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A Comparative Analysis of Impact of Hotel-Owned Reservation Systems Versus Third-Party Reservation Systems on Guest Satisfaction in Hotels of Delhi

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Abstract

This study examined the impact of hotel reservation systems both own and third-party on guest satisfaction in Delhi hotels. Utilizing a descriptive survey methodology, structured questionnaires were administered to 302 guests from 32 Ministry of Tourism-approved hotels in Delhi. Among these, 216 guests used third-party reservation systems, while 86 utilized hotel-owned systems. On a 5-point Likert scale, guests rated 20 service attributes, ranging from entirely satisfied to very dissatisfied. In order to identify the broad factors of customer satisfaction, principal component analysis with Varimax rotation was implemented. Subsequently, multiple regression analysis was implemented to evaluate the contribution of all factors to guest's satisfaction. The findings underscored the importance of reservation systems in shaping guest experiences in Delhi hotels. While both third-party and hotel-owned systems contributed positively to guest satisfaction, their impacts varied across different dimensions of service delivery.

Keywords: Impact, Reservation system, Third-party, Hotel Website, Online travel agency, Guest satisfaction, Delhi

Introduction

A reservation system is a software application specifically developed to optimize the management of room bookings, availability, and guest information in hotels and other types of accommodation establishments. These solutions assist hoteliers in effectively managing reservations, optimizing room availability, and delivering exceptional guest experiences. The advancement of technology has completely transformed the hospitality business, bringing about a dramatic change in how hotels handle the process of room reservations. Room reservation systems have become essential for hotel operations, including rapid booking processes, effective information distribution, and strong data protection. These solutions improve the quality of visitor encounters and increase operational efficiency, making them crucial tools for staying ahead of the competition, especially in busy urban regions such as Delhi. In the realm of hospitality management, effective reservation systems serve as critical tools that influence guest satisfaction and operational efficiency within hotels. The advent of technology has introduced two primary types of reservation systems: hotel-own systems managed internally by lodging establishments and third-party systems provided by external service providers. Understanding the comparative impact of these systems on guest satisfaction is essential for hotel managers aiming to optimize service delivery and enhance guest experiences. This study investigates the impact of hotel-own reservation systems versus third-party reservation systems on guest satisfaction in hotels across Delhi, India. Richard and Akwasi (2014) noted that the main objective of the hotel's official website is to provide information about the hotel and offer an online reservation system. The hotel's website offers comprehensive information on its location, room rates, promotions, room descriptions, photo galleries, and additional services supplied by the hotel. Rex and Peter (2011) examined the several alternatives available to hotels for the sale of rooms, including online travel agents (OTAs) or third-party websites. Law and Leung (2004) examined the impact of the internet and online reservation systems on guest satisfaction in the context of travel agencies. The study explores how the shift towards online booking platforms influences guest perceptions of convenience, ease of use, and service quality. It discusses the role of reservation systems in enhancing guest control over booking decisions, access to information, and overall satisfaction levels. The research underscores the importance of seamless integration, reliability, and

responsiveness of reservation technologies in shaping positive guest experiences and loyalty in the hospitality sector. Dolnicar et al. (2003) provided a comprehensive overview of how websites, including hotels, are evaluated in terms of tourism. They emphasized the importance of usability, design aesthetics, content quality, and functionality in influencing visitor satisfaction and behaviour. By examining various evaluation methodologies, the authors highlighted that effective website design not only attracts potential guests but also enhances their experience and satisfaction levels. Jasper et al. (2006) focused on comparing how American and Taiwanese business travellers utilize hotel websites through surveys and analysis. They explored cultural differences in website usage patterns and their impact on guest satisfaction. The research underscored that effective communication of hotel amenities, booking processes, and customer service options significantly influences satisfaction levels. The study also highlighted the importance of localized content and user interface design tailored to the preferences and expectations of different traveller segments, thereby contributing to enhanced guest satisfaction and loyalty. Law, Qi, and Buhalis (2010) provided a comprehensive review of the evolution of website evaluation methodologies within the tourism sector and discussed how advancements in technology and consumer behaviour have shaped the evaluation criteria for tourism websites, with a focus on user experience, interactivity, personalization, and mobile compatibility. The study emphasized that effective website management requires continuous adaptation to changing consumer expectations and technological innovations. By integrating insights from user-generated content and social media, hotels can enhance engagement and satisfaction levels among guests, thereby improving their overall experience and loyalty. Xiang and Gretzel (2010) explored social media's role in influencing guest satisfaction and engagement through integration on hotel websites. They highlighted how user-generated content, peer reviews, and social media interactions contribute to shaping guest perceptions and booking decisions. The study underscored that hotels can leverage social media platforms to foster trust, transparency, and authenticity, thereby enhancing guest satisfaction and loyalty. By integrating social media features into their websites, hotels can provide personalized recommendations, real-time updates, and interactive content that resonate with guests, ultimately improving their overall experience and satisfaction levels. Buhalis and Law (2008) provided a comprehensive review of eTourism research, including the impact of OTAs on the tourism and hospitality industry, and suggested that effective collaboration between hotels and OTAs is crucial for maximizing mutual benefits and improving overall guest satisfaction. The hospitality business has placed significant emphasis on ensuring customer satisfaction. Recent studies have increasingly shown that while being satisfied or very content with their current provider, clients still choose to migrate to a different provider (Skogland & Siguaw, 2004). The primary objective of every firm is to fulfill consumer requirements while attaining profit objectives. Due to intensifying corporate competition and heightened quality standards, organizations have been compelled to prioritize client orientation and ensure customer happiness.

Review of literature

Reservation systems influence guest satisfaction and perceived service quality throughout the booking process and the entire guest journey. Chen and Wang (2021) suggested that seamless and user-friendly reservation systems contribute to positive guest experiences, leading to higher satisfaction levels and repeat bookings. Hotel-owned systems allow for customization and personalization of booking experiences, while third-party systems offer convenience and accessibility to a wide range of travellers, enhancing overall guest satisfaction. Reservation systems play important role in shaping the guest satisfaction and ultimately impacting guest satisfaction levels. Agag and El-Masry (2016) investigate the factors that influence individuals' intentions to book a hotel and explore how the habit of booking hotels moderates these factors. The study found that reservation systems significantly influence guest satisfaction, with factors such as ease of booking, transparency of information, and reliability of the system contributing to overall satisfaction levels. Wong (2004) examineed the impact of the Internet, including third-party reservation systems, on travel agencies and guest satisfaction and investigates how online booking platforms influence consumer behaviours, service expectations, and satisfaction levels in the tourism sector. It discusses the benefits of third-party systems in providing extensive inventory, competitive pricing, and convenience for travellers, thereby enhancing overall guest satisfaction. The research highlights the strategic role of reservation systems in adapting to digital transformation and meeting evolving guest preferences in the competitive hospitality marketplace. Customer satisfaction, as described by Gundersen and Olsson (1996), refers

to the assessment of products and services based on specified criteria. Customer happiness, often known as guest satisfaction in the hotel business, is a crucial metric for evaluating service quality and a strategic marketing concept aimed at attracting and retaining customers. Howard (1977) defined contentment as a cognitive state experienced by consumers when they compare the price and advantages associated with a service and product. Hunt (1977) argued that satisfaction is not an emotion but rather a process of evaluation in which the experience meets or exceeds expectations. The consumers' happiness and discontent are simultaneous responses to many elements of the overall service provided. Schuckert et al., (2015) examined the most recent developments and prospective developments in the hospitality industry and tourism online reviews relevant to guest satisfaction impacted by room reservation systems and also examine how online reviews reflect guest experiences facilitated by these systems. It discusses the influence of online reputation management, service quality perceptions, and guest feedback on booking decisions and satisfaction levels. The review highlights the role of reservation systems in managing online reputations, enhancing service transparency, and fostering guest trust and loyalty in the digital era of hospitality. Guest satisfaction is an emotional concept that refers to the sensation of pleasure and well-being that arises from obtaining the product or service that one anticipates and aspires for (WTO, 1985). Vavra (1997) also defineed guest satisfaction as "satisfaction that is contingent upon an outcome or process". Kondou (1999) established a correlation between the guest's experience and their response. In addition, Wang, Chen, and Zhao (2007) contended that the service industry is in dire need of a focus on customer satisfaction and is striving to increase it to a higher level. Nevertheless, the majority of the organization has prioritized customer satisfaction (Jones & Sasser, 1995).

Objective

The main objective of the study was to evaluate the comparative impact of the hotels own reservation systems versus third-party reservation systems on guest satisfaction in Delhi's hotels.

Research Methodology

The study aimed to comprehend the profile of customers and their satisfaction level towards the reservation systems (Own versus Third party) and service aspects of the hotel business in Delhi. Using structured questionnaires from a sample of (216-third-party reserve systems and 86 hotel reservation systems) and 302 guests from 32 Ministry of Tourism-authorized hotels in Delhi, the present research is descriptive and follows a survey approach. Using a 5-point Likert scale having range from very unsatisfied to very satisfied, the study examines visitor satisfaction based on the mean scores of their replies on 20 service criteria specified for the present study. Dimensional minimization was achieved to identify a few general and significant determinants of guest satisfaction using principle component analysis with Varimax rotation. To grasp the influence of every element on guest satisfaction in the research area, multiple regression analysis was conducted.

Data Analysis and Results

In order to measure the impact of reservation systems on guest satisfaction and to achieve the objective, "To evaluate the comparative impact of the hotel's own reservation systems versus third-party reservation systems on guest satisfaction in Delhi's hotels", null hypothesis "H_0:- There is no positive impact of reservation systems (Own versus Third party) on guest satisfaction on hotels of Delhi" and alternative hypothesis "H_a:- There is positive impact of reservation systems (Own versus Third party) on guest satisfaction on hotels of Delhi" was formulated and tested. Initially, the complete data was segregated on the behalf of guest's preferences of choosing reservation system for room reservation in hotels. In this study to analyze impacts of reservation systems (Own versus Third party) on guest satisfaction, dependent variable was "Guest satisfaction impacted by reservation systems" and independent variables were attributes of guest satisfaction. Factor analysis and multiple linear regression analysis, for which the results are computed below.

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Table 1 - KMO and Bartlett's test for reservation systems impact on guest satisfaction

KMO measure of sampling adequacy		.773
Bartlett's Test Of Sphericity	**Approx. Chi-square**	1796.516
	Df	190
	Significance	.000

In order to evaluate our hypothesis from the guest's perspective, Table 1 of Sampling Adequacy and Bartlett's Test of Sphericity indicate that the dataset is appropriate for factor analysis, as indicated by the Kaiser-Meyer-Olkin (KMO) Measure result. The KMO value of 0.773 suggests that the sample size is sufficient for factor analysis, as it is within the average range. This suggests that there are sufficient significant correlations among the variables to warrant the implementation of factor analysis. In addition, the chi-square value of 1796.516 with 190 degrees of freedom and a significance level of 0.000 is obtained from Bartlett's Test of Sphericity. The null hypothesis that the correlation matrix is an identity matrix is rejected by the significant p-value (less than 0.05). The dataset's applicability for factor analysis is further validated by this result, which confirms the existence of substantial correlations among the variables. In conclusion, the KMO measure and Bartlett's test both substantiate the necessity of undertaking factor analysis on this dataset.

Table 2 - Total Variance Explained

Variables	**Initial Eigen values**			**Rotation Sums of Squared Loadings**		
	Total	**% of Variance**	**Cumulative %**	**Total**	**% of Variance**	**Cumulative %**
1	4.252	21.259	21.259	2.507	12.537	12.537
2	1.789	8.947	30.206	2.148	10.742	23.279
3	1.391	6.957	37.163	1.794	8.970	32.249
4	1.350	6.751	43.914	1.789	8.943	41.192
5	1.239	6.197	50.111	1.784	8.919	50.111
6	1.058	5.288	55.399			
7	1.007	5.037	60.436			
8	.921	4.603	65.039			
9	.858	4.289	69.328			
10	.782	3.911	73.239			
11	.709	3.547	76.786			
12	.657	3.285	80.071			
13	.655	3.276	83.348			
14	.581	2.904	86.252			
15	.542	2.708	88.960			
16	.530	2.649	91.609			
17	.486	2.432	94.041			

18	.480	2.400	96.441			
19	.414	2.068	98.509			
20	.298	1.491	100.000			

The factor analysis results shown in table 2, there are five main factors that explain a large part of the variation in the dataset. Initially, these factors explain 50.111% of the variance, with the first factor contributing 21.259% and the subsequent factors contributing between 6% and 9%. After rotation, the variance is more evenly distributed, with each of the five factors explaining between 8.919% and 12.537% of the variance. This balanced distribution enhances the interpretability and meaningfulness of the factors in the analysis.

Table 3 - Segregation of New factors

Variables	**Factor 1**	**Factor 2**	**Factor 3**	**Factor 4**	**Factor 5**
Expands customer reach throughout world	.765				
Handles grievance and complaints seriously to maintain guest interest in booking rooms	.661				
Reservation system provide complete information regarding booking	.651				
Simplify the reservation process to encourage guests for repeat visits	.509				
Provide personalized services and chat box to resolve guest's queries		.570			
Provide loyalty reward accordingly with guests each visit in the hotel		.635			
Provide add - on services surprisingly Eg. Room upgrade		.721			
Pay attention to guest's specific needs		.615			
Provide facility to elimination of human errors			.785		
Provides the facility of access to rooms using mobile keys			.578		
Focus on meaningful availability of information strictly for booking			.546		
Provide personalized services and chat box to resolve guest's queries				.607	
Ensure that guests get access about various services easily				.749	
Gives priority to guest's (Age & Health) for rooms allocation					.696
Always provide best deals to guests					.582
Reduce service costs					.732

Based on the data provided in table 3, the factor analysis generated 5 new factors with Eigen values larger than 1, which explained 50.111% of the variance among the variables, as seen in table 2.

These 5 new factors were named as:

Factor 1: Customer Experience Enhancement

Factor 2: Guest Satisfaction and Personalization

Factor 3: Efficiency and Cost Optimization

Factor 4: Technological Advancements in Service Delivery

Factor 5: Guest-centric Information and Allocation

Table 4 - Model Summary of Reservation Systems (Own and third-party) on Guest Satisfaction

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
Third-party reservation system	.843	.710	.703	.465	1.997
Hotel own reservation system	.871	.759	.744	.445	2.029

The model summaries as per table 1 reveal compelling insights into the impact of reservation systems on guest satisfaction in Delhi hotels. Both the third-party and hotel-own reservation systems demonstrate substantial explanatory power, with R square values of 0.710 and 0.759, respectively. These figures indicate that approximately 71.0% and 75.9% of the variance in guest satisfaction can be attributed to these systems, highlighting their crucial role in shaping customer experiences. The models' robustness is further supported by adjusted R square values of 0.703 and 0.744, indicating minimal influence from irrelevant factors. With low standard errors of the estimate (0.465 for third-party and 0.445 for hotel own), the models accurately predict guest satisfaction levels. These findings underscore the pivotal role of reservation systems in optimizing hotel performance and enhancing guest experiences in Delhi.

Table 5 - Analysis of Variance between Reservation System (Own and Third-party) and Guest Satisfaction

Models		Sum of Squares	Df	Mean Square	F	Sig.
Third-party reservation system	Regression	111.523	5	22.305	103.005	.000
	Residual	45.473	210	.217		
	Total	156.995	215			
Hotel's own reservation system	Regression	49.955	5	9.991	50.398	.000
	Residual	15.859	80	.198		
	Total	65.814	85			

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The analysis of variance as per table 2 highlights significant findings regarding the impact of reservation systems (own and third-party) on guest satisfaction in Delhi hotels. For the third-party reservation system, the regression model shows a substantial sum of squares (111.523) across 5 degrees of freedom, resulting in a high F-value of 103.005 ($p < 0.001$). This indicates a strong statistical significance, suggesting that the third-party reservation system significantly influences guest satisfaction. Similarly, the hotel's reservation system also demonstrates a significant impact, with a sum of squares of 49.955 and an F-value of 50.398 ($p < 0.001$) across 5 degrees of freedom. These results underscore the critical role of both reservation systems in shaping guest satisfaction levels in Delhi hotels, emphasizing their importance in hospitality management strategies.

Table 6 - Individual Impact of Reservation Systems (Own and Third-Party) on Guest Satisfaction

Models		B	Std. Error	B	t	Sig.
Third-party reservation system	(Constant)	4.062	.033		123.29	.000
	Customer Experience Enhancement	.611	.032	.733	19.134	.000
	Guest Satisfaction and Personalization	.103	.034	.116	3.011	.003
	Efficiency and Cost Optimization	.145	.033	.168	4.390	.000
	Technological Advancements in Service Delivery	.231	.032	.277	7.188	.000
	Guest-centric Information and Allocation	.028	.028	.037	.982	.327
Hotel's own reservation system	(Constant)	4.053	.051		79.396	.000
	Customer Experience Enhancement	.692	.057	.755	12.084	.000
	Guest Satisfaction and Personalization	.072	.062	.070	1.154	.252
	Efficiency and Cost Optimization	.159	.054	.177	2.953	.004
	Technological Advancements in Service Delivery	.252	.052	.293	4.885	.000
	Guest-centric Information and Allocation	.067	.042	.090	1.598	.114

As per table 6, Standardized beta and t values of the regression model were recorded in order to ascertain the unique influence of characteristics of third-party reservation systems on guest satisfaction (Table 4.47). The slope coefficients of t statistics (123.297) have a p-value (0.000) less than 5% significance level (p=.000), therefore indicating a noteworthy association between variables. Through studying the standardized coefficient values, attribute "Customer Experience Enhancement" had the highest influence [$\beta = 0.733$, $t(216) = 19.134$, $p = .000$] on guest satisfaction followed by attribute "Technological Advancements in Service Delivery" [$\beta = 0.277$, $t(216) = 0.7.188$, $p = 0.000$] and attribute "Efficiency and Cost Optimization" [$\beta = 0.168$, $t(216) = 4.390$, $p = 0.000$]; "Guest Satisfaction and Personalization" [$\beta = 0.116$, $t(216) = 3.011$, $p = 0.003$]. The remaining attribute that had the least impact on guest satisfaction was "Guest-centric Information and Allocation" [$\beta = 0.037$, $t(216) = 0.982$, $p = .327$]. In addition to this, four factors (Customer Experience Enhancement, Technological Advancements in Service Delivery, Efficiency and Cost Optimization, and Guest Satisfaction and Personalization) had a significant p-value ($p < 0.05$), meaning that there was significant positive impact of attributes of third party reservation system on guest satisfaction. The remaining one factor (Guest-centric Information and Allocation) had a significant p-value ($p > 0.05$), meaning that there was no significant impact of this attribute of the third-party reservation system on guest satisfaction. Overall, factor with lower significance values, such as Guest-

centric Information and Allocation, was found to have less influence on the predicted outcome compared to factors with higher significance values, such as Customer Experience Enhancement, Technological Advancements in Service Delivery and Efficiency, and Cost Optimization, and Guest Satisfaction and Personalization. Standardized beta value and t values of the regression model were observed to ascertain the unique effect of the Hotel's reservation system on guest satisfaction (Table 6). The slope coefficients of t statistics (79.399) have a p-value (0.000) less than 5% significance level (p=.000), thereby indicating a notable association between variables. Through studying the standardized coefficient values, attribute "Customer Experience Enhancement" had the highest influence [$\beta = 0.755$, $t(86) = 12.084$, $p = .000$] on guest satisfaction followed by attribute "Technological Advancements in Service Delivery" [$\beta = 0.293$, $t(86) = 0.4.885$, $p = 0.000$] and attribute "Efficiency and Cost Optimization" [$\beta = 0.177$, $t(86) = 2.953$, $p = 0.004$]. The remaining two attributes that had the least impact on the guest satisfaction are "Guest Satisfaction and Personalization" [$\beta = 0.070$, $t(86) = 0.1.154$, $p = 0.252$] and "Guest-centric Information and Allocation" [$\beta = 0.090$, $t(86) = 1.598$, $p = .114$]. In addition to this, three factors (Customer Experience Enhancement, Technological Advancements in Service Delivery, Efficiency, and Cost Optimization) had a significant p-value ($p < 0.05$), meaning that there was a significant positive impact of attributes of the Hotel's reservation system on guest satisfaction. The remaining two factors (Guest et al., Guest-centric Information, and Allocation) had significant p-values ($p > 0.05$), meaning that there was no significant impact of these attributes of the Hotel's reservation system on guest satisfaction. Overall, factors with lower significance values, such as Guest Satisfaction and Personalization and Guest-centric Information and Allocation, were found to have less influence on the predicted outcome compared to factors with higher significance values, such as Customer Experience Enhancement, Technological Advancements in Service Delivery and Efficiency and Cost Optimization.

Table 7 - Residuals Statistics of Reservation Systems (Own and third-party) on Guest Satisfaction

Models		Minimum	Maximum	Mean	S.D	N
Third-party reservation system	Predicted Value	.73	5.04	4.00	.720	216
	Residual	-1.814	1.468	.000	.460	216
	Std. Predicted Value	-4.554	1.444	.000	1.000	216
	Std. Residual	-3.898	3.154	.000	.988	216
Hotel's own reservation system	Predicted Value	.45	5.14	4.05	.767	86
	Residual	-1.348	1.003	.000	.432	86
	Std. Predicted Value	-4.695	1.433	.000	1.000	86
	Std. Residual	-3.028	2.252	.000	.970	86

The dataset contrasts the predictive models of a third-party reservation system and a hotel's own reservation system, as outlined in table 7. For the third-party system, the predicted values are between 0.73 and 5.04, with a mean of 4.00 and a standard deviation of 0.720 (216 observations). The residuals have a mean of 0.000 and a standard deviation of 0.460, with a range of -1.814 to 1.468. The standardized residuals range from -3.898 to 3.154, while the standardized predicted values span from -4.554 to 1.444. The predicted values for the hotel's system range from 0.45 to 5.14, with a mean of 4.05 and a standard deviation of 0.767 (86 observations). The residuals have a mean of 0.000 and a standard deviation of 0.432, with a range of -1.348 to 1.003. The standardized residuals range from -3.028 to 2.252, while the standardized predicted values range from -4.695 to 1.433. The predictive models of both systems are well-calibrated, with mean residuals that are nearly zero. In comparison to the hotel's system, the third-party system exhibits a slightly lower mean predicted value and a greater range of extreme values. This suggests that the third-party system's predictions and residuals are more variable, despite the fact that they are similar in accuracy. Based on the statistical tests conducted, the impact of third-party reservation

systems on guest satisfaction in Delhi hotels is significant across four out of five factors: Customer Experience Enhancement, Efficiency and Cost Optimization, Technological Advancements in Service Delivery, and Guest Satisfaction and Personalization. This rejects the null hypothesis that there is no impact of third-party reservation systems on guest satisfaction (H_0) and supports the alternative hypothesis of a positive impact (Ha). However, for the factor of Guest-centric Information and Allocation, the null hypothesis was accepted, indicating no significant impact. Conversely, hotel-owned reservation systems have a significant impact on guest satisfaction across three factors: Customer experience enhancement, efficiency and cost optimization, and technological advancements in service delivery. This rejects the null hypothesis (H_0) for these factors and supports the alternative hypothesis (Ha) of a positive impact. However, for Guest Satisfaction and Personalization and Guest-centric Information and Allocation, the null hypothesis was accepted, suggesting no significant impact of hotel-owned reservation systems on these aspects of guest satisfaction in Delhi hotels.

Table 8 Comparison of Hotel's Own Reservation System versus Third-party Reservation System in terms of Impact on Guest Significance

Sr. No.	Variables	Hotel's own reservation system	Third-party reservation system
1	Customer Experience Enhancement	.000	.000
2	Guest Satisfaction and Personalization	.252*	.003
3	Efficiency and Cost Optimization	.004	.000
4	Technological Advancements in Service Delivery	.000	.000
5	Guest-centric Information and Allocation	.114*	.327*

Hence it was evident from the results of the statistics test as per table 8 from Hotel's Own reservation system point of view 3 factors out of total 5 were having significance value ($p < 0.05$), so for these 3 factors - (Customer Experience Enhancement, Efficiency and Cost Optimization, Technological Advancements in Service Delivery) null hypothesis "H_0:- There is no positive impact of reservation systems (Own versus Third party) on guest satisfaction on hotels of Delhi") was rejected and alternative hypothesis "H_a:- There is positive impact of reservation systems (Own versus Third party) on guest satisfaction on hotels of Delhi") was accepted. For remaining 2 factors - (Guest Satisfaction and Personalization, Guest-centric Information and Allocation) null hypothesis "H_0:- There is no positive impact of reservation systems (Own versus Third party) on guest satisfaction on hotels of Delhi") was accepted.

Hence it was evident from the results of the statistics test as per table 8 from Third-Party reservation system point of view 4 factors out of total 5 were having significance value ($p < 0.05$), so for these 4 factors - (Customer Experience Enhancement, Efficiency and Cost Optimization, Technological Advancements in Service Delivery, Guest Satisfaction and Personalization) null hypothesis "H_0:- There is no positive impact of reservation systems (Own versus Third party) on guest satisfaction on hotels of Delhi") was rejected and alternative hypothesis "H_a:- There is positive impact of reservation systems (Own versus Third party) on guest satisfaction on hotels of Delhi") was accepted. For remaining 1 factor – (Guest-centric Information and Allocation null hypothesis "H_0:- There is no positive impact of reservation systems (Own versus Third party) on guest satisfaction on hotels of Delhi") was accepted.

Findings

The findings of this study suggested that both hotel-owned and third-party reservation systems have a significant impact on guest satisfaction in hotels in Delhi. The principal component analysis and multiple regression analysis emphasized the importance of different service aspects associated with these systems. The study investigated the influence of hotel reservation systems on guest satisfaction characteristics in Delhi hotels, specifically comparing the hotel's own reservation systems with third-party reservation systems. Statistical analyses revealed significant findings across the variables studied. For the hotel's own reservation system, three out of five factors showed statistically significant positive impacts on guest satisfaction: Customer Experience Enhancement ($p = .000$), Efficiency and Cost Optimization ($p = .004$), and Technological Advancements in Service Delivery ($p = .000$). This suggests that hotels utilizing proprietary reservation systems may effectively enhance customer experiences, optimize operational efficiency, and leverage technology to improve service delivery, thereby positively impacting guest satisfaction levels. However, Guest Satisfaction and Personalization ($p = .252$) and Guest-centric Information and Allocation ($p = .114$) did not show significant impacts, indicating that these aspects may be influenced by factors beyond the reservation system type.

Conversely, the third-party reservation system demonstrated significant positive impacts across four out of five factors: Customer Experience Enhancement ($p = .000$), Guest Satisfaction and Personalization ($p = .003$), Efficiency and Cost Optimization ($p = .000$), and Technological Advancements in Service Delivery ($p = .000$). This suggests that third-party systems offer robust capabilities in enhancing guest experiences, personalizing services, and optimizing operational efficiencies. However, Guest-centric Information and Allocation ($p = .327$) did not show a significant impact, implying potential limitations in these systems' ability to influence allocation practices and guest-centric information management in Delhi hotels.

Conclusion

This study provides a thorough assessment of the impact of hotel-owned and third-party reservation systems on guest satisfaction in Delhi hotels. Our analysis, based on responses from 302 guests across 32 Ministry of Tourism-approved hotels, reveals that both types of reservation systems significantly influence guest satisfaction, albeit in different dimensions. Hotel-owned reservation systems excel in enhancing customer experience, technological advancements, and operational efficiency, contributing to higher guest satisfaction levels. Third-party reservation systems, while also positively impacting guest satisfaction, show their strength in enhancing customer experience and technological advancements but, to a lesser extent, in operational efficiency.

Discussion

The findings of study provide valuable description of into the impact of reservation systems on guest satisfaction in Delhi hotels, comparing hotel's own systems with third-party systems across several critical factors. The significant positive impacts observed for both types of reservation systems underscore their role in enhancing different aspects of the guest experience. The significant positive impacts of hotel's own reservation systems on Customer Experience Enhancement, Efficiency and Cost Optimization, and Technological Advancements in Service Delivery highlight the strategic advantages these systems offer. Hotels employing proprietary systems can tailor customer experiences more effectively, streamline operations to improve efficiency, and leverage advanced technologies to enhance service delivery. These findings align with previous research emphasizing the importance of control and customization capabilities that hotel-owned systems provide (Xie et al., 2020). However, the non-significant impacts observed for Guest Satisfaction and Personalization, and Guest-centric Information and Allocation suggest that while hotel-owned systems excel in certain operational aspects, they may not necessarily translate into enhanced personalization or allocation management, which are crucial for overall guest satisfaction. This could be attributed to factors such as organizational culture, staff training, or limitations in the system's capabilities to manage guest-specific information effectively (Choi & Kim, 2019). The significant positive impacts observed for third-party reservation systems across Customer Experience Enhancement, Guest Satisfaction and Personalization, Efficiency and Cost Optimization, and Technological Advancements in Service Delivery highlight their effectiveness in enhancing guest satisfaction through specialized functionalities and

broader market reach. Third-party systems offer hotels the advantage of leveraging external expertise and economies of scale in technology and marketing, which can enhance guest personalization and optimize operational efficiency (Xie et al., 2020). However, the non-significant impact observed for Guest-centric Information and Allocation indicates potential limitations in these systems' ability to manage guest-specific information and allocation practices effectively within Delhi hotels. This finding suggests that while third-party systems excel in certain aspects of guest satisfaction, customization and integration with hotel-specific needs remain critical challenges.

Practical Implications

These findings have significance for hotel management in Delhi and other areas: Strategic Decision-Making: Hotels should carefully consider their operational priorities and guest engagement strategies when choosing between hotel-owned and third-party reservation systems. Enhancing Guest Experience: Emphasizing customer experience enhancement and leveraging technological advancements could be key strategies for hotels aiming to improve guest satisfaction with proprietary systems. System Customization: Tailoring reservation systems to align with specific guest-centric information and allocation needs may be crucial for maximizing satisfaction outcomes with both types of systems.

Future research

Future studies could explore specific operational aspects of reservation systems in more detail, such as the role of mobile compatibility, user interface design, and integration with social media. Additionally, examining the impact of different types of third-party systems (e.g., OTAs vs. direct booking platforms) on guest satisfaction could provide deeper insights. Longitudinal studies could also track changes in guest satisfaction over time as hotels implement new technologies and strategies in their reservation systems. Lastly, expanding the scope to include hotels in other urban areas and different categories (e.g., luxury vs. budget) could enhance the validity of the findings.

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