

STRATEGIC INNOVATION STRATEGIES AND PERFORMANCE OF 3- STAR HOTELS IN NAIROBI CITY COUNTY, KENYA

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ABSTRACT

Purpose of the Study: The main objective of the study was to determine the relationship between strategic innovation strategies and performance of 3-star hotels in Nairobi City County, Kenya. Specifically, the study examined the relationship between service innovation, process innovation, market innovation, and technology innovation and organizational performance of 3-star hotels.

Statement of the Problem: The hospitality industry in Nairobi City County operates in a dynamic and highly competitive environment that requires continuous innovation to sustain and improve performance. However, limited empirical evidence exists on how strategic innovation strategies influence the performance of 3-star hotels, despite their important role in serving both domestic and international customers.

Research Methodology: The study adopted a descriptive research design and targeted 825 managers and employees from 3-star hotels in Nairobi City County. A sample of 269 respondents was selected using stratified random sampling, and data were collected using structured questionnaires and analyzed using descriptive and inferential statistics.

Findings: The study found that service innovation, process innovation, market innovation, and technology innovation had positive and significant relationships with organizational performance. Service innovation was the most influential factor, showing that improved service delivery, customer feedback, and personalized guest experiences enhance customer satisfaction and repeat

visits. Process innovation improved performance by enhancing operational efficiency, reducing delays, and improving resource utilization. Market innovation contributed to improved performance by strengthening brand positioning, customer engagement, and competitive advantage. Technology innovation also enhanced performance through remote reservations, self-check-in systems, demand prediction tools, and automation.

Conclusion: The study concludes that strategic innovation strategies significantly influence the performance of 3-star hotels in Nairobi City County. A balanced application of service, process, market, and technology innovation improves customer satisfaction, hotel bookings, sales turnover, and long-term competitiveness.

Recommendations: The study recommends that hotel managers should continuously improve service delivery, automate key operational processes, adopt innovative marketing strategies, and invest in relevant digital technologies. The study also recommends that policymakers should support 3-star hotels through digital infrastructure, innovation-friendly policies, and capacity-building programs.

Keywords: *Strategic Innovation Strategies, Performance, 3- Star Hotels, Nairobi City County, Kenya*

BACKGROUND OF THE STUDY

Strategic innovation, represents a deliberate and transformative approach to redefining a firm's competitive position through novel business models, processes, or value propositions. Govindarajan and Trimble (2019) emphasize that strategic innovation transcends incremental improvements, requiring firms to challenge existing assumptions and integrate emerging technologies or market insights to create new growth avenues. Key elements include a clear vision aligned with long-term objectives, cross-functional collaboration, and a culture that tolerates calculated risk-taking. For instance, studies highlight how firms leverage dynamic capabilities sensing opportunities, seizing them through resource reconfiguration, and transforming operations to sustain competitive advantage (Teece *et al.*, 2020). This approach often involves balancing exploitation of current strengths with exploration of uncharted markets, ensuring adaptability in volatile environments.

The contribution of strategic innovation to firm performance is multifaceted, driving both financial and non-financial outcomes. Research by Christensen *et al.* (2021) underscores its role in fostering disruptive growth, enabling firms to capture untapped customer segments or create entirely new markets, as seen in cases like digital platform businesses. Beyond revenue, strategic innovation enhances organizational resilience by embedding agility and learning mechanisms, allowing firms to navigate technological disruptions or economic shifts (Rigby *et al.*, 2020). Moreover, it strengthens stakeholder value by aligning innovation with societal needs, such as sustainability-driven strategies that attract eco-conscious consumers and investors (Porter & Kramer, 2021). However, success hinges on overcoming internal resistance and aligning innovation with core competencies, as missteps can dilute resources or erode brand equity.

Despite its potential, strategic innovation demands rigorous execution and contextual alignment. Literature from 2022-2024, including studies by McKinsey Quarterly, highlights that firms often falter due to inadequate leadership commitment or failure to integrate innovation with operational realities. Effective strategies require iterative experimentation, data-driven decision-making, and stakeholder engagement to refine concepts before scaling (Bughin *et al.*, 2023). Additionally, regional and industry-specific factors shape outcomes high-tech sectors may prioritize rapid prototyping, while traditional industries focus on process reinvention (Deloitte Insights, 2024). Ultimately, strategic innovation serves as a catalyst for sustained growth and differentiation, but its impact depends on a firm's ability to embed it within a coherent strategic framework and culture that embraces change.

Strategic innovation in hotels globally, involves transformative strategies like AI-driven personalization, blockchain for secure bookings, and sustainable practices to enhance competitiveness. In Singapore, hotels use smart room technologies to boost guest satisfaction, contributing to a 36% performance variance through improved efficiency and loyalty (Martin-Rios & Pasamar, 2020). Similarly, Dubai's luxury hotels integrate VR-based experiences to differentiate offerings, aligning with affluent traveler demands (Buhalis *et al.*, 2024). Key elements include agile leadership, cross-functional collaboration, and data analytics to anticipate market shifts. However, high implementation costs and skill gaps challenge smaller chains, particularly in markets like Thailand, where budget hotels lag in adopting advanced systems (Sharma *et al.*,

2021). Strategic innovation globally drives revenue growth and brand resilience, with firms balancing technological and human-centric approaches to stay relevant.

In Africa, strategic innovation is shaped by economic and infrastructural diversity, with varying adoption across countries. South Africa's hotels, particularly in Cape Town, lead in sustainability, using solar energy and water recycling to cut costs and attract eco-conscious guests (Horng et al., 2022). In Nigeria, urban hotels in Lagos adopt mobile apps for seamless bookings, though limited digital infrastructure hinders scalability (Mwai, 2016). Only 29% of African hospitality firms pursue robust innovation due to financial constraints and low-tech literacy, compared to global benchmarks (Martin-Rios, 2020). Regionally, East Africa, including Kenya, Rwanda, and Tanzania, showcases innovation driven by tourism's economic weight. Rwanda's eco-lodges near Volcanoes National Park integrate sustainable designs, boosting occupancy rates and global appeal (Legrand *et. al.*, 2020).

In Tanzania, Zanzibar's hotels adopt e-CRM systems, improving guest retention with a 36.2% performance uplift (Gioko, 2021). Kenya's star-rated hotels employ Blue Ocean strategies, focusing on low-cost differentiation, with Naivasha properties reporting significant profitability gains (Ndolo & Ragui, 2024). Resistance to automation persists, notably in Tanzania, where cultural preferences favor human service, requiring tailored training (Ezzaouia & Bulchand-Gidumal, 2020). Regional investments in ICT, particularly in Rwanda's tech hub ambitions, catalyze innovation, positioning East Africa as a competitive hospitality frontier.

In Kenya, strategic innovation is critical for capturing global and domestic markets. Nairobi's hotels leverage digital banking and online platforms to enhance guest engagement, though rural properties face technology access gaps (Kamau, 2021). In the Maasai Mara, safari lodges introduce experiential innovations like cultural immersion packages, driving revenue and brand equity (Hersi, 2025). Sustainability practices, such as Mombasa's eco-friendly resorts, align with international trends, explaining performance improvements through cost savings and guest loyalty (Legrand *et. al.*, 2020). Challenges include managerial reluctance and uneven digital skills, particularly in smaller hotels. To maximize impact, Kenyan hotels must foster innovation cultures and leverage government ICT initiatives, ensuring alignment with local dynamics and global standards. The study targeted 3-star hotels in Nairobi County because they represent a significant segment of the hospitality market, balancing affordability and quality to attract both domestic and

international tourists. Their moderate scale and operational flexibility make them ideal for studying the adoption and impact of strategic innovations like digital platforms and sustainability practices (Gioko, 2021).

STATEMENT OF THE PROBLEM

Strategic innovation in Kenyan hotels play the role of harnessing digital technologies, sustainability practices and unique guest experiences to maximize performance. Strategic innovative strategies have a potential to seamlessly integrate AI-driven personalization, such as tailored room preferences, and block chain for secure bookings, enhancing guest satisfaction and operational efficiency (Buhalis et al., 2024). Sustainability initiatives, like solar energy and waste reduction, would lower costs and attract eco-conscious travelers, while Blue Ocean strategies creating uncontested market spaces through low-cost differentiation would drive market share and loyalty (Ndolo & Ragui, 2024). A culture of experimentation, supported by robust managerial commitment and government-backed ICT infrastructure, would enable hotels to anticipate market trends and deliver consistent value.

Strategic innovation strategies in Kenyan hotels shows mixed impacts on performance, constrained by structural and cultural barriers. Gioko (2021) indicate that electronic innovations, such as e-CRM and online booking platforms, explain 36.2% of performance variance in three- to- five-star hotels, boosting sales volume through improved guest retention and operational efficiency. However, profit margins remain under pressure, with Nairobi's star-rated hotels reporting gross operating profit margins averaging 25-30% due to high operational costs and uneven technology adoption (Kamau, 2021). Kenya's tourism sector is experiencing remarkable growth, with international arrivals reaching a record 2.4 million in 2024- a 15 per cent increase from the previous year. According to the Kenya Hoteliers Association (2024) the sector has seen a substantial rise in inbound tourism revenue, which increased from Sh377.49 billion in 2023 to Sh452.20 billion in 2024, reflecting a 19.79 per cent growth. The domestic tourism sector recorded impressive gains, with bed night occupancy rising by 12 per cent; from 4,618,094 in 2023 to 5,173,966 in 2024. However, KNBS (2025) indicates that total bed-nights occupied reached approximately 10.2 million in 2024, translating to an overall occupancy rate of about 28.9 per cent, up from 8.6 million bed-nights in 2023.

The study has carried out an extensive review of literature in an attempt to understand the relationship between strategic innovation strategies and performance of 3-star Hotels in Nairobi City County. For instance: Ledia et al. (2024) primarily focused on larger hotel chains, leaving the unique challenges faced by smaller establishments unaddressed. Kula et al. (2022) focused only on Innovation Strategies in 5-star hotels in Mombasa County. Wang et al. (2023) study lacked quantitative data to validate these findings across a wider range of hotels. This limitation restricts the generalizability of the conclusions, particularly for larger hotel chains. Gupta and Zhang (2022) did not address potential financial constraints that smaller hotels might encounter when implementing eco-innovations. Smith and Carvalho (2021) did not include smaller hotels, which often lack the resources to implement such technologies. Martínez et al. Dube et al. (2020) study did not explore the long-term sustainability of these innovations beyond the crisis. Chen and Lee (2021) study do not address the dynamics of collaboration to optimize partnership strategies. Notable in the studies reviewed, most studies reviewed did not focus on strategic innovation in 3-star hotels in Kenya. An information gap that the study sought to fill.

OBJECTIVES OF THE STUDY

- i. To determine the relationship between service innovation and performance of 3- Star hotels in Nairobi City County.
- ii. To examine the relationship between process innovation and performance of 3- Star hotels in Nairobi City County.
- iii. To establish the relationship between market innovation and performance of 3- Star hotels in Nairobi City County
- iv. To examine relationship between technology innovation and performance of 3- Star hotels in Nairobi City County.

LITERATURE REVIEW

Literature review is presented in sections.

Theoretical Framework

The study was based on four theories: Resource-Based View Theory, Dynamic Capability Theory, Disruptive Innovation Theory, and Game Theory. These theories supported the study by explaining how service innovation, process innovation, market innovation, and technology

innovation relate to the performance of 3-star hotels in Nairobi City County. Resource-Based View Theory was developed by Barney in 1980 and later advanced by Wernerfelt and Penrose. The theory states that organizational performance depends on how well a firm uses its internal resources and capabilities, such as skilled employees, technology, systems, customer relationships, and organizational culture. In this study, the theory informed the objective on process innovation by explaining how 3-star hotels in Nairobi City County can use internal resources such as automated payment systems, online booking platforms, and real-time query applications to improve efficiency and performance. This is because hotels that properly organize and use their internal resources are more likely to reduce operational delays, improve service delivery, and enhance overall performance.

Dynamic Capability Theory was developed by Teece in 1990. The theory states that organizations perform better when they can sense changes in the business environment, seize emerging opportunities, and reorganize their resources to respond effectively. In this study, the theory informed the objective on technology innovation by explaining how 3-star hotels in Nairobi City County can use remote reservations, self-check-in systems, and demand prediction tools to respond to changing customer needs and market conditions. This is because hotels that adapt quickly through technology are more likely to improve customer convenience, strengthen operational flexibility, and achieve better performance in a competitive hospitality environment.

Disruptive Innovation Theory was developed by Christensen in 1990. The theory states that new services, technologies, or business models can transform existing markets by first serving overlooked or less demanding customers before becoming widely accepted. In this study, the theory informed the objective on service innovation by explaining how 3-star hotels in Nairobi City County can improve performance through QR-code menus, automated self-service, smart room temperature control, and other improved service delivery methods. This is because such innovations help hotels meet changing customer expectations, improve guest experience, encourage repeat visits, and strengthen hotel performance.

Game Theory was developed by Neumann and Morgenstern in 1944. The theory states that organizations make strategic decisions by considering the possible actions and reactions of competitors. It explains how firms choose strategies that can give them an advantage in competitive markets. In this study, the theory informed the objective on market innovation by

explaining how 3-star hotels in Nairobi City County can use branding, diversification, and entry into new markets to compete effectively. This is because hotels operate in a competitive environment where strategic market decisions influence customer attraction, hotel bookings, sales turnover, and overall performance.

Conceptual Framework

Figure 1 presents the Conceptual Framework

Independent Variable

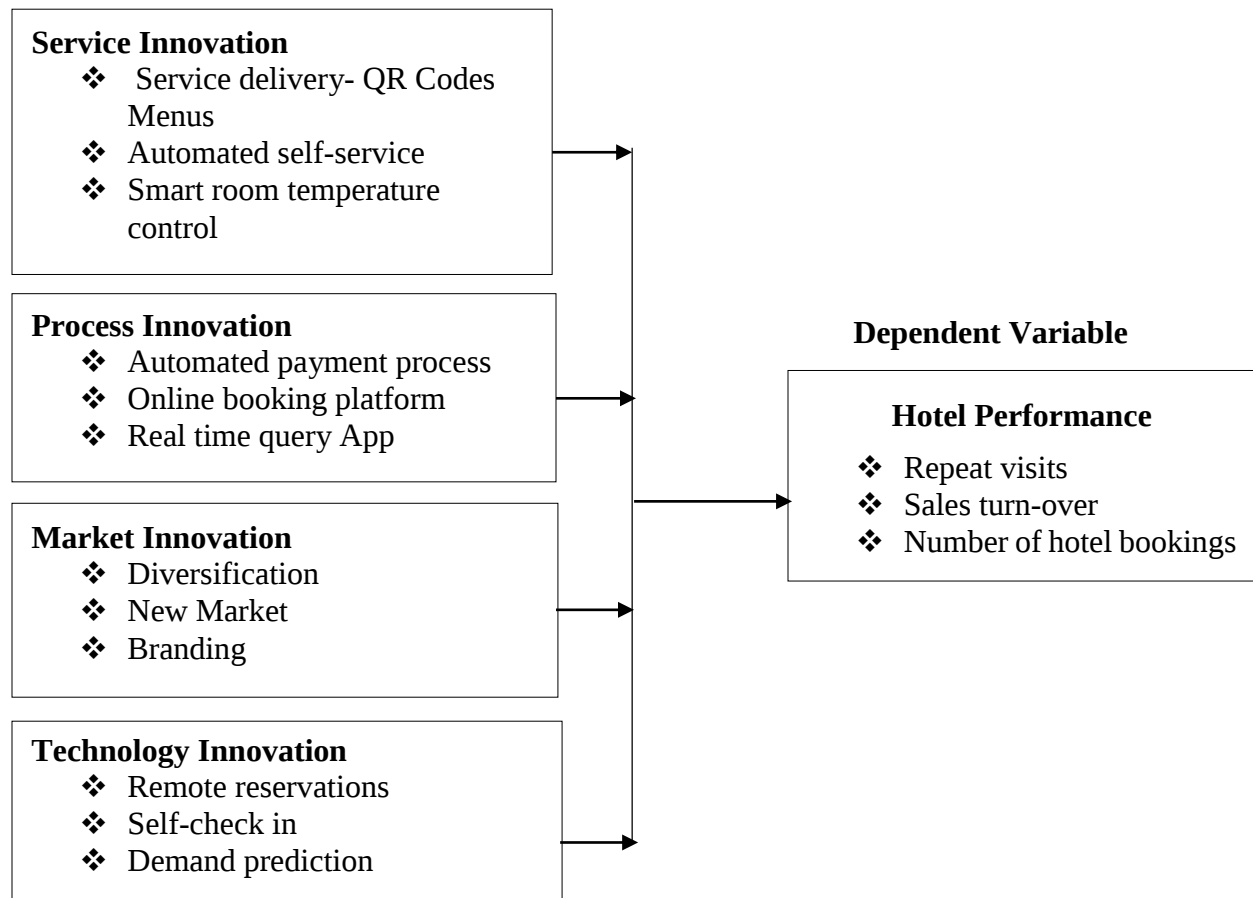


Figure 1: Conceptual framework

Empirical Review

Wang et al. (2023) used qualitative interviews with boutique hotel managers and guests and found that personalized service innovations improved repeat visits and positive recommendations. Chen et al. (2019) used a quantitative survey of 250 hotel managers in Taiwan and structural equation

modelling and found that service innovation improved customer satisfaction, revenue growth, and profitability. Khan and Khan (2021) used a mixed-methods approach involving 300 banking professionals and 15 senior executives and found that digital service innovation improved operational efficiency, customer engagement, and organizational performance.

Lee et al. (2022) used a multiple case study approach involving interviews and archival documents from five consulting firms in South Korea and found that service innovation capability improved market share and employee productivity. Alshemmari and Monawer (2024) used a quantitative survey of 294 managers in Kuwait's banking sector and found that workplace diversity enhanced service innovation, which later improved competitive advantage and financial performance. Marocco et al. (2024) used conceptual analysis and found that clear organizational processes support service innovation and improve organizational performance.

Gupta et al. (2019) used a quantitative survey of 320 manufacturing managers in India and found that process innovation improved cost efficiency, product quality, and delivery time. Oliveira and Santos (2020) used multiple case studies in three Portuguese hospitals and found that process innovation improved patient waiting time, staff productivity, and patient satisfaction. Zhang and Li (2021) used a mixed-methods approach involving 250 retail managers and 12 executives in China and found that digital process innovation improved operational efficiency and customer retention.

Müller and Schmidt (2023) used a quantitative experimental method involving 180 logistics managers in Europe and found that process innovation improved sustainability performance by reducing environmental impact and operational costs. Kim et al. (2024) used conceptual analysis and found that process innovation improves client satisfaction and innovation output in knowledge-intensive service firms. Fernández and López (2019) used a quantitative survey of 280 marketing managers in Spain and found that market innovation improved customer loyalty, market share, and profitability.

Nguyen and Tran (2020) used a mixed-methods approach involving 200 retail managers and 10 executives in Vietnam and found that digital market innovation improved sales growth and customer retention. Patel and Kim (2021) used multiple case studies of four Indian telecommunication firms and found that market innovation increased market penetration and

revenue growth. Schmidt and Van der Berg (2023) used a quantitative experimental method with 150 marketing managers and found that sustainable market innovation improved customer loyalty and competitive differentiation. Wu et al. (2024) used conceptual analysis and found that market innovation supports innovation output and market leadership.

Liu et al. (2019) used a quantitative survey of 350 manufacturing managers in China and found that technology innovation improved operational efficiency, cost reduction, and product quality. Rossi and Bianchi (2020) used mixed methods involving 250 financial managers and 15 executives and found that fintech innovation reduced operational costs and improved service delivery. Adebayo and Okeke (2021) used multiple case studies in Nigerian hospitals and found that telemedicine improved patient reach, care quality, and cost efficiency. Kumar and Singh (2023) used an experimental method with 180 retail managers and found that AI innovation improved sales growth, inventory turnover, and customer engagement.

RESEARCH METHODOLOGY

The study adopted a descriptive research design to examine the relationship between strategic innovation strategies and performance of 3-star hotels in Nairobi City County. The target population comprised 75 three-star hotels, while the unit of observation was 825 managers and employees drawn from departments such as general management, sales and marketing, finance, human resource, front office, ICT, food and beverages, housekeeping, security, engineering, and general employees. The study used stratified sampling to ensure fair representation across the hotel departments, and the Yamane formula was applied to obtain a sample size of 269 respondents at a 5% margin of error and 95% confidence level. The study collected primary data using structured questionnaires based on a five-point Likert scale, while secondary data were obtained from hotel performance and financial reports. Data collection was done after university approval and NACOSTI authorization, with questionnaires administered through drop-and-pick procedures. A pilot study was conducted to test validity and reliability, while Cronbach's Alpha was used to confirm internal consistency. Data were cleaned, coded, and analyzed using descriptive statistics, correlation analysis, ANOVA, model summary, and multiple regression to test how service innovation, process innovation, market innovation, and technology innovation influenced organizational performance.

DATA ANALYSIS, INTERPRETATION AND PRESENTATION

This chapter provides analysis and presentation of data related to research instruments validity and reliability, study response rate, correlational analysis, model summary, analysis of variance and regression co-efficient.

Research Instruments Validity and Reliability

To assess the validity and reliability of the questionnaire as a data collection instrument, a pilot study was conducted among 83 respondents drawn from 3-star hotels in Nairobi City County. The pilot study represented approximately 10% of the target population and was considered adequate for testing the research instrument before the main study. The main purpose of the pilot study was to determine whether the questionnaire items were clear, relevant, and capable of generating consistent responses. The findings from the pilot test were used to refine the questionnaire by removing unclear wording, improving item structure, and incorporating recommendations from the supervisors.

Factor analysis was conducted using Principal Component Analysis to determine whether the questionnaire items properly measured the intended study constructs. The results showed that the retained items loaded strongly under their respective factors, with most factor loadings above the recommended threshold of 0.7. This confirmed that the items were well aligned with the five constructs of service innovation, process innovation, market innovation, technology innovation, and hotel performance. The extracted factors explained 69.7% of the total variance, which was considered adequate since social science studies commonly accept a variance level above 60%.

The validity of the research instrument was further tested using the Kaiser-Meyer-Olkin Measure of Sampling Adequacy and Bartlett's Test of Sphericity. The KMO value was 0.914, which indicated that the sample was highly adequate for factor analysis. Bartlett's Test of Sphericity was significant, with a p-value of 0.021, confirming that the variables were sufficiently correlated for factor analysis. These results showed that the questionnaire had acceptable construct validity and that the data were suitable for further statistical analysis.

Reliability was tested using Cronbach's Alpha Coefficient to determine the internal consistency of the questionnaire items. The results showed that service innovation had an alpha value of 0.912, process innovation 0.893, market innovation 0.876, technology innovation 0.886, and

organizational performance 0.898. Since all the values were above the recommended threshold of 0.7, the instrument was considered reliable. This means that the questionnaire items were consistent in measuring their respective constructs and could produce dependable results for the study.

Study response rate

The researcher administered 269 questionnaires to departmental managers and employees of 3-star hotels in Nairobi County. The rate of response obtained is presented in the table 1.

Table 1: Response rate

Responses	Frequency	Percentage
Filled questionnaires	223	82.9%%
Not filled	46	17.1%
Total	269	100%

Source: Research data (2025)

A total of 269 questionnaires were distributed, with 223 questionnaires completed and returned, representing a response rate of 82.9%, while 46 questionnaires remained unfilled, accounting for 17.1% of the total. This high response rate of 82.9% indicates a strong level of participation and engagement from the respondents, suggesting that the study achieved a robust sample size relative to the targeted population, which enhances the reliability and representativeness of the findings. The response rate exceeds the threshold of 70% often considered acceptable in social science research, implying that the results are likely to reflect the views and experiences of the broader population of 3-star hotel stakeholders in Nairobi City County. Conversely, the 17.1% non-response rate, while relatively low, may introduce a minor risk of non-response bias, particularly if the non-respondents differ systematically from the respondents in terms of key characteristics, such as hotel size, management practices, or innovation adoption.

Descriptive Analysis Results

This section provides responses to statements relating to study variables i.e. Service Innovation, Process Innovation, Market Innovation, Technology Innovation and Organizational performance, the statements were based on a likert scale of 1-5. where 1. Strongly disagree 2. Disagree 3.

Neutral 4. Agree 5. Strongly Agree. The findings are presented separately for each variable as follows.

Service Innovation

Study participants were asked to indicate the extent to which they agree to statements on service innovation. Their responses are provided in table 2

Table 2: Service Innovation

Statement	Mean	SD
The use of service delivery robots enhances efficiency and customer satisfaction in our hotel	3.60	.890
I find service robots helpful in reducing repetitive tasks and improving service speed	3.47	1.331
Automated self-service options (check-in kiosks) improve convenience for customers.	4.03	.912
The availability of self-service technologies has reduced workload and increased accuracy in service delivery.	3.79	.889
Smart room temperature systems improve guest comfort and enhance their experience.	3.77	1.04
Automated room temperature control contributes to energy efficiency and better service delivery.	3.95	.911
Overall Mean	3.768	

Source: Research data (2025)

The findings indicate a generally favorable perception of service innovation in 3-star hotels in Nairobi, with an overall mean of 3.77, suggesting that technological advancements are positively influencing hotel operations and guest experiences. Among the innovations assessed, automated self-service options such as check-in kiosks received the highest approval (mean = 4.03), reflecting strong customer appreciation for convenience and speed. Smart room temperature systems were also rated highly (means = 3.77 and 3.95), indicating their perceived contribution to guest comfort and energy efficiency. Meanwhile, service delivery robots, though positively viewed (means = 3.60 and 3.47), showed slightly lower ratings and higher variability (SD = 1.331), suggesting mixed experiences or limited adoption. These findings imply that while service innovation is generally well-received in Nairobi's 3-star hotels.

Process Innovation

Study participants were asked to indicate the extent to which they agree to statements on process innovation. Their responses are provided in table 3.

Table 3: Process Innovation

Statement	Mean	SD
The automated payment process has made transactions faster and more convenient for customers.	4.01	.991
Using automated payment systems has reduced errors and improved financial accuracy	3.92	.832
The online booking platform simplifies reservation processes for both staff and customers.	3.83	.712
Our hotel online booking system enhances customer satisfaction and booking efficiency.	4.19	.881
The real-time query app allows customers to receive quick and accurate responses to their inquiries.	3.62	1.14
Using a real-time query system has improved communication and reduced delays in customer service.	3.95	.933
Overall Mean	3.92	

Source: Research data (2025)

The findings reflect a strong positive perception of process innovation in 3-star hotels in Nairobi, with an overall mean of 3.92, indicating broad agreement among respondents on the effectiveness of technological enhancements. The highest-rated item was the role of the online booking system in improving customer satisfaction and efficiency (mean = 4.19), demonstrating that digital reservation tools are central to enhancing service quality. Automated payment systems also scored highly (mean = 4.01 and 3.92), suggesting they are seen as effective in streamlining transactions and improving financial accuracy. While the real-time query app was rated slightly lower (mean = 3.62), its contribution to improved communication and reduced delays (mean = 3.95) still highlights its operational value. The findings suggest a growing acceptance and successful implementation of process innovations that enhance both customer experience and internal efficiency in Nairobi's mid-tier hotel sector.

Market Innovation

Study participants were asked to indicate the extent to which they agree to statements on market innovation. Their responses are provided in table 4.

Table 4: Market Innovation

Statement	Mean	SD
Customers are highly receptive to the new products or services introduced by our hotel	4.11	.909
Our innovation efforts lead to successful acceptance of new offerings in the market.	3.95	1.05
Our hotel effectively uses innovation strategies to enter and expand in new markets.	4.22	.910
Innovative marketing approaches have helped us increase our customer base and market share.	3.83	.803
Market innovation has strengthened our brand identity and made us more recognizable to customers.	4.02	.912
Innovative products and campaigns have positively influenced how customers perceive our brand.	4.19	.946
Overall Mean	4.05	

Source: Research data (2025)

The findings indicate a strong and favorable perception of market innovation among 3-star hotels in Nairobi, with all measured aspects scoring above average and clustered closely around the 4.0 mark. The highest-rated item (mean = 4.22) reflects effective use of innovation strategies to penetrate and expand into new markets, highlighting hotels' proactive approach to growth. High scores on new product acceptance (mean = 4.11) and brand influence through innovation (mean = 4.19 and 4.02) suggest that customers are responsive to innovative offerings and that such strategies are reinforcing brand recognition and identity. Slightly lower but still strong ratings for market share growth (mean = 3.83) and acceptance of new offerings (mean = 3.95) point to ongoing efforts to fine-tune marketing strategies. Overall, these results underscore that market innovation is playing a crucial role in helping 3-star hotels in Nairobi remain competitive, attract customers, and build strong, innovation-driven brands in a dynamic hospitality environment.

Technology Innovation

Study participants were asked to indicate the extent to which they agree to statements on technology innovation. Their responses are provided in table 5.

Table 5: Technology innovation

Statement	Mean	SD
The remote reservation system makes it easier for customers to book services from any location.	4.03	.800
Technology-enabled remote reservations have improved our booking efficiency and customer convenience.	3.97	1.21
The self-check-in process enhances guest experience by reducing waiting time.	4.18	1.03
Self-check-in technology increases operational efficiency and reduces front desk congestion.	3.99	.814
Our hotel uses technology to accurately predict customer demand and adjust services accordingly.	3.86	.819
Demand prediction tools have helped optimize staffing, inventory, and pricing decisions.	3.87	.933
Overall average	3.98	

Source: Research data (2025)

The findings reveal a highly positive perception of technology innovation in 3-star hotels in Nairobi, with an overall average of 3.98, indicating strong agreement on the value of tech-driven solutions in enhancing both operational efficiency and customer experience. Self-check-in technology stands out as particularly impactful (mean = 4.18), reflecting its effectiveness in reducing guest wait times and improving service delivery. Similarly, remote reservation systems received high ratings (means = 4.03 and 3.97), showing that customers appreciate the flexibility and convenience of booking from any location, which also benefits hotel operations. The use of demand prediction tools scored slightly lower but still favorable (means = 3.86 and 3.87), suggesting growing confidence in their ability to support strategic decisions related to staffing, inventory, and pricing. Overall, the results indicate that 3-star hotels in Nairobi are successfully

leveraging technology innovation to streamline processes, enhance guest satisfaction, and improve business responsiveness in a competitive hospitality landscape.

Hotel Performance

Study participants were asked to indicate the extent to which they agree to statements on hotel performance. Their responses are provided in table 6.

Table 6: Hotel Performance

Statement	Mean	SD
A high number of repeat visits indicates strong customer satisfaction and loyalty at our hotel.	3.53	.989
Our service quality and guest experience encourage customers to return regularly.	3.32	.977
The hotel consistently achieves strong sales turnover across different departments (rooms, food, events).	3.68	1.23
Innovative strategies and efficient operations have contributed to increased sales turnover.	3.31	1.09
There has been a steady growth in the number of hotel bookings over the past year.	3.29	.939
Marketing and customer service efforts have significantly boosted hotel booking rates.	3.55	1.35
Overall Mean	3.45	

Source: Research data (2025)

The findings indicate a moderate perception of hotel performance among 3-star hotels in Nairobi, with an overall mean of 3.45, suggesting room for improvement in key performance areas. While the highest-rated aspect sales turnover across departments (mean = 3.68) reflects relatively strong financial performance, other critical indicators such as repeat visits (mean = 3.53) and booking growth (mean = 3.29) reveal only moderate customer retention and expansion. Notably, service quality and guest experience (mean = 3.32) and the role of innovative strategies in boosting sales (mean = 3.31) were rated lower, pointing to potential gaps in value delivery and competitiveness. Despite some success in marketing and operational efficiency, as seen in the booking rate support (mean = 3.55). The findings reveal that 3-star hotels in Nairobi may need to strengthen their customer loyalty initiatives, enhance service innovation, and implement more impactful marketing strategies to drive sustained growth and improve overall performance.

Inferential Analysis Results

This section provides analysis results for Correlation analysis, Model summary, Analysis of Variance and Regression co-efficient.

Correlation analysis results

Correlational analysis was used to assess the strength and direction of relationships between two or more variables without implying causation.

Table 7: Correlation

		HP	SI	PI	MI	TI	
HP	Pearson's r	1					
	p-value						
SI	Pearson's r	0.349	1				
	p-value	.001					
PI	Pearson's r	0.234	0.321	1			
	p-value	0.003	.001				
MI	Pearson's r	0.417	0.347	0.399	1		
	p-value	.001	.001	.001			
TI	Pearson's r	0.306	0.213	0.451	0.275	1	1
	p-value	.001	0.007	.001	.001		

Source: Research data (2025)

Key: **SI:** Service Innovation; **PI:** Process Innovation; **MI:** Market Innovation; **TI:** Technology Innovation; **HP** Hotel Performance

The correlational results indicate significant positive relationships among service innovation, process innovation, market innovation, and technology innovation, suggesting that these forms of innovation are interrelated within the hotel. Market innovation shows the strongest correlations with other innovation types, particularly with service innovation ($r = 0.417$, $p = .001$) and process innovation ($r = 0.347$, $p = .001$), indicating that advancements in market strategies are closely tied to improvements in both service delivery and operational efficiency. Technology innovation has a notable correlation with process innovation ($r = 0.451$, $p = .003$), suggesting that technological

advancements play a crucial role in optimizing processes. Service innovation and process innovation also exhibit a moderate positive relationship ($r = 0.321$, $p = .001$), implying that improvements in service offerings often align with enhancements in internal processes. While all correlations are statistically significant ($p < .01$), the strength of relationships varies, with market and technology innovation showing stronger ties to hotel performance. These findings suggest that fostering a balanced approach to innovation across different areas can lead to greater overall effectiveness and organizational growth.

Model summary

This analysis was done to evaluate the model's explanatory power, predictive accuracy, and suitability for the data, guiding decisions on model refinement and selection.

Table 8: Model summary

Model	R	R-Square	Adjusted R-Square	Std. Error of the Estimate
1	.865 ^a	.749	.726	.342

Source: Research data (2025)

Predictors: (Constant); Service innovation, Process innovation, Market innovation, Technology innovation

The model summary results indicate a strong relationship between the independent variables and the dependent variable. The R-Square (0.749) indicates that approximately 74.9% of the variation in the dependent variable is explained by the model, demonstrating a good fit. The Adjusted R-Square (0.726), which accounts for the number of predictors in the model, remains high, confirming the model's robustness while reducing the risk of overfitting. The Standard Error of the Estimate (0.342) represents the average deviation of observed values from the predicted values, and its relatively low value suggests that the model's predictions are fairly precise. These results align with research indicating that models with high R-Square values (above 70%) are strong in explaining relationships.

Analysis of Variance

The analysis was used to determine if there are significant differences among the means of independent groups. By partitioning the total variance observed in a dataset into components

attributable to different sources, ANOVA helped researchers assess whether observed variations were due to genuine differences between groups or merely random chance.

Table 9: Analysis of Variance

	Sum of Squares	Df	Mean Square	F	p
Regression	36.682	4	9.170	16.12	0.026
Residuals	124.055	218	0.569		
Total	160.737	222			

Source: Research data (2025)

Predictors: (Constant); Service innovation, Process innovation, Market innovation, Technology innovation

The total sum of squares (160.737) shows the total variation in the dataset. The F-statistic (16.12), which measures the model's explanatory power, is relatively high, suggesting that the independent variables significantly predict the dependent variable. The associated p-value (0.026) is below the conventional threshold of 0.05, indicating that the model is statistically significant. This means that at least one of the predictors contributes meaningfully to explaining the dependent variable.

Regression co-efficient

Regression analysis was used to examine the relationships between a dependent variable and one or more independent variables, enabling predictions and insights into how changes in predictors influence outcomes. The coefficients derived from regression models quantified the direction and magnitude of these relationships.

Table 10: Regression co-efficient

	Unstandardized Coefficients	Std. Error	Standardized Coefficients	T	Sig
(Constant)	.392	.343		1.143	.051
Service innovation	.468	.142	.372	3.296	.031
Process innovation	.376	.133	.287	2.827	.032
Market innovation	.677	.177	.272	3.824	.019
Technology innovation	.586	.129	.241	4.543	.024

Source: Research data (2025)

$$Y = .392 + .468SI + .376PI + .677MI + .586TI + \varepsilon$$

The regression results indicate that all four types of innovation service, process, market, and technology have a significant positive impact on the dependent variable, as all p-values are below 0.05. The findings suggest that service innovation has the strongest effect on hotel performance ($\beta=0.372$, $p=0.031$), indicating that improvements in service offerings, such as customer experience enhancements and personalized services, contribute significantly to hotel success. This implies that businesses that focus on refining their service delivery and responding to customer needs are likely to experience higher hotel performance levels. The statistical significance of this relationship highlights the critical role of service-oriented strategies in driving growth and competitive advantage.

Process innovation ($\beta=0.287$, $p=0.032$) also plays a meaningful role in enhancing hotel performance, emphasizing the importance of efficiency in operations. Organizations that optimize workflows, automate processes, and reduce inefficiencies can achieve better productivity and cost savings, leading to improved outcomes. The significant p-value indicates that investing in process improvements can yield measurable benefits, reinforcing the need for continuous operational innovation to sustain long-term success.

Market innovation ($\beta=0.272$, $p=0.019$) demonstrates a strong influence on hotel performance, suggesting that strategic positioning, branding, and market expansion efforts positively impact organizational success. Companies that actively differentiate their products, identify new customer segments, and adapt to market trends are more likely to outperform competitors. This finding underscores the importance of agility in marketing strategies and the need for businesses to stay ahead of industry changes to remain relevant and competitive.

Technology innovation ($\beta=0.241$, $p=0.024$) also positively affects hotel performance, highlighting the role of adopting new technologies in driving business success. Firms that leverage automation, artificial intelligence, and digital transformation can improve efficiency, enhance product offerings, and strengthen market positioning. While technology innovation has the lowest coefficient among the four types of innovation, its statistical significance indicates that integrating technological advancements remains a vital factor in achieving sustainable growth.

CONCLUSIONS OF THE STUDY

The findings indicate that all four dimensions of innovation i.e. service, process, market, and technology play a crucial role in enhancing hotel performance. Service innovation has a significant

positive relationship with hotel performance, highlighting the importance of continuously improving service offerings and integrating customer feedback. Process innovation significantly contributes to efficiency, waste reduction, and resource optimization, reinforcing the need for streamlined operations. Market innovation is essential for strengthening brand positioning, customer engagement, and competitive advantage, demonstrating that strategic branding and targeted marketing drive hotel success. Technology innovation, while slightly less influential than service and process innovation, remains a key enabler of efficiency and user satisfaction, ensuring that advancements in digital tools and automation support overall hotel performance. Collectively, these findings emphasize that a well-balanced and integrated innovation strategy is essential for sustaining growth, competitiveness, and long-term success of the hotels.

RECOMMENDATIONS OF THE STUDY

To improve service innovation in hotels, management should actively encourage continuous improvements in customer service by leveraging real-time feedback systems and AI-driven analytics to identify emerging guest preferences. Employee-driven innovation should be fostered by implementing structured suggestion programs and recognizing staff contributions to service enhancements. Hotels should regularly introduce new and personalized services, such as AI-assisted concierge services, smart room customization, and unique guest experiences, to differentiate themselves in a competitive market. Collaboration with industry experts and adopting global best practices will further strengthen service innovation efforts.

Hotels should optimize their internal processes by integrating automation and AI-driven operations to enhance efficiency and minimize errors. Investing in staff training on lean management principles and digital tools can improve workflow efficiency and service delivery. Moreover, hotels should implement data-driven decision-making to allocate resources effectively, reducing waste and improving cost efficiency. Regular process audits and benchmarking against industry leaders can help identify areas for further improvement, ensuring that innovations in operations contribute to both guest satisfaction and profitability.

To drive market innovation, hotels should refine their branding and positioning strategies through personalized marketing efforts, such as AI-driven guest profiling and customized promotional offers. Stronger brand differentiation can be achieved by leveraging social media, influencer partnerships, and immersive storytelling to highlight unique value propositions. Hotels should also

explore dynamic pricing models and innovative loyalty programs that align with customer preferences, thereby increasing retention and attracting new guests. Entering new market segments through strategic partnerships and co-branding with complementary service providers, such as airlines or travel agencies, can further enhance brand visibility and market penetration.

Hotels must prioritize the adoption of cutting-edge technologies that enhance guest experiences and operational efficiency. Implementing smart room technologies, AI-powered chatbots for customer service, and seamless mobile check-in and check-out systems can improve convenience and satisfaction. Investing in cybersecurity and data protection measures is also critical to building guest trust and safeguarding sensitive information. Furthermore, hotels should continuously assess emerging technologies, such as virtual reality (VR) for virtual hotel tours and blockchain for secure transactions, to stay ahead of industry trends. Establishing partnerships with tech startups and research institutions can provide access to innovative solutions that drive long-term success.

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