).

Theoretical Implications

This study reinforces and extends the TPB by showing that positive attitudes toward sustainability - reflected in customer reviews - are linked to satisfaction and hotel choice, especially when green practices enhance comfort and service (Han et al., 2010). It also supports the Service-Dominant Logic (SDL) framework, emphasizing that sustainability adds value when integrated into the overall hotel experience (Vargo and Lusch, 2004), not treated as a separate feature. By using real-world review data, the study demonstrates that sustainable behavior theories are applicable beyond Western contexts,

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confirming that eco-conscious choices can influence luxury hotel decisions in emerging markets like Nigeria. This expands theoretical understanding of how customers perceive and respond to sustainability in high-end service environments.

Practical Implications

This study provides valuable insights for hotel managers and decision-makers in the luxury hospitality industry, especially in emerging markets like Nigeria. It shows that sustainability practices - when aligned with comfort, cleanliness, and ambience - positively influence guest satisfaction and ratings. Therefore, hotels should focus on embedding green features into the luxury experience, such as energy-efficient lighting, eco-friendly materials, serene landscaping, and sustainable food sourcing.

Limitations and Future Research

This study has several limitations that should be acknowledged. First, as this study relies on user-generated reviews, the findings reflect guest perceptions rather than verified sustainability practices. Therefore, the results establish correlations rather than direct causal effects. Second, online reviews are inherently subjective, and guests may conflate general service quality with sustainability-related experiences, making certain interpretations inferential. Third, explicit sustainability terms were used infrequently, requiring reliance on environmental quality descriptors as indirect indicators of sustainability outcomes. Future research could incorporate triangulation with managerial interviews, sustainability audits, or cross-country comparisons to strengthen causal understanding and broaden contextual applicability.

Conclusions

This study examined the influence of sustainability on customers' choice behavior in Nigeria's luxury hotel sector using online review data and quantitative text analysis through KH Coder. The findings reveal that while traditional service features - such as room quality, staff performance, and food - remain central to guest satisfaction, sustainability-related outcomes like cleanliness, serenity, and ambience significantly enhance positive customer experiences, especially in higher-rated reviews.

Although guests rarely used explicit sustainability terms like "green hotel" or "eco-friendly," their preferences clearly aligned with the benefits of sustainable practices. This suggests that when sustainability is integrated into comfort, design, and service, it positively impacts customer perception and loyalty.

Furthermore, the use of online reviews as a data source proved effective in capturing authentic guest sentiments, offering valuable insights that traditional surveys may overlook. The results also support existing theoretical models such as the TPB and SDL, highlighting the role of perceived value and emotional satisfaction in sustainable hospitality.

In conclusion, sustainability is not just a moral or environmental obligation; it is a strategic component of modern luxury service. When effectively implemented and communicated, it enhances guest experience, supports brand image, and strengthens competitive advantage in an increasingly eco-conscious market.

Additionally, as customers often do not explicitly mention "green" terms, hotels must communicate their sustainability efforts more effectively through visual cues, digital platforms, and staff interactions. Monitoring online reviews using text mining tools like KH Coder can help managers identify emerging guest expectations and refine services accordingly.

Finally, hotels can use these insights to develop eco-marketing strategies that enhance brand perception, attract eco-conscious travelers, and maintain a competitive advantage in a growing green tourism market.

Additional Information

Author Contributions

All authors have reviewed the final version to be published and agreed to be accountable for all aspects of the work.

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Disclosures

Human subjects: All authors have confirmed that this study did not involve human participants or tissue. **Animal subjects:** All authors have confirmed that this study did not involve animal subjects or tissue. **Conflicts of interest:** In compliance with the ICMJE uniform disclosure form, all authors declare the following: **Payment/services info:** All authors have declared that no financial support was received from any organization for the submitted work. **Financial relationships:** All authors have declared that they have no financial relationships at present or within the previous three years with any organizations that might have an interest in the submitted work. **Other relationships:** All authors have declared that there are no other relationships or activities that could appear to have influenced the submitted work.

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References

1. Aakash A, Gupta AA: [Assessment of hotel performance and guest satisfaction through eWOM: big data for better insights](#). International Journal of Hospitality & Tourism Administration. 2022, 23:317-346. [10.1080/15256480.2020.1746218](https://doi.org/10.1080/15256480.2020.1746218)
2. Babagbale E: [Employees' perceptions of the effects of green training and practices on hotel sustainability in Ilorin, Nigeria](#). African Journal of Hospitality and Tourism Management. 2020, 2:46-60. [10.47963/ajthm.v2i1.146](https://doi.org/10.47963/ajthm.v2i1.146)
3. Goldthorpe JH: [Rational action theory for sociology](#). The British Journal of Sociology. 1998, 49:167-192. [10.2307/591308](https://doi.org/10.2307/591308)
4. Gursoy D: [A critical review of determinants of information search behavior and utilization of online reviews in decision making process \(invited paper for 'luminaries' special issue of International Journal of Hospitality Management\)](#). International Journal of Hospitality Management. 2019, 76:53-60. [10.1016/j.ijhm.2018.06.003](https://doi.org/10.1016/j.ijhm.2018.06.003)
5. Han H, Hsu LTJ, Sheu C: [Application of the Theory of Planned Behavior to green hotel choice: Testing the effect of environmental friendly activities](#). Tourism Management. 2010, 31:325-334. [10.1016/j.tourman.2009.03.013](https://doi.org/10.1016/j.tourman.2009.03.013)
6. Ho V: [Exploring the effectiveness of hotel management's responses to negative online comments](#). Lingua. 2018, 216:47-63. [10.1016/j.lingua.2018.10.004](https://doi.org/10.1016/j.lingua.2018.10.004)
7. Huang HT, Tsai LSJ: [Prioritizing hotel lobby design factors: perspectives of hotel operators in China](#). Journal of Asian Architecture and Building Engineering. 2022, 21:1801-1813. [10.1080/13467581.2021.1966016](https://doi.org/10.1080/13467581.2021.1966016)
8. Idoko O, Kasim A: [Exploring the Nigerian transnational hotels' environmentally friendly practices towards biodiversity conservation in Lagos, Nigeria](#). European Journal of Social Sciences Studies. 2019, 4:19-32.
9. Krey N, Wu S, Hsiao SH, Lin TLJ: [The joint effect of online reviews and manager responses in driving company ratings](#). Tourism Management Perspectives. 2024, 50:101215. [10.1016/j.tmp.2023.101215](https://doi.org/10.1016/j.tmp.2023.101215)
10. Litvin SW, Goldsmith RE, Pan B: [A retrospective view of electronic word-of-mouth in hospitality and tourism management](#). International Journal of Contemporary Hospitality Management. 2018, 30:313-325. [10.1108/ijchm-08-2016-0461](https://doi.org/10.1108/ijchm-08-2016-0461)
11. Pavlatos O, Paggios I: [A survey of factors influencing the cost system design in hotels](#). International Journal of Hospitality Management. 2009, 28:263-271. [10.1016/j.ijhm.2008.09.002](https://doi.org/10.1016/j.ijhm.2008.09.002)

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12. Puh K, Bagić BM: [Predicting sentiment and rating of tourist reviews using machine learning](#). Journal of Hospitality and Tourism Insights. 2023, 6:1188-1204. [10.1108/jhti-02-2022-0078](#)
13. Raharjo RJH, Budiharseno RS, Quy TM: [Hitting the right notes: Exploring the relationship between YouTube music videos and digital user engagement](#). Global Business & Finance Review (GBFR). 2024, 29:44-56. [10.17549/gbfr.2024.29.1.44](#)
14. Roadbook. (2025). Accessed: April 24, 2025: <https://roadbook.com/lagos/city-guide/best-hotels-lagos-nigeria/>.
15. Robinot E, Giannelloni JL: [Do hotels' "green" attributes contribute to customer satisfaction?](#). Journal of Services Marketing. 2010, 24:157-169. [10.1108/08876041011031127](#)
16. Statista. (2022). Accessed: January 2, 2026: <https://www.statista.com/statistics/1234567/global-sustainable-travel-survey>.
17. Tripadvisor. (2025). Accessed: April 24, 2025: <https://www.tripadvisor.com/Hotels-g293824-zff12-Nigeria-Hotels.html>.
18. Vargo SL, Lusch RF: [Evolving to a new dominant logic for marketing](#). Journal of Marketing. 2004, 68:1-17. [10.1509/jmkg.68.1.1.24036](#)
19. Xie KL, Chen C, Wu S: [Online consumer review factors affecting offline hotel popularity: Evidence from Tripadvisor](#). Journal of Travel & Tourism Marketing. 2015, 33:211-223. [10.1080/10548408.2015.1050538](#)

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