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A Comparative Analysis of Hotel Reservation Systems in Delhi: A Study of Hotel own & Third-Party Platforms

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KEYWORDS

Hotel reservation systems, Comparative analysis, Third-party, Paired t-test, GAP analysis, Delhi

ABSTRACT

This research paper presents a comparative analysis of reservation systems in hotels of Delhi, focusing on in-house and third-party platforms. Reservation system is a software application utilized in the hotel sector to efficiently oversee room availability, pricing, and reservations. The study objective is to evaluate and compare the efficiency, user-friendliness, security, and overall performance of these reservation systems. The research utilized a paired t-test and GAP analysis via IBM SPSS software version 26 to assess the data collected from 148 guests staying in Ministry of Tourism approved 4-star, 5-star, and 5-star deluxe hotels in Delhi. Data was gathered using a convenience sampling method. The study identified 15 key variables related to the reservation process, including usability, information completeness, search functionality, data security, and customer preferences. Results revealed that 13 variables were significant in influencing the user experience, while 2 variables showed no significant impact. The findings provide valuable insights for improving reservation systems in the hospitality industry

1. INTRODUCTION

In hotels, Reservation system is a software application designed to streamline the process of managing room bookings, availability, and guest information in hotels and other accommodation establishments. These systems help hoteliers efficiently handle reservations, optimize room inventory, and provide superior guest experiences. The evolution of technology has revolutionized the hospitality industry, significantly transforming how hotels manage room reservations. Room reservation systems are now pivotal to hotel operations, providing streamlined booking processes, efficient information dissemination, and robust data security. These systems enhance guest experiences and operational efficiency, making them essential tools for maintaining a competitive edge, particularly in bustling metropolitan areas like Delhi.

Recent research highlights the dynamic nature of online booking platforms and their significant influence on the hospitality market. The hospitality industry has experienced a transformative shift with the advent of digital technology, particularly in how hotel reservations are managed. In metropolitan areas like Delhi, hotels leverage two primary channels for booking reservations: their own websites and third-party online travel agencies (OTAs). This approach aims to maximize visibility, reach, and convenience for travelers. The study "A Comparative Analysis of Hotel Reservation Systems in Delhi: A Study

of Hotel own as Hotel website & Third-Party as Online travel agencies Platforms" offers a comprehensive evaluation of these two reservation systems, exploring their impacts on both hotel operations and customer satisfaction. (Richard, Akwasi, 2014) noted that the main objective of hotel's official website to provide information about the hotel and offer an online reservation system. Visitors can access comprehensive hotel information, including details on hotel location, room prices, promotions, room descriptions, photo galleries, and other hotel services, on the hotel's website. In addition, they have the option to partake in a virtual tour of the property. The virtual tour encompasses the following areas: lobby, guest rooms, event spaces, recreational facilities, restaurant, and bars. The hotel's navigation bar is located on the left-hand side of the page. Guests are required to complete a form with their reservation data in order to reserve a room. Guests have the option to complete an additional form to make specific requests for their lodging reservation. Using a hotel's website as its own reservation system involves incorporating booking engine software directly into the website's architecture. Using the hotel's website as its own reservation system offers several benefits, including direct bookings, control over the reservation process, and the ability to avail a seamless and branded experience for guests. By integrating a booking engine into the website, hotels can streamline the reservation process, increase online bookings, and enhance guest satisfaction. This system provides a user-friendly environment to the hotel staff to carry out their duties related to guest stay and services and making customer booking easier by using the online reservation system on the hotel website (Koh et al., 2021). . Conversely, third-party OTAs are praised for their extensive reach and marketing prowess, offering hotels access to a global audience that might otherwise be unattainable. Rex and Peter (2011) examine the several alternatives available to hotels for the sale of rooms, including online travel agents (OTAs) or third-party websites. Nevertheless, they also emphasize the substantial expenses linked to utilizing these intermediaries. The study also examines methods for hotels to optimize the sale of available rooms in order to maximize net room revenues, especially by encouraging clients to directly book through the hotel's own websites instead through online travel agencies (OTAs). Although hotels aim to sell rooms directly through their own channels, the hotel industry heavily relies on efficient and convenient Online Travel Agencies (OTAs) to facilitate room sales. Third-party reservation systems, such as online travel agencies (OTAs), play a significant role in hotel distribution channels by facilitating bookings from travelers across the globe.

This comparative analysis aims to delve deeper into these aspects, evaluating the effectiveness, benefits, and drawbacks of hotel-owned websites versus third-party OTAs. By analyzing data from various hotels in Delhi, the study provides insights into which platform delivers better outcomes in terms of booking rates, customer satisfaction, and operational efficiency. The findings will help hotel managers make informed decisions about their reservation strategies, balancing between direct and indirect channels to optimize both revenue and customer experience. In conclusion, understanding the comparative dynamics of hotel reservation systems is crucial for the strategic planning of hotels in Delhi

2. LITERATURE REVIEW

Previous research highlights that user experience is a critical determinant of customer satisfaction in hotel reservation systems. Wang and Fesenmaier (2013) found that the usability of a booking platform, including the clarity of terms used and the efficiency of information provided, significantly influences user satisfaction. Studies by Law, Qi, and Buhalis (2010) and Morosan and Jeong (2008) corroborate these findings, emphasizing that a seamless and intuitive reservation process enhances customer loyalty and repeat bookings. The completeness and relevance of booking information are paramount for users when choosing a reservation platform. Research by Vermeulen and Seegers (2009) suggests that platforms providing comprehensive and accurate information about bookings, including hotel amenities and room details, are preferred by customers. Furthermore, Xiang, Magnini, and Fesenmaier (2015) assert that efficient search functions that quickly deliver relevant results improve the overall booking experience, thereby increasing user satisfaction. The incorporation of multimedia features and the visual attractiveness of a booking platform also play significant roles in influencing customer preferences. Studies by Buhalis and Law (2008) and Chung and Buhalis (2008) demonstrate that high-quality images, videos, and virtual tours of hotel rooms enhance the perceived value of the booking platform. These multimedia elements help customers make informed decisions and foster trust in the platform. The incorporation of multimedia features and the visual attractiveness of a booking platform also play significant roles in influencing customer preferences. Studies by Buhalis and Law (2008) and Chung and Buhalis (2008) demonstrate that high-quality images, videos, and virtual tours of hotel rooms enhance the perceived value of the booking platform. These multimedia elements help customers make informed decisions and foster trust in the platform.

User experience is a critical determinant of customer satisfaction in hotel reservation systems. According to Kim and Han (2007), the ease of navigation and clarity of terms used on booking platforms significantly impact user satisfaction. Similarly, Bai, Law, and Wen (2008) found that an intuitive and seamless reservation process enhances customer loyalty and repeat bookings. Law and Hsu (2006) also highlight that user-friendly interfaces and straightforward booking processes are essential for a positive user experience. The completeness and relevance of booking information are crucial for users when choosing a reservation platform. Research by Ling, Guo, and Yang (2014) suggests that platforms providing comprehensive and accurate information about bookings, including hotel amenities and room details, are preferred by customers. Moreover, Pan and Fesenmaier (2006) assert that efficient search functions that quickly deliver relevant results improve the overall booking

experience and increase user satisfaction. Li, Peters, and Richardson (2014) further emphasize that detailed and transparent information reduces the perceived risk associated with online bookings. The integration of multimedia features and visual attractiveness of a booking platform significantly influences customer preferences. According to Wang, Head, and Archer (2000), high-quality images, videos, and virtual tours of hotel rooms enhance the perceived value of the booking platform. These multimedia elements help customers make informed decisions and foster trust in the platform. Choi, Lehto, and Morrison (2007) demonstrate that visually appealing websites with rich media content attract more users and encourage longer browsing sessions.

Data privacy and security are paramount concerns for users of hotel reservation systems. Research by Smith, Milberg, and Burke (1996) indicates that concerns about the misuse of personal information and unauthorized access by hackers can deter customers from using certain platforms. Furthermore, Park and Gretzel (2007) highlight the importance of robust security measures and transparent privacy policies in mitigating these concerns and building customer trust. According to Bélanger and Crossler (2011), platforms that prioritize data security and privacy are more likely to retain customers. The use of guest history for personalized marketing has been explored in several studies. According to Amaro and Duarte (2015), personalized marketing efforts that leverage past booking data can enhance customer engagement and loyalty. However, the ethical implications of such practices need careful consideration. Additionally, research by Cheung and Law (2009) emphasizes the importance of providing language preferences in booking platforms to cater to a diverse customer base and enhance accessibility. Law, Qi, and Buhalis (2010) also support the notion that offering multilingual support improves user satisfaction and broadens the platform's appeal. Several comparative studies have been conducted to evaluate the performance of hotel-own websites versus OTAs. Research by Carroll and Siguaw (2003) indicates that OTAs often provide more extensive information and better search functionalities, while hotel websites excel in offering personalized services and better loyalty programs. Toh, DeKay, and Raven (2011) found that despite the advantages of OTAs, hotel websites are preferred for direct bookings due to perceived reliability and superior post-booking customer service. In a study by Kim, Ma, and Kim (2006), it was found that hotel websites are often seen as more trustworthy and provide more accurate and detailed information about the property. Data privacy and security are critical concerns for users of hotel reservation systems. Research by Milne, Rohm, and Bahl (2004) indicates that concerns about the misuse of personal information and unauthorized access by hackers can deter customers from using certain platforms.

3. OBJECTIVES OF THE STUDY

The primary objective of the study was to compare the level of satisfaction of hotel's guests with regards to facilities provided by hotels own reservation system and third party reservation system in Delhi.

4. METHODOLOGY

This study was conducted on 4-star, 5-star and 5-star deluxe hotels of Delhi approved by Ministry of tourism. A one sample t-test was applied on 31 attributes of reservation systems provided to guests making room reservation in hotels. The analysis and the results of the test applied with its interpretation are presented below. The study was based on primary data and the data collection was done through the survey questionnaire with close ended questions. The questionnaire was framed in English language having features of reservation systems as research variables along with the questions that were framed to determine the level of satisfaction of guests accordingly. The target population for the study involved hotels guests stayed or staying in different hotels. The sampling technique applied was a convenience sampling technique. This was carried out on a first come first serve basis as only those participants were taken into consideration who were willing to participate in the survey.

The survey questionnaire was distributed to 200 guests in total. It was found that 52 out of 200 completed questionnaires had been mistaken when they were all checked for missing data, incompleteness, or inaccurate completion. Such questionnaires were not used in the study to assure the accuracy and significance of the findings. So, a final sample size of 148 was used and after organizing was entered into IBM SPSS software version 26 for subsequent analysis. The tests applied were one sample t-test paired t-test, and GAP analysis.

Table 1 Paired Sample Descriptive Statistics Between the reservation systems (Own & Third-party)

Pairs of variables		Reservation System Mean	N	Standard Deviation	Standard Error Mean
Pair 1	Terms used on reservation system are easily understandable	Hotel Own 2.72	148	1.451	.119
	Terms used on reservation system are easily understandable	Third – Party 3.49	148	1.402	.115

Pair 2	Provides complete and efficient information about booking	Hotel 3.07	Own	148	1.469	.121
	Provides complete and efficient information about booking	Third 4.22	– Party	148	.832	.068
Pair 3	Reservation process is fast	Hotel 3.06	Own	148	1.481	.122
	Reservation process is fast	Third 4.20	– Party	148	.976	.080
Pair 4	Provides sufficient information related booking	Hotel 3.04	Own	148	1.516	.125
	Provides sufficient information related booking	Third 4.28	– Party	148	.848	.070
Pair 5	Search function is helpful a lot in finding relevant results quickly	Hotel 2.93	Own	148	1.510	.124
	Search function is helpful a lot in finding relevant results quickly	Third 4.18	– Party	148	1.037	.085
Pair 6	Demands overloaded data from guest	Hotel 3.09	Own	148	1.509	.124
	Demands overloaded data from guest	Third 3.24	– Party	148	1.506	.124
Pair 7	It was so challenging in use	Hotel 3.16	Own	148	1.503	.124
	It was so challenging in use	Third 3.22	– Party	148	1.492	.123
Pair 8	Use of proper multimedia features	Hotel 3.23	Own	148	1.485	.122
	Use of proper multimedia features	Third 4.09	– Party	148	.921	.076
Pair 9	Looks attractive	Hotel 3.18	Own	148	1.460	.120
	Looks attractive	Third 4.20	– Party	148	.893	.073
Pair 10	Provides 360° virtual tour of hotel rooms	Hotel 3.14	Own	148	1.469	.121
	Provides 360° virtual tour of hotel rooms	Third 4.34	– Party	148	.973	.080
Pair 11	Misuse of customers details used in booking	Hotel 2.81	Own	148	1.531	.126
	Misuse of customers details used in booking	Third 3.40	– Party	148	1.502	.123
Pair 12	Concerned about unauthorized person(hackers)	Hotel 2.93	Own	148	1.508	.124

	Concerned about unauthorized person(hackers)	Third – Party 4.03	148	1.189	.098
Pair 13	Provides privacy for payments of guests	Hotel Own 3.08	148	1.501	.123
	Provides privacy for payments of guests	Third – Party 4.35	148	.764	.063
Pair 14	Provides language preferences in booking	Hotel Own 3.32	148	1.458	.120
	Provides language preferences in booking	Third – Party 4.33	148	.786	.065
Pair 15	Use guest history to target customers	Hotel Own 2.82	148	1.456	.120
	Use guest history to target customers	Third – Party 4.39	148	.853	.070

Terms used on reservation system are easily understandable: Hotel-own systems have a mean perception score of 2.72, indicating that guests find the terms somewhat understandable, with a considerable spread in perceptions (Standard Deviation: 1.451). Third-party reservation systems received a higher mean score of 3.49, suggesting that guests find the terms on these platforms easier to understand, with slightly less variability (Standard Deviation: 1.402). The third-party system demonstrates significantly higher clarity in the terms used on the reservation system compared to the hotel's own system.

Provides complete and efficient information about booking: Hotel-own systems garnered a mean score of 3.07, indicating that guests perceive these systems to provide relatively complete and efficient booking information, with moderate variability (Standard Deviation: 1.469). In contrast, third-party reservation systems received a significantly higher mean score of 4.22, suggesting that guests perceive them to offer much more comprehensive and efficient booking information, with less variability (Standard Deviation: 0.832). The third-party system excels in providing comprehensive and efficient booking information, outperforming the hotel's own system.

Reservation process is fast: Guests perceived the reservation process on hotel-own systems to be somewhat fast, with a mean score of 3.06 and moderate variability (Standard Deviation: 1.481). Third-party reservation systems received a notably higher mean score of 4.20, indicating that guests perceive these systems to have a significantly faster reservation process, with less variability (Standard Deviation: 0.976). The third-party system exhibits a notably swifter reservation process than the hotel's own system.

Provides sufficient information related booking: Hotel-own systems received a mean score of 3.04, suggesting that guests find the information provided by these systems to be somewhat sufficient, with moderate variability (Standard Deviation: 1.516). On the other hand, third-party reservation systems received a substantially higher mean score of 4.28, Indicating that guests perceive these systems to provide much more comprehensive information related to booking, with less variability (Standard Deviation: 0.848). The third-party system significantly surpasses the hotel's own system in providing ample information related to booking.

Search function is helpful a lot in finding relevant results quickly: Hotel-own systems received a mean score of 2.93, indicating that guests find the search function somewhat helpful in finding relevant results quickly, with moderate variability (Standard Deviation: 1.510). Third-party reservation systems received a significantly higher mean score of 4.18, suggesting that guests perceive the search function on these platforms to be highly helpful in quickly finding relevant results, with less variability (Standard Deviation: 1.037). Respondents find the search function in the third-party system substantially more helpful in swiftly locating relevant results compared to the hotel's own system.

Demands overloaded data from guest: Hotel-own systems received a mean score of 3.09, indicating that guests perceive these systems to demand somewhat overloaded data, with moderate variability (Standard Deviation: 1.509). Third-party reservation systems received a slightly lower mean score of 3.24, suggesting that guests perceive these systems to demand slightly less overloaded data compared to hotel-own systems, with similar variability (Standard Deviation: 1.506). Both systems impose a similar level of data demand from guests, with a slightly higher rating for the third-party system.

It was so challenging in use: Guests perceived hotel-own systems to be somewhat challenging to use, with a mean score of 3.16 and moderate variability (Standard Deviation: 1.503). Third-party reservation systems received a comparable mean score of 3.22, indicating a similar perception of challenge in use, with similar variability (Standard Deviation: 1.492). Both systems are perceived with comparable challenges in usability, with a slightly higher rating for the hotel's own system.

Use of proper multimedia features: Hotel-own systems received a mean score of 3.23, suggesting that guests find the use of multimedia features somewhat adequate, with moderate variability (Standard Deviation: 1.485). Third-party reservation systems received a notably higher mean score of 4.09, indicating that guests perceive the use of multimedia features on these platforms to be more appropriate, with less variability (Standard Deviation: 0.921). The third-party system is notably more effective in utilizing proper multimedia features compared to the hotel's own system.

Looks attractive: Hotel-own systems received a mean score of 3.18, suggesting that guests find them somewhat attractive, with moderate variability (Standard Deviation: 1.460). Third-party reservation systems received a higher mean score of 4.20, indicating that guests perceive these systems to be significantly more attractive, with less variability (Standard Deviation: 0.893). The third-party system garners higher praise for its attractiveness compared to the hotel's own system.

Provides 360° virtual tour of hotel rooms: Hotel-own systems received a mean score of 3.14, suggesting that guests find the provision of 360° virtual tours somewhat satisfactory, with moderate variability (Standard Deviation: 1.469). Third-party reservation systems received a substantially higher mean score of 4.34, indicating that guests perceive the provision of 360° virtual tours on these platforms to be significantly more satisfactory, with less variability (Standard Deviation: 0.973). The third-party system excels in providing a 360° virtual tour of hotel rooms, surpassing the hotel's own system.

Misuse of customers' details used in booking: Hotel-own systems received a mean score of 2.81, suggesting that guests perceive a moderate risk of misuse of their details when using these systems, with moderate variability (Standard Deviation: 1.531). Third-party reservation systems received a slightly higher mean score of 3.40, indicating a higher perceived risk of misuse of customer details, with similar variability (Standard Deviation: 1.502). Concerns about the misuse of customer details are notably higher in the hotel's own system compared to the third-party system.

Concerned about unauthorized persons (hackers): Guests using hotel-own systems expressed moderate concern about unauthorized access by hackers, with a mean score of 2.93 and moderate variability (Standard Deviation: 1.508). However, guests using third-party reservation systems reported a higher level of concern, as reflected by the mean score of 4.03, with less variability (Standard Deviation: 1.189). Concerns about unauthorized access by hackers are significantly elevated in the third-party system compared to the hotel's own system.

Provides privacy for payments of guests: Hotel-own systems received a mean score of 3.08, suggesting that guests perceive a moderate level of privacy protection for their payments, with moderate variability (Standard Deviation: 1.501). Third-party reservation systems received a notably higher mean score of 4.35, indicating that guests perceive these platforms to offer significantly better privacy protection for payments, with less variability (Standard Deviation: 0.764). The third-party system provides substantially better privacy for guest payments compared to the hotel's own system.

Provides language preferences in booking: Hotel-own systems received a mean score of 3.32, indicating that guests find the provision of language preferences somewhat satisfactory, with moderate variability (Standard Deviation: 1.458). Third-party reservation systems received a higher mean score of 4.33, suggesting that guests perceive these systems to provide significantly better language preferences, with less variability (Standard Deviation: 0.786). The third-party system excels in offering language preferences during booking, outperforming the hotel's own system.

Use guest history to target customers: Hotel-own systems received a mean score of 2.82, suggesting that guests perceive the utilization of guest history for targeting customers somewhat satisfactory, with moderate variability (Standard Deviation: 1.456). Third-party reservation systems received a notably higher mean score of 4.39, indicating that guests perceive these systems to effectively use guest history for targeting customers, with less variability (Standard Deviation: 0.853). Utilizing guest history to target customers is significantly more effective in the third-party system compared to the hotel's own reservation system.

Overall, these findings indicate significant differences in guest’s perceptions between hotel-own reservation systems and third-party reservation systems across various aspects of usability, security, and functionality. Third-party systems generally received higher ratings, suggesting that guests perceive them to offer better features and services compared to hotel-own systems.

Table 2 Paired T-Test for gap analysis between the reservation systems (Own & Third- party)

Pairs of variables		Paired Differences					t	Df	Sig. (2-tailed)
		Mean	Standard Deviation	Standard Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Terms used on reservation system are easily understandable - Terms used on reservation system are easily understandable	-.770	1.707	.140	-1.048	-.493	-5.491	147	.000
Pair 2	Provides complete and efficient information about booking - Provides complete and efficient information about booking	-1.155	1.693	.139	-1.430	-.880	-8.302	147	.000
Pair 3	Reservation process is fast - Reservation process is fast	-1.142	1.722	.142	-1.422	-.862	-8.066	147	.000
Pair 4	Provides sufficient information related booking - Provides sufficient information related booking	-1.236	1.724	.142	-1.516	-.956	-8.727	147	.000
Pair 5	Search function is helpful a lot in finding relevant results quickly - Search function is helpful a lot in finding relevant results quickly	-1.250	1.718	.141	-1.529	-.971	-8.853	147	.000
Pair 6	Demands overloaded data from guest - Demands overloaded data from guest	-.149	2.190	.180	-.504	.207	-.826	147	.410
Pair 7	It was so challenging in use - It was so challenging in use	-.054	2.069	.170	-.390	.282	-.318	147	.751
Pair 8	Use of proper multimedia features - Use of proper multimedia features	-.865	1.744	.143	-1.148	-.581	-6.032	147	.000
Pair 9	Looks attractive - Looks attractive	-1.020	1.684	.138	-1.294	-.747	-7.370	147	.000
Pair 10	Provides 360° virtual tour of hotel rooms - Provides 360° virtual tour of hotel rooms	-1.203	1.788	.147	-1.493	-.912	-8.183	147	.000
Pair 11	Misuse of customers details used in booking - Misuse of customers details used in booking	-.588	2.047	.168	-.920	-.255	-3.494	147	.001
Pair 12	Concerned about unauthorized person(hackers) - Concerned about unauthorized person(hackers)	-1.101	1.768	.145	-1.389	-.814	-7.578	147	.000
Pair 13	Provides privacy for payments of guests - Provides privacy for payments of guests	-1.270	1.656	.136	-1.539	-1.001	-9.331	147	.000
Pair 14	Provides language preferences in booking - Provides language preferences in booking	-1.007	1.680	.138	-1.280	-.734	-7.289	147	.000

Pair 15	Use guest history to target customers - Use guest history to target customers	-1.561	1.711	.141	-1.839	-1.283	-11.096	147	.000

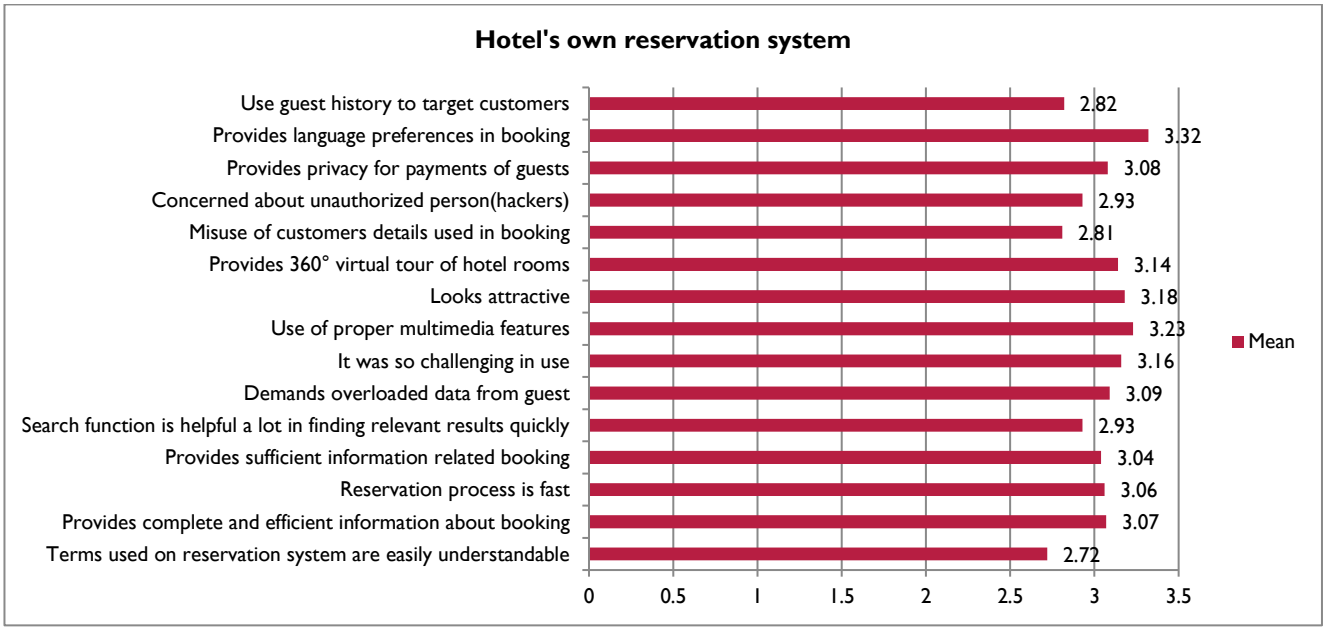

Figure 1 Graphical statistics of Hotels own reservation systems variable's mean

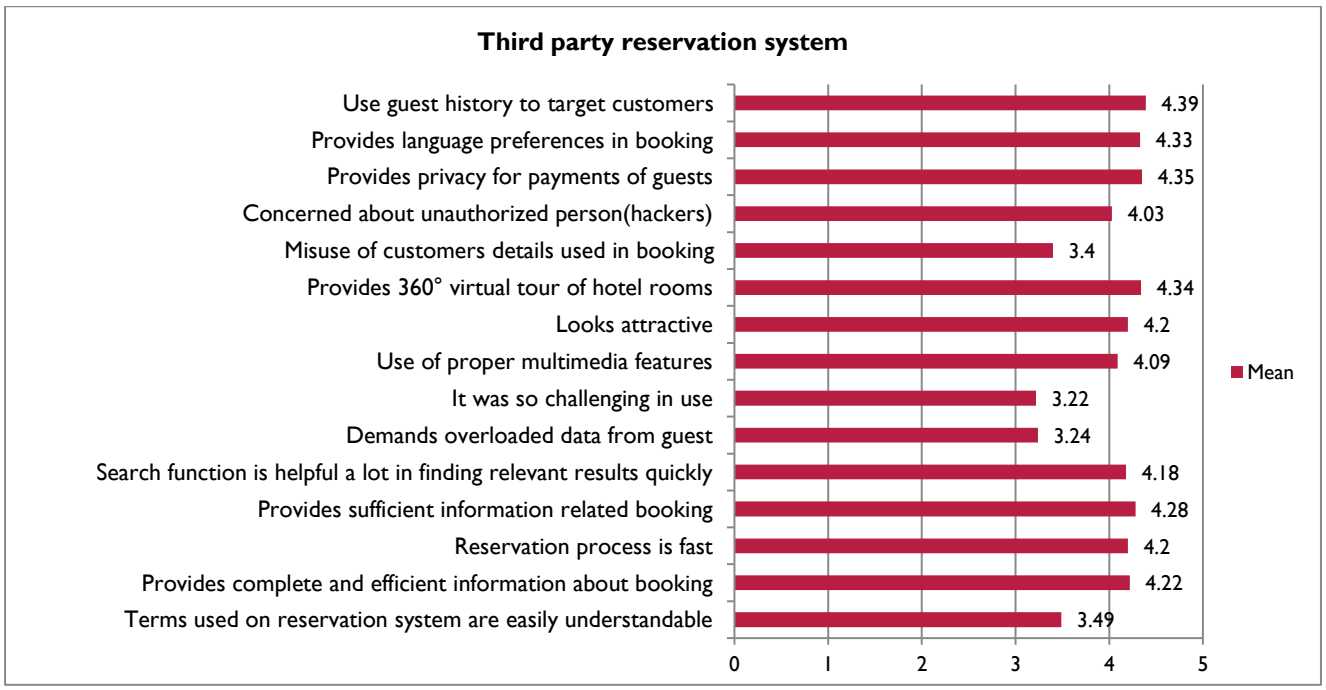

Figure 2 Graphical statistics of Third party reservation system's variables mean

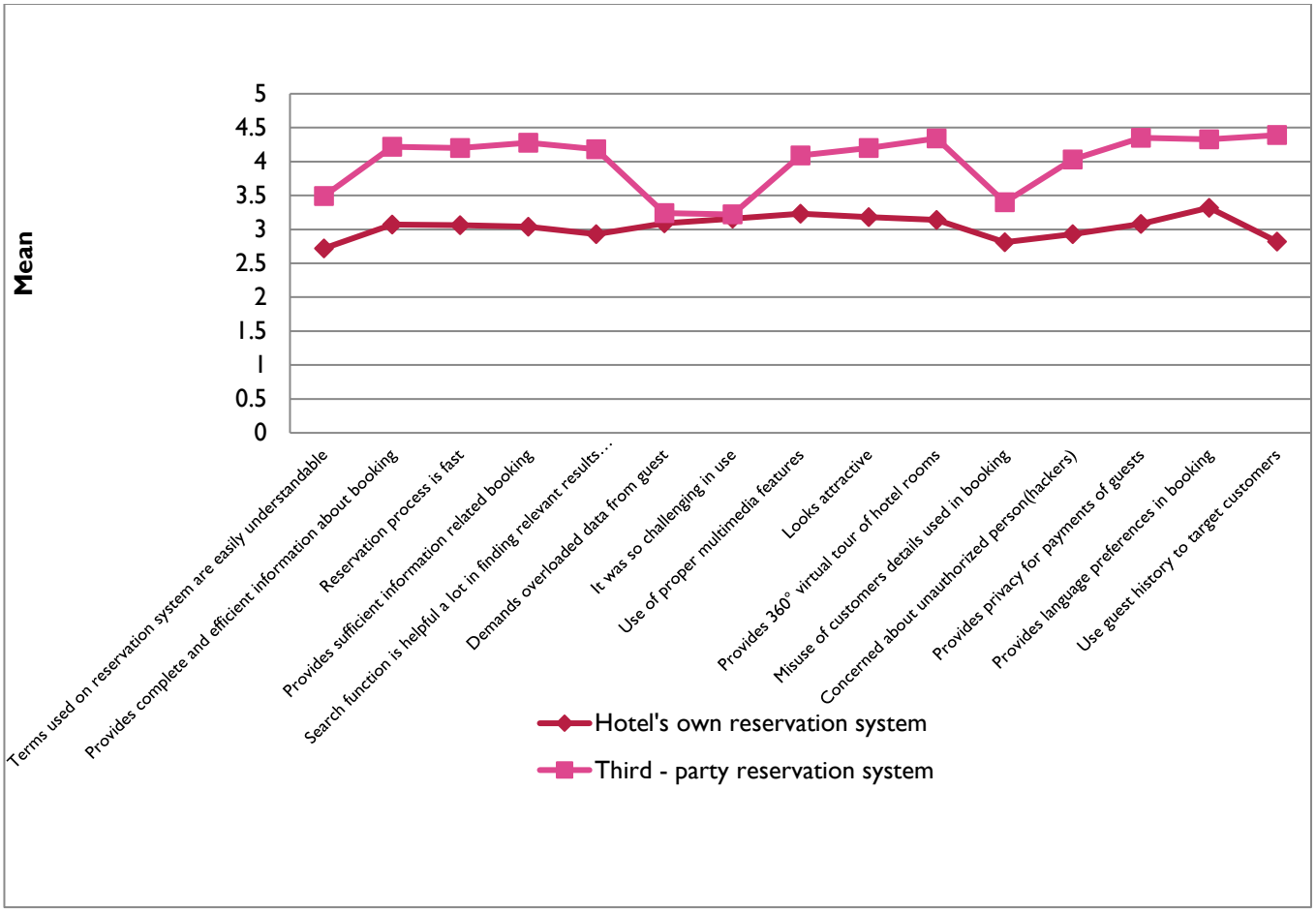

Figure 3 Differential Graphical statistics of reservation systems (Own & Third-party) means

Analysis: To achieve the research objective, hypothesis H_0:- "There is no significance difference between the reservation systems (Own and Third party) in hotels of Delhi" was formulated and tested. A paired t-test and a GAP analysis were conducted to ascertain the differences in the mean guest's perception of the hotels own reservation system and third-party reservation systems services that were offered to them when making room reservation in hotels to test the aforementioned hypothesis. Table 1 below presents descriptive statistics, including mean, standard deviation, and standard error mean, together with the outcomes of the paired sample t-test, along with the mean patient perception of the reservation systems services.

The average for the hotels own reservation systems in figure 1 below shows services provided in hotels of Delhi with a significantly low mean were "Terms used on reservation system are easily understandable" (2.72), "Misuse of customers details used in booking" (2.81), Use guest history to target customers - Mean: 2.82, Search function is helpful a lot in finding relevant results quickly - Mean: 2.93, Concerned about unauthorized person(hackers) - Mean: 2.93, Provides sufficient information related booking - Mean: 3.04, Reservation process is fast - Mean: 3.06, Provides complete and efficient information about booking - Mean: 3.07, Provides privacy for payments of guests - Mean: 3.08, Demands overloaded data from guest - Mean: 3.09, Provides 360° virtual tour of hotel rooms - Mean: 3.14, It was so challenging in use - Mean: 3.16, Looks attractive - Mean: 3.18, Use of proper multimedia features - Mean: 3.23, Provides language preferences in booking - Mean: 3.32

Similarly, the average for the third-party reservation systems in figure 2 below shows services provided in hotels of Delhi with a significantly high mean were It was so challenging in use - Mean: 3.22, Demands overloaded data from guest - Mean: 3.24, Misuse of customers details used in booking - Mean: 3.40, Terms used on reservation system are easily understandable - Mean: 3.49, Concerned about unauthorized person(hackers) - Mean: 4.03, Use of proper multimedia features - Mean: 4.09, Search function is helpful a lot in finding relevant results quickly - Mean: 4.18, Looks attractive - Mean: 4.20, Reservation process is fast - Mean: 4.20, Provides complete and efficient information about booking - Mean: 4.22, Provides sufficient information related booking - Mean: 4.28, Provides language preferences in booking - Mean: 4.33, Provides 360° virtual tour of hotel rooms - Mean: 4.34, Provides privacy for payments of guests - Mean: 4.35, Use guest history to target customers

- Mean: 4.39

To determine the differences between the reservation systems (own and third party) in hotels, GAP analysis was done. It is done by subtracting the mean values of third party reservation systems from hotel's own reservation systems. The GAP analysis from table 4.9 showed that for majority of the responses the mean score of Third party reservation systems services were high as compared to the hotel own reservations systems services. This concludes that the majority of the guests were have higher positive perception about the Third party reservation systems services as compared to the hotel website as own reservation systems services provided in the hotels . The difference between the reservation systems (own and third party) in hotels is clearly visible from Figure 4.16.

Terms used on reservation system are easily understandable: The mean difference is -0.770, indicating that third-party reservation systems are perceived to have terms that are more understandable compared to hotel-own systems. This difference is statistically significant ($p < .001$), suggesting a clear preference for the terms used in third-party systems.

Provides complete and efficient information about booking: The mean difference is -1.155, indicating that third-party systems are perceived to provide more complete and efficient booking information compared to hotel-own systems. This difference is statistically significant ($p < .001$), indicating a clear preference for third-party systems in this aspect.

Reservation process is fast: The mean difference is -1.142, indicating that third-party systems are perceived to have a faster reservation process compared to hotel-own systems. This difference is statistically significant ($p < .001$), suggesting a preference for the speed of reservation processes in third-party systems.

Provides sufficient information related booking: The mean difference is -1.236, indicating that third-party systems are perceived to provide more sufficient booking information compared to hotel-own systems. This difference is statistically significant ($p < .001$), indicating a clear preference for third-party systems in providing sufficient information.

Search function is helpful a lot in finding relevant results quickly: The mean difference is -1.250, suggesting that third-party systems are perceived to have more helpful search functions compared to hotel-own systems. This difference is statistically significant ($p < .001$), indicating a preference for the search functionality of third-party systems.

Demands overloaded data from guest: The mean difference is -0.149, with no significant difference between hotel-own and third-party systems regarding data demands.

It was so challenging in use: The mean difference is -0.054, with no significant difference in perceived usability challenges between hotel-own and third-party systems.

Use of proper multimedia features: The mean difference is -0.865, indicating that third-party systems are perceived to use multimedia features more effectively compared to hotel-own systems. This difference is statistically significant ($p < .001$), indicating a preference for third-party systems in multimedia usage.

Looks attractive: The mean difference is -1.020, suggesting that third-party systems are perceived to be more visually attractive compared to hotel-own systems. This difference is statistically significant ($p < .001$), indicating a preference for the visual appeal of third-party systems.

Provides 360° virtual tour of hotel rooms: The mean difference is -1.203, indicating that third-party systems are perceived to provide better 360° virtual tours of hotel rooms compared to hotel-own systems. This difference is statistically significant ($p < .001$), suggesting a preference for third-party systems in providing virtual tours.

Misuse of customers' details used in booking: The mean difference is -0.588, suggesting that guests perceive a slightly lower risk of misuse of their details in third-party systems compared to hotel-own systems. This difference is statistically significant ($p = .001$), indicating a preference for third-party systems in terms of data security.

Concerned about unauthorized persons (hackers): The mean difference is -1.101, indicating that guests perceive third-party systems to be more concerned about unauthorized access by hackers compared to hotel-own systems. This difference is statistically significant ($p < .001$), suggesting a preference for the security measures of third-party systems.

Provides privacy for payments of guests: The mean difference is -1.270, suggesting that third-party systems are perceived to provide better privacy protection for payments compared to hotel-own systems. This difference is statistically significant ($p < .001$), indicating a preference for third-party systems in terms of payment privacy.

Provides language preferences in booking: The mean difference is -1.007, indicating that third-party systems are perceived to offer better language preferences compared to hotel-own systems. This difference is statistically significant ($p < .001$), suggesting a preference for third-party systems in language support.

Use guest history to target customers: The mean difference is -1.561, indicating that guests perceive third-party systems to utilize guest history more effectively for targeting customers compared to hotel-own systems. This difference is statistically significant ($p < .001$), indicating a preference for third-party systems in customer targeting strategies.

Hence it was evident from the results of the statistics test that for 13 variables out of total 15 were having significance value ($p < 0.05$), so for these 13 variables - (Terms used on reservation system are easily understandable , Provides complete and efficient information about booking, Reservation process is fast, Provides sufficient information related booking, Search function is helpful a lot in finding relevant results quickly, Provides 360° virtual tour of hotel rooms, Concerned about unauthorized person(hackers), Provides privacy for payments of guests and Use guest history to target customers, Use of proper multimedia features, Looks attractive, Misuse of customers details used in booking, Provides language preferences in booking) null hypothesis (H_0 :- There is no significant difference between the reservation systems (Own and Third party) in hotels of Delhi) was rejected and alternative hypothesis (H_a :- There is positive significant difference between the reservation systems (Own and Third party) in hotels of Delhi) was accepted. For remaining 2 variables - (Demands overloaded data from guest, It was so challenging in use) null hypothesis (H_0 :- There is no significant difference between the reservation systems (Own and Third party) in hotels of Delhi) was accepted.

Discussion: The paired t-test results indicated significant differences in guest perceptions between hotel-own and third-party reservation systems. For most variables, third-party reservation systems outperformed hotel-own systems. The terms used on third-party systems were found to be more understandable, providing complete and efficient booking information, faster reservation processes, and more helpful search functions. Additionally, third-party systems were perceived to demand less overloaded data, use multimedia features more effectively, and offer better visual appeal. Guests also perceived third-party systems to provide more comprehensive 360° virtual tours, despite having higher concerns about the misuse of customer details and unauthorized access. However, these systems were still seen as providing better privacy protection for payments and better support for language preferences. Furthermore, third-party systems were perceived to utilize guest history more effectively for targeted marketing.

The GAP analysis supported these findings, showing that third-party reservation systems generally received higher scores across various dimensions, indicating a stronger positive perception among guests. The significant mean differences observed in most variables suggest a clear preference for third-party systems due to their superior user-friendly features, comprehensive information, and efficient processes.

5. CONCLUSION

The findings clearly indicate a guest preference for third-party reservation systems over hotel-own systems in hotels of Delhi. The hypothesis H_0, "There is no significant difference between the reservation systems (Own and Third Party) in hotels of Delhi," is rejected based on the significant differences observed. Third-party systems are preferred for their ease of use, completeness of information, speed, and multimedia features. They also excel in providing virtual tours and ensuring payment privacy, despite higher concerns about data misuse and unauthorized access.

These results underscore the need for hotel-own systems to enhance their functionalities and features to compete more effectively with third-party systems. Improving user experience, providing more comprehensive information, and ensuring faster reservation processes can help hotel-own systems close the gap. Additionally, addressing security concerns and leveraging guest history for personalized marketing strategies can further enhance their appeal to guests

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