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Effect of Website Booking Engine on Performance of Selected Hotels in Nakuru City, Kenya

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Abstract

This study examined the relationship between the use of website booking engines and the performance of selected star-rated hotels in Nakuru City, Kenya. Hotel performance in Kenya continues to be affected by operational inefficiencies, booking errors, inventory management challenges, inconsistent service delivery, and reliance on intermediary booking channels. In Nakuru City, these challenges create a need for empirical evidence on whether website booking engines are associated with improved hotel performance. The study was guided by the Technology Acceptance Model and used descriptive and explanatory research designs. The target population comprised employees in 30 star-rated hotels. A quantitative survey targeted 150 respondents from 15 selected hotels, while 10 key informants were purposively selected from five hotels for qualitative interviews. Data were collected using structured questionnaires and interview guides and analysed using descriptive statistics, Pearson correlation, regression analysis, and thematic analysis. Among the 126 returned questionnaires, respondents reported generally high levels of perceived booking-engine functionality and perceived hotel performance. Pearson correlation indicated a strong positive association between website booking-engine use and perceived hotel performance ($r = .910, p < .001$). The findings suggest that effective booking engines support booking efficiency, direct reservations, revenue generation, and guest experience. The study provides contextual evidence from Nakuru City and recommends investment in integrated booking platforms and staff capacity development, while recognising the need for objective hotel performance data in future studies.

Key words: Hotel performance, hotel technology, Nakuru City, online booking, website booking engine.



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INTRODUCTION

This study sought to determine the effect of a website booking engine on the performance of selected hotels in Nakuru City, Kenya. The hotel industry is a key driver of tourism revenue, employment, and economic development globally and in Kenya, where hospitality and tourism contributed about 8.5% of GDP in 2019 and supported over 1.6 million jobs before the pandemic (Tavitiyaman et al., 2021; Kenya Tourism Board, 2022). Despite this importance, hotel performance in Kenya remains constrained by operational, technological, and market-related challenges. National data show that hotel occupancy rates declined from 38.9 per cent in 2023 to 35.3 per cent in 2024, while over 48 per cent of medium and small hotels operate below break-even due to low guest retention, high labour costs, heavy reliance on costly online travel agencies (OTAs), and inconsistent service quality (KNBS, 2023; Tourism Research Institute, 2022). In Nakuru City, a growing tourism hub near Lake Nakuru National Park and Menengai Crater, more than 55 per cent of hotels lack integrated digital systems, leading to booking errors, service delays, inventory mismanagement, and reduced operational efficiency (County Government of Nakuru, 2024).

Hotel performance encompasses service quality, operational efficiency, guest satisfaction, and financial sustainability, measured through both financial indicators (occupancy, ADR, RevPAR) and non-financial indicators (customer satisfaction, staff turnover, sustainability, and technology use) (Yfantis et al., 2022; Ali et al., 2020; Jang et al., 2021; Kim et al., 2020; Sürücü et al., 2019). Hotels that actively monitor and act on these metrics are better positioned for long-term success in a competitive and evolving market.

Within this context, the website booking engine has emerged as a critical technological intervention. A website booking engine is an online reservation tool integrated into a hotel's website that enables guests to check availability, compare rates, and complete real-time bookings directly, without reliance on third-party OTAs (Phan et al., 2021). Advanced booking engines also support dynamic pricing, multilingual interfaces, secure payments, and the collection of customer behavioural data to inform marketing and promotional decisions (Kim et al., 2020). Compared with manual or OTA-dependent processes, effective booking engines allow hotels to control distribution channels, reduce

commission costs, retain customer data, and deliver a more seamless and personalised guest experience.

Globally, direct booking platforms and automated reservation systems have been associated with measurable improvements in RevPAR, occupancy, and guest satisfaction, as well as reduced OTA commission expenditures, particularly in North America and Europe (Chathoth & Olsen, 2023). Major brands such as Marriott and Hilton have embedded booking engines within broader digital transformation strategies, using dynamic pricing and guest analytics to optimise revenue and personalise the booking journey (Berezan et al., 2015). However, most of this evidence is drawn from large, branded hotels in high-income contexts, limiting its applicability to independent or small- to medium-sized hotels in resource-constrained settings.

In Sub-Saharan Africa, adoption of website booking engines remains uneven due to infrastructure gaps, limited digital literacy, and inconsistent internet connectivity (Rogerson & Rogerson, 2021). Hotels in South African cities such as Johannesburg and Cape Town have reported performance gains from data-driven booking platforms that reduce OTA dependency and strengthen customer relationship management (Mhlana, 2022). Yet many hotels across the region continue to rely on third-party platforms or manual processes, constraining revenue optimisation and access to direct customer data. Crucially, existing African studies have largely described adoption patterns and perceived benefits, without empirically establishing the magnitude or direction of the relationship between booking-engine adoption and objective performance metrics such as RevPAR, occupancy, or profitability, especially in secondary cities and emerging tourism hubs.

In Kenya, Nakuru City has grown as a hospitality hub due to its proximity to key attractions and improved transport links. Hotel performance in the city is increasingly shaped by the adoption of digital tools, including online booking systems and mobile reservation applications (Gathogo & Njeru, 2020). While some star-rated hotels have begun integrating website booking engines to streamline reservations and attract direct bookings, many still rely on manual processes or OTAs, which limits efficiency and profitability. This creates a marked performance gap between digitally enabled hotels and those that are not. Yet, no known study has quantitatively examined the effect of adopting a website

booking engine on hotel performance outcomes in Nakuru City.

LITERATURE REVIEW

Theoretical Framework

The study is anchored on the Technology Acceptance Model (TAM) developed by Davis (1986), which explains technology acceptance and use through two central constructs: Perceived Usefulness (PU) and Perceived Ease of Use (PEOU). Perceived usefulness refers to the belief that a technology enhances performance, while perceived ease of use refers to the belief that it can be used with minimal effort (Davis, 1986). TAM is relevant to website booking engines because hotel employees are more likely to use systems effectively that improve reservation accuracy, room availability monitoring, booking efficiency, and customer service, while remaining easy to navigate and operate.

TAM has demonstrated applicability across information-system contexts, while Legris et al. (2003) highlight its usefulness in identifying barriers to technology acceptance and informing interventions such as training and system improvement. However, the model's emphasis on individual perceptions may not fully account for organisational and environmental influences on technology use. Chuttur (2020) and Awa et al. (2015) therefore caution that factors such as organisational resources, system quality, infrastructure, competitive pressures, and other contextual conditions may also influence technology adoption.

In this study, TAM provides the theoretical basis for understanding the user-oriented functionality of website booking engines. Perceived usefulness relates to features such as real-time availability monitoring, efficient reservation processing, and booking accuracy, while perceived ease of use relates to user-friendly interfaces, ease of navigation, and simplified booking procedures. Booking flexibility, including modification, cancellation, and flexible selection of dates and room preferences, represents another functional feature through which usefulness and usability may be experienced.

Accordingly, effective booking-engine functionality may facilitate efficient reservation processes, customer service delivery, and room inventory management, which may be reflected in both financial and non-financial hotel performance. Therefore, TAM provides a theoretical lens for linking website booking engine functionality to hotel

performance. However, because TAM primarily explains technology acceptance and use, and multiple factors influence hotel performance, the framework does not imply a direct causal effect. Rather, the study empirically examines whether website booking-engine functionality is statistically associated with perceived hotel performance.

Empirical Review

Empirical reviews of the literature indicate a positive relationship between website booking technologies and hotel performance, particularly in bookings, revenue, and occupancy. However, their findings vary by research design, context, measurement, and the specific booking-engine functionalities examined.

W. Johnson and T. Johnson (2019) used a quasi-experimental pre-test/post-test design involving 100 mid-range hotels, with surveys and website analytics analysed using paired t-tests and regression. Hotels with booking engines recorded a 20 per cent increase in bookings and a 15 per cent increase in revenue. The use of website analytics and a comparison group strengthened the assessment of actual outcomes; however, convenience sampling and the focus on mid-range urban hotels limit generalisability. The study also did not distinguish specific functionalities such as availability monitoring, user-friendliness, and booking flexibility, which are central to the present study.

Moreover, Lee and Kim (2020) employed a longitudinal design involving hotels across different star ratings and found that mobile-friendly booking engines were associated with increased mobile bookings and occupancy. The longitudinal approach provided stronger evidence of changes over time than a purely cross-sectional design. Nevertheless, the study focused specifically on mobile-friendly booking engines. It did not sufficiently examine broader booking engine features, including real-time availability, ease of navigation, booking modification, and flexibility in room or date selection.

Wang (2021), through a meta-analysis using effect-size and moderator analyses, found a substantial positive effect of website booking engines on hotel revenue, with stronger effects in high-end hotels than in budget accommodations. The study provides broader empirical support by synthesising findings across studies and suggesting that hotel category may influence technology-

related outcomes. However, its reliance on existing studies limits its ability to explain how specific booking-engine functionalities operate in particular geographical contexts. Its emphasis on revenue also provides limited insight into non-financial outcomes such as guest satisfaction, repeat patronage, service experience, and reputation.

Collectively, the three studies demonstrate a consistent positive association between website booking technologies and hotel performance but differ in methodological approach, ranging from quasi-experimental and longitudinal designs to meta-analysis. Their findings, therefore, provide useful empirical support but cannot be directly generalised to star-rated hotels in Nakuru City due to differences in context, hotel characteristics, technology infrastructure, and customer behaviour.

Conceptual Framework

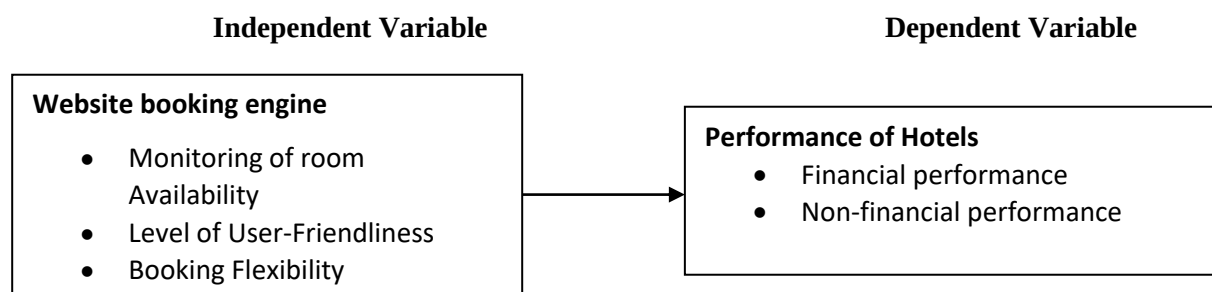


Figure 1: Conceptual Framework

The conceptual framework proposes that website booking-engine functionality is the independent variable and hotel performance is the dependent variable. Website booking-engine functionality is represented by three dimensions: (1) monitoring of room availability, reflecting the capacity to provide current and accurate inventory information; (2) user-friendliness, reflecting ease of navigation and completion of online reservations; and (3) booking flexibility, reflecting customers' ability to select, modify, or cancel bookings and specify room preferences. Hotel performance is represented by financial and non-financial indicators as operationalised in the questionnaire. The framework assumes that more effective booking-engine functionality is associated with better perceived hotel performance. TAM provides the theoretical explanation for this pathway by linking

A further gap concerns the functionality of booking engines. Existing studies largely emphasise outcomes such as bookings, revenue, and occupancy, with limited attention to how specific features—particularly availability monitoring, user-friendliness, and booking flexibility—relate to hotel performance. In addition, financial indicators receive greater emphasis than non-financial outcomes such as guest satisfaction, repeat patronage, service experience, and reputation.

Therefore, this study addresses these gaps by examining the relationship between website booking-engine functionality and both financial and non-financial hotel performance among selected star-rated hotels in Nakuru City, Kenya. It further combines quantitative analysis with qualitative evidence from hotel key informants, thereby providing context-specific statistical evidence and practical explanations of how booking-engine functionality operates within the hotel environment.

perceived usefulness and perceived ease of use to acceptance and effective use of the technology.

METHODOLOGY

The study adopted a mixed-methods approach, incorporating quantitative and qualitative components and employing descriptive and explanatory research designs. The quantitative component described respondents' perceptions of website booking engine functionality and hotel performance, and examined the statistical relationship between the two variables. The qualitative component provided contextual explanations from key informants regarding the operation and practical contribution of website booking engines in hotel operations. The mixed-methods approach was appropriate because quantitative data established the

magnitude and direction of the observed relationships, while qualitative evidence helped explain and contextualise these findings. Given the cross-sectional design, the study examined associations and predictive relationships rather than causal effects.

The study was conducted in Nakuru City, Kenya, among selected star-rated hotels. Nakuru City was considered appropriate because of its established hospitality sector and the relevance of digital technologies to contemporary hotel operations. The target population comprised 240 employees from 30 star-rated hotels. The study also included key informants with relevant knowledge of management, operations, information technology, or reservation systems.

Stratified random sampling was used to obtain quantitative data from respondents from the selected hotels. A sample of 150 employees from 15 hotels was determined using the Taro Yamane sample-size procedure. Stratification was used to ensure representation across the participating hotels.

On the other hand, to obtain qualitative data, 10 key informants from five hotels were purposively selected for their expertise in hotel management, reservations, information systems, or related operations. The qualitative participants were treated separately from the questionnaire respondents, with the five qualitative hotels either being a subset of the 15 quantitative hotels or constituting a separate group.

A pilot study involving 15 respondents was conducted at Boma Inn, Eka Hotel, Poa Place, and Sirikwa Hotel in Eldoret. The pilot represented approximately 10 per cent of the planned quantitative sample and was intended to assess the clarity, relevance, sequencing, and feasibility of the questionnaire. Pilot participants were excluded from the main study.

Validity was assessed through expert review of the instruments, focusing on the clarity, relevance, coverage, and alignment of items with the study constructs. The questionnaire was aligned with the conceptual framework, particularly the dimensions of website booking-engine functionality—availability monitoring, user-friendliness, and booking flexibility—and hotel performance, comprising financial and non-financial indicators. Reliability was assessed using Cronbach's alpha, with a coefficient of 0.70 or above considered acceptable.

Moreover, data were collected using a structured questionnaire for the quantitative component and a semi-structured interview guide for the qualitative component. The questionnaire measured respondents' perceptions of the website booking engine's functionality and of the hotel's financial and non-financial performance. The questionnaires were administered to selected employees and checked for completeness before analysis. Similarly, interviews were conducted with purposively selected key informants to obtain contextual information on booking systems, inventory management, booking flexibility, customer service processes, and technology integration. The quantitative and qualitative findings were subsequently integrated during interpretation.

Quantitative data were coded, cleaned, and analysed using SPSS Version 24. Frequencies, percentages, means, and standard deviations were used to summarise respondents' characteristics and perceptions. Pearson's product-moment correlation was used to assess the direction and strength of the association between website booking engine functionality and hotel performance.

On the other hand, linear regression analysis was used to determine whether website booking-engine functionality statistically predicted variation in hotel performance. The analysis was interpreted as a predictive/associational relationship rather than a causal effect because of the cross-sectional design. Statistical significance was assessed at $\alpha = .05$, with results reported as $p < .001$. Additionally, qualitative interview data were analysed thematically through familiarisation, coding, categorisation, and theme identification. The qualitative findings were used to explain and contextualise the quantitative results rather than to treat them as statistical confirmation.

Ethical Considerations

Relevant permissions were sought from the respective hotels, and hotel identities were anonymised where necessary. Participation was voluntary, and participants were informed about the study's purpose, their rights, and the intended use of the information. Informed consent was obtained before participation. Confidentiality and anonymity were maintained by limiting the collection of identifying information and protecting participants' responses. Completed questionnaires, interview records, and electronic data were securely stored with access restricted to the research team. Participants were free to decline or withdraw from the study without penalty.

FINDINGS AND DISCUSSION

Response Rate

The researcher distributed questionnaires to the respondents as shown in Table 1.

Table 1: Response Rate

Response	Frequency	Percentage (%)
Expected response	150	100
Received response	126	84
Un-received response	24	16

From the findings in Table 1, out of the 150 questionnaires administered, 126 were returned, yielding an 84.0 per cent questionnaire response rate. The 10 qualitative key informants were analysed separately and are not included in this response-rate calculation.

This response rate is considered highly adequate for statistical analysis and generalisation of findings, as it exceeds the commonly accepted threshold in social science research.

Demographic Information

The researcher sought to determine the demographic information for this study, including the duration respondents have been working in star-rated hotels and the duration of operation of star-rated hotels in Nakuru City.

Duration of Service

The researcher sought to establish the duration the respondents have been working in the selected star-rated hotels. The findings were as indicated in Table 2.

Table 2: Duration of Service

Duration of service	Frequency	Percentage (%)
Less than 1 year	39	31
1–<5 years	33	26
5–<10 years	28	22
10 years and above	26	21
Total	126	100

From the findings in Table 2, 31 per cent of the respondents had worked in hotels for less than 1 year, 26 per cent for 1–5 years, 22 per cent for 5–10 years, and 21 per cent for 10 years and above. This indicates that a majority of respondents had relatively shorter tenure, with 57 per cent having worked for less than 5 years. Such a distribution suggests that the workforce is largely composed of newer employees. According to Saunders et al. (2023), understanding respondents' experience levels is important as it influences the reliability of responses and the interpretation of organisational practices.

The service duration profile indicates a relatively new workforce among employees in the selected star-rated hotels in Nakuru City, with notable representation across both short- and long-tenure categories. A majority representation in the less-than-1-year and 1–5-year groups suggests a workforce likely adaptable and

receptive to technological advancements, such as access control systems, property management systems, website booking engines, and point-of-sale systems. This adaptability supports flexibility in learning and implementing smart technology practices as well as embracing digital transformation in daily operations. The

World Tourism Organisation (2022) emphasises that younger or less-tenured employees in hospitality are often more open to innovation and the adoption of digital systems, thereby enhancing service efficiency and competitiveness.

Duration of Operation

The researcher sought to determine how long the hotels have been in operation. The findings are indicated in Table 3.

Table 3: Duration of Operation

Highest Level of Education	Frequency	Percentage (%)
Less than 3 years	54	43
3- 5 years	9	7
6-10 years	22	17
10 years and above	41	33
Total	126	100

Table 3 reveals that 43 per cent of the respondents were associated with hotels that had operated for less than three years, 7 per cent with hotels operating for 3–5 years, 17 per cent with hotels operating for 6–<10 years, and 33 per cent with hotels operating for 10 years and above. Thus, the selected hotels included both relatively new establishments and hotels with long operational histories. The relatively high representation of hotels operating for less than three years provides an important contextual characteristic of the study setting.

The relatively large proportion of newer establishments may have implications for the adoption and use of digital technologies, as recently established hotels may have opportunities to incorporate contemporary technological systems into their operations from the outset. However, the present data do not directly establish that newer hotels possess more advanced technology or are more open to adopting new technologies. Such an

interpretation would require comparative evidence on technology adoption across the different duration-of-operation categories.

Nevertheless, the distribution is critical as hotel age may shape organisational routines, investment priorities, technological infrastructure, and managerial approaches to digital transformation. Thus, the finding provides useful background for interpreting the subsequent results on website booking engine functionality.

Descriptive Findings

Descriptive findings for Website Booking Engine

The study sought to assess the level of agreement on the statements regarding the website booking engine among selected star-rated hotels in Nakuru City, Kenya. The findings are indicated in Table 4.

Table 4: Website Booking Engine

Statement	N	Minimum	Maximum	Mean (SD)
Room availability on the booking engine is updated in real time	126	2.00	5.00	4.095 (.991)
The booking system prevents overbooking and double reservations	126	2.00	5.00	3.984 (.980)
Guests find it easy to view available rooms through the hotel's website	126	2.00	5.00	4.071 (.965)
The website booking engine is easy for customers to navigate and use	126	1.00	5.00	4.175 (1.059)
Customers can complete bookings without requiring technical assistance	126	2.00	5.00	4.071 (1.013)
The system allows customers to modify or cancel bookings with ease	126	1.00	5.00	4.222 (.971)
The booking platform offers flexible date and room selection options	126	1.00	5.00	3.603 (1.214)
Guests can choose room preferences and special options when booking online	126	2.00	5.00	3.762 (.889)

Table 4 shows generally favourable perceptions of the website booking engine's functionality among respondents at the selected star-rated hotels. The highest mean score was recorded for the statement that the system allows customers to modify or cancel bookings with ease ($M = 4.222$, $SD = 0.971$), followed by ease of navigation and use ($M = 4.175$, $SD = 1.059$). Real-time room-availability updates and customers' ability to complete bookings without technical assistance also received relatively high mean scores of 4.095 and 4.071, respectively.

These findings suggest that respondents generally perceived the booking engines as accessible and useful for routine reservation activities. This aligns with Hollander (2019), who notes that modern booking engines are essential for driving direct reservations by improving usability and reducing reliance on third-party platforms. In particular, the relatively high rating for booking modification and cancellation indicates that flexibility is an important feature of the online reservation process. Ease of navigation reduces the effort required to complete a reservation and enhances the convenience of direct online booking. These observations are consistent with the broader technology-adoption perspective in which perceived usefulness and ease of

use are important considerations in users' acceptance and utilisation of digital systems.

The finding on real-time room availability is also noteworthy. A mean of 4.095 indicates strong agreement that availability information is updated in real time. This functionality is operationally important because accurate inventory information can reduce discrepancies between available rooms and reservations. However, because the evidence was based on respondents' perceptions, the result should not be interpreted as an independent technical verification that booking engines update inventory in real time under all circumstances.

The lowest mean was recorded for flexible date and room-selection options ($M = 3.603$, $SD = 1.214$). The

comparatively larger standard deviation indicates greater variation in respondents' perceptions of this feature. This may suggest that the flexibility offered by booking engines is not uniform across the selected hotels. The finding is therefore useful for identifying an area requiring further system improvement rather than demonstrating a weakness common to all hotels.

Descriptive Findings for Performance of Selected Star Rated Hotels

The researcher sought to establish the level of agreement with the statements regarding the performance of selected star-rated hotels in Nakuru City, Kenya. The findings are indicated in Table 5.

Table 5: Performance of Selected Star Rated Hotels

Statement	N	Minimum	Maximum	Mean (SD)
The hotel has experienced an increase in profit margins over the past year	126	1.00	5.00	3.992 (1.070)
Adoption of smart technologies has contributed to higher revenue generation	126	1.00	5.00	4.095 (1.069)
Operational cost management has improved profitability in the hotel	126	2.00	5.00	3.960 (.907)
The hotel achieves financial targets consistently due to effective operational systems	126	1.00	5.00	3.659 (1.221)
Profit margins have improved due to enhanced efficiency in hotel operations	126	2.00	5.00	4.000 (.955)

Table 5 indicates generally favourable perceptions of the financial performance of the selected star-rated hotels. The highest mean was recorded for the statement that adoption of smart technologies has contributed to higher revenue generation ($M = 4.095$, $SD = 1.069$). This was followed closely by the perception that profit margins had improved due to enhanced efficiency in hotel

operations ($M = 4.000$, $SD = 0.955$) and that the hotels had experienced an increase in profit margins over the past year ($M = 3.992$, $SD = 1.070$).

The relatively high mean scores suggest that respondents perceive technology-enabled operational efficiency as relevant to the financial performance of their hotels. In

particular, the relationship between operational efficiency and profitability reflected in the mean of 4.000 indicates that respondents generally associate more efficient hotel operations with improved financial outcomes. This interpretation is consistent with Frans Melissen et al. (2022) who emphasise the potential of smart hospitality systems to reduce operational inefficiencies and support revenue optimisation.

However, the results also reveal variation in perceptions of financial consistency. The statement that the hotel achieves financial targets consistently due to effective operational systems recorded the lowest mean ($M = 3.659$, $SD = 1.221$) and the largest standard deviation among the financial-performance indicators. This suggests that although respondents generally viewed operational systems favourably, perceptions of their contribution to consistent achievement of financial targets differed considerably. Buhalis et al. (2023) similarly emphasise that the benefits obtained from smart technologies can depend on system integration and

managerial capability. Thus, technology availability alone may not guarantee uniform financial outcomes across hotels.

Overall, these findings imply that smart technology adoption significantly enhances profitability, revenue generation, and cost efficiency in selected hotels in Nakuru City, Kenya, although variations in consistency of financial performance indicate the need for stronger integration and strategic utilization of operational systems.

Descriptive findings for Non-financial Performance of Hotels

The study sought to establish the respondents level of agreement on the statements regarding the effect of non-financial performance of selected star rated hotels in Nakuru City, Kenya. The findings were as indicated in Table 6.

Table 6: Perceived Non-Financial Performance of Selected Star-Rated Hotels

Statement	N	Minimum	Maximum	Mean (SD)
The hotel maintains high occupancy rates throughout most seasons	126	1.00	5.00	3.738 (1.005)
Guests frequently return to the hotel because of quality services	126	2.00	5.00	3.865 (.999)
Guests consistently report satisfaction with the hotel's facilities and services	126	2.00	5.00	3.468 (1.078)
Adoption of smart technologies has enhanced guest experience and service delivery	126	2.00	5.00	4.071 (.965)
The hotel receives positive reviews and recommendations from satisfied customers	126	1.00	5.00	4.175 (1.059)

Table 6 shows generally favourable perceptions of non-financial performance among the selected star-rated hotels. The highest mean score was recorded for the

statement that the hotel receives positive reviews and recommendations from satisfied customers ($M = 4.175$,

SD = 1.059), followed by the perception that adoption of smart technologies has enhanced guest experience and service delivery (M = 4.071, SD = 0.965). The relatively high scores suggest that respondents generally perceived customer- and service-related outcomes as favourable.

The mean for maintaining high occupancy rates across most seasons was 3.738 (SD = 1.005), indicating moderate to relatively strong agreement, with some variation among respondents. This finding is consistent with Gursoy and Chi (2021), who emphasise the importance of service quality and technological developments in shaping hospitality outcomes. However, occupancy is also affected by factors such as seasonality, destination demand, pricing, competition, and broader economic conditions. Consequently, the descriptive result should not be attributed solely to website booking engines.

The statement that guests frequently return because of quality services recorded a mean of 3.865 (SD = 0.999), suggesting generally favourable perceptions of repeat patronage. Similarly, satisfaction with hotel facilities and services recorded a comparatively lower mean of 3.468 (SD = 1.078). The lower score and relatively greater variation indicate that perceived guest satisfaction was less consistent than some other non-financial indicators. This finding is relevant because digital systems may facilitate service delivery, but they do not substitute for the quality and consistency of the underlying hospitality experience. Similarly, Wang et al. (2022) emphasise the importance of service consistency and digital-service integration in shaping guest satisfaction and loyalty.

The statement concerning the contribution of smart technologies to guest experience and service delivery recorded a mean of 4.071 (SD = 0.965). This indicates

strong agreement among respondents that technology is relevant to guest experience. Likewise, positive reviews and recommendations had the highest mean, at 4.175. This aligns with Buhalis et al. (2023), who link digital transformation to customer satisfaction, online reputation, and word-of-mouth outcomes, supporting the plausibility of this pattern.

Nevertheless, the results should be interpreted as perceived non-financial performance rather than objectively measured occupancy, satisfaction, repeat patronage, or online reputation. This is because the study did not independently verify hotel occupancy records, customer review databases, or repeat-customer records using the measures presented in Table 6. Therefore, the table demonstrates favourable respondent perceptions rather than objective evidence that smart technologies produced these outcomes.

Overall, the findings in Table 6 suggest that respondents perceive non-financial performance as relatively favourable, particularly regarding online reputation, guest experience, and repeat patronage. The variation observed in satisfaction and occupancy perceptions also indicates that technology adoption operates within a broader service-delivery environment in which managerial practices, employee competence, service quality, and market conditions remain important.

Inferential Statistics

Correlation analysis was conducted to assess the nature and strength of the relationships between the study's independent and dependent variables. Pearson's correlation coefficient (r) was used to assess these relationships. The findings are indicated in Table 7.

Table 7: Pearson Correlation between Website Booking-Engine Functionality and Hotel Performance

Variable	Website booking engine	Hotel performance	N
Website booking engine	1.000	.910**	126
Hotel performance	.910**	1.000	126

Presenting the Pearson correlation between website booking-engine functionality and performance of the selected star-rated hotels. The results indicate a strong positive association between the two variables ($r = .910$, $p < .001$, $N = 126$). Thus, respondents who reported higher levels of website booking-engine functionality also tended to report higher levels of hotel performance.

The strength of the association provides empirical support for the proposition that website booking engine functionality is related to hotel performance among the selected hotels. The result is also consistent with the descriptive findings in Tables 4–6, where respondents generally reported favourable perceptions of both booking-engine functionality and hotel performance. The

finding therefore provides a quantitative basis for moving beyond the descriptive evidence and examining the extent to which variation in booking-engine functionality corresponds with variation in reported hotel performance.

The result is broadly consistent with Ferreira et al. (2024), who report a positive relationship between website booking technologies and hotel outcomes. The agreement between the present finding and these studies strengthens the plausibility of a positive relationship between digital booking functionality and hotel performance. However, differences in study settings, measures, research designs, and definitions of hotel performance should be considered when comparing the findings.

However, the correlation coefficient should not be interpreted as evidence that website booking engines improve hotel performance. This Pearson correlation establishes the direction and strength of association but does not rule out alternative explanations. For example,

hotels with stronger management capacity, better digital infrastructure, higher investment levels, or stronger market positions may simultaneously be more likely to have effective booking engines and report better performance.

A further consideration is that both variables in the present study were measured through respondents' perceptions. Therefore, the strength of the relationship may partly reflect common-method influences arising from the use of the same respondents and measurement approach. Accordingly, the finding is best interpreted as evidence of a strong positive reported association between website booking-engine functionality and perceived hotel performance. This finding is statistically significant at $p < .001$ and supports further examination through regression analysis.

Regression Analysis

Table 8: Regression Coefficients

Predictor	B	SE B	β	t	p
Constant	0.262	0.169	—	1.548	VERIFY
Website booking engine	0.597	0.106	0.495	5.661	< .001

From the findings, the constant (b) was 0.262, indicating that when the website booking engine is held constant at zero, hotel performance would still be 0.262 units. This suggests that there are other underlying factors, not captured in the model, that contribute to a baseline level of hotel performance in Nakuru City.

The Website Booking Engine showed a strong, positive, and statistically significant effect on hotel performance, with an unstandardized coefficient $\beta_3 = 0.597$ and a standardised beta of 0.495. This implies that a 1-unit increase in the adoption and effective use of website booking engines leads to a 0.597-unit improvement in hotel performance, holding other factors constant. The relationship was highly significant ($t = 5.661$, $p < .001$), indicating that direct online booking systems substantially enhance revenue generation, reduce dependence on intermediaries, and improve booking efficiency.

CONCLUSION AND RECOMMENDATIONS

Conclusion: From the findings, the study concluded that the provision of real-time room availability, user-friendly navigation, booking flexibility, and reduced reliance on

third-party platforms substantially contribute to increased direct bookings, higher revenue, and an improved guest

experience. Further, the study concluded that effective website booking engines improve booking efficiency, support dynamic pricing, and provide valuable customer data for personalised services. In addition, continued investment in intuitive and integrated booking platforms is therefore critical for boosting competitiveness, occupancy rates, and financial performance of hotels.

Recommendations: The study recommends that hotel managers in Nakuru City and similar urban destinations should prioritise investment in smart technologies, with particular emphasis on website booking engines, which emerged as a strong predictor of hotel performance. Further, the study recommends that policymakers and regulatory bodies, such as the Tourism Regulatory

Authority (TRA), support the development of targeted policies and incentives that promote the adoption of integrated smart technologies in star-rated hotels. This may include tax incentives for technology investments, subsidies for system upgrades, and mandatory capacity-building programmes for hotel staff, especially in emerging urban tourism hubs like Nakuru City.

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