

The Influence of Technological Innovations on Customer Satisfaction in the Hospitality Industry

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Abstract

In contemporary professions, technology plays a pivotal role, transforming various sectors to meet evolving demands. The hospitality industry, notably hotels, has embraced this shift by incorporating smart systems to elevate customer experiences. This research delves into the intricate dynamics between customer satisfaction and technology in the hospitality context. Utilizing a comprehensive approach, the study examines survey responses and conducts an extensive literature review to dissect the impact of technology on customer experiences.

Beyond investigating the correlation, this paper sheds light on the challenges inherent in implementing and developing technology within hospitality services. The study does this by considering the micro and macro perspectives to customer satisfaction. Through an in-depth analysis, it identifies potential hurdles that may arise during the execution process.

By addressing both the positive and potential pitfalls of technology in the hospitality sector, this research provides a holistic understanding of the intricate relationship between technological advancements and customer experiences. The comprehensive insights offered in this paper contribute valuable perspectives for industry practitioners, researchers, and decision-makers seeking to navigate the evolving landscape of technology within the hospitality domain.

Keywords: Technology, Hotel Management, Customer Service, Attitudes

idea of personalized and customized care. This involved a special emphasis on customer satisfaction. Customer satisfaction can be understood through two broad lens-micro and macro lens. The macro lens looks at the larger perception of satisfaction that a customer feels whereas the micro lens looks at the specific aspects that could lead to satisfaction.

Expectancy-Disconfirmation Model

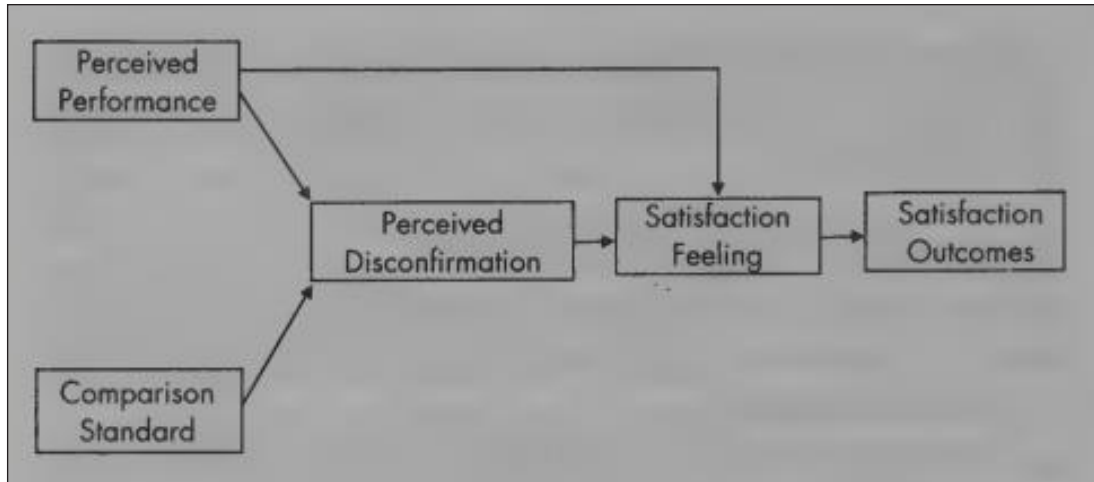
One of the most popular macro models of customer satisfaction is elaborated by Woodruff and Gardial (1996). They utilized a means-ends analysis to understand customer satisfaction. To them, “a customer’s perceived preference for and evaluation of those product attributes, attribute performances and consequences arising from uses that facilitate the achieving of the customer’s goal and purposes in use situation” (1997).

The idea is that judgement of satisfaction is a matter of perception, more specifically- customer’s perception. This means that the actual presence or absence of satisfaction is irrelevant because satisfaction becomes dependent on customer’s judgment (Fig. 1). This judgment is influenced by a standard. When the individual compares the judgement with the standard it leads to either disconfirmation and expectancy. During this process there will exist a certain zone of indifference which is a certain margin within which the individual would be indifferent (Woodruff & Gardial, 1996). There is the gap that they exist before the individual decides to make a decision.

INTRODUCTION

Technology has been a relatively recent introduction. The hotel industry since its inception was based on the

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Reference- Woodruff and Gardial (1996).

Fig. 1: Expectancy Disconfirmation Theory of Customer Satisfaction

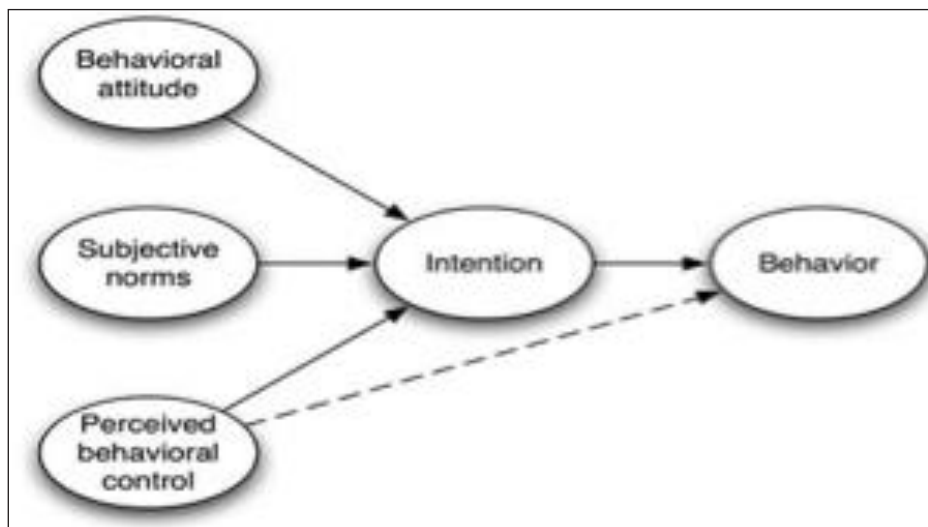
Social Exchange Theory

At the micro level, customer satisfaction can be understood through the lens of Social Exchange Theory, which posits that individuals engage in interactions and relationships based on perceived costs and benefits (Fig. 2) (Jeong & Oh, 2017).

Customers evaluate their experiences with a business or service provider by weighing the benefits received against the costs incurred (Cropanzano et al., 2017). These benefits include product quality, functionality, and meeting their needs, while costs encompass monetary expenses,

time investment, and any inconvenience encountered. Additionally, customers compare their actual experiences with their expectations, seeking equity and fairness in the exchange. Positive interactions that exceed expectations and provide fair value lead to high satisfaction levels, fostering trust, loyalty, and long-term relationships (Yi & Gong, 2009).

Therefore, businesses can enhance customer satisfaction by consistently delivering high-quality products, excellent service, and fair treatment, thereby cultivating lasting customer loyalty and positive word-of-mouth referrals (Rather & Hollebeek, 2019).



Source: Ajzen (1991).

Fig. 2: Social Exchange Theory

Influence of Technology on Customer Satisfaction

In the hotel industry, technology plays a significant role in shaping customer satisfaction, and two theoretical frameworks, the expectancy-disconfirmation model and social exchange theory, provide valuable insights into this phenomenon.

Firstly, the expectancy-disconfirmation model suggests that customer satisfaction is influenced by the perceived performance of a product or service compared to initial expectations (Woodruff & Gardial, 1996). In the context of hotels, technology implementations such as online booking systems, mobile check-in/out, and room customization apps create specific expectations among guests regarding convenience, efficiency, and personalized experiences. When these technological features meet or exceed guests' expectations, they experience positive disconfirmation, leading to enhanced satisfaction. For example, if a guest expects a smooth check-in process facilitated by a mobile app and finds that the process is indeed quick and seamless, their satisfaction with the hotel's service is likely to increase.

Secondly, social exchange theory suggests that customers evaluate their interactions with hotels based on the perceived benefits versus costs. Technological advancements in the hotel industry can provide various benefits to guests, such as improved communication channels, faster service delivery, and enhanced convenience - such is the case in Airbnbs (Priporas et al., 2017; Sharma & Baoku, 2013).

For instance, guests may appreciate the ability to communicate with hotel staff via chatbots or mobile apps, reducing the time and effort required to address queries or requests. Additionally, technology-driven amenities like smart room controls or in-room entertainment systems can enhance guests' overall experience, increasing their perceived benefits. Conversely, if technology implementation results in increased complexity, system failures, or impersonal interactions, guests may perceive higher costs, leading to decreased satisfaction (Woodruff & Gardial, 1996).

Integrating these theoretical frameworks, hotels can leverage technology to enhance customer satisfaction by carefully managing guests' expectations through transparent communication about available technological features and their functionalities.

METHOD

Objectives of the Study

- To provide theoretical frameworks to understand the influence of technology in the hotel industry.
- To understand the possible challenges that can be faced while implementing technology in the hotel industry.

Research Design

The study employs a survey research design. It combines the survey data with analysis of various theories on customer satisfaction to provide a holistic understanding of the topic.

Data Collection and Analysis

The data for the survey design is collected using a non-probability sampling technique via Google Forms. The data will be analyzed using simple statistics (measures of central tendencies) along with textual analysis of the theories.

Ethical Considerations

The study doesn't have any ethical issues. The identities and personal details of the participants have been kept confidential. The participation into the survey was voluntary.

RESULTS

The findings of the survey showed a consistent theme of acceptance of technology but also presented major challenges that may occur. Technology was seen as a way of convenience which is consonant with other research finds.

The data analysis encompasses ten distinct themes, each shedding light on different facets of technology's role in the hospitality industry.

First, the frequency of technology utilization for reservations reveals how often respondents rely on online platforms or mobile apps to book hotel stays. Second, satisfaction levels with the check-in and check-

out processes offer insights into the ease and efficiency of these procedures, whether through traditional methods or digital alternatives. Third, challenges with technology implementation highlight issues encountered during reservation processes or accessing services within hotels, ranging from technical glitches to communication gaps between staff and digital platforms. Fourth, the impact of personalized recommendations on decision-making underscores the significance of tailored promotions in influencing hotel selection.

Fifth, the importance of high-speed internet and Wi-Fi connectivity emerges as a crucial factor influencing guest satisfaction, reflecting the growing necessity of connectivity in modern hospitality. Sixth, preferences for digital versus traditional check-in methods reveal evolving guest preferences, with some favoring the convenience of mobile room keys and digital check-ins. Seventh, the effects of technology on customer service quality provide insights into how technological advancements either enhance or detract from the overall guest experience. Eighth, identifying the most valuable technological amenities during hotel stays underscores the features that drive guest satisfaction and set hotels apart in a competitive landscape.

Ninth, addressing concerns about data privacy and security in technology-based services highlights the importance of maintaining trust and transparency in guest interactions with technology. Tenth, assessing the likelihood of recommending tech-integrated hotels based on overall experiences gauges the potential of technology to drive positive word-of-mouth and brand advocacy.

The survey findings for each theme are as follows:

Frequency of using Online Platforms for Hotel Reservations

In analyzing the data regarding the frequency of using online platforms or mobile apps for hotel reservations, a mixed pattern emerges among respondents (Fig. 3). While some individuals report frequent utilization of these digital tools for booking accommodations, others indicate a more sporadic or rare use of online platforms. This discrepancy suggests varying degrees of reliance on technology for hotel reservations, influenced by factors such as personal preferences, travel frequency, and ease of access to alternative booking methods (Bigné et al., 2020).

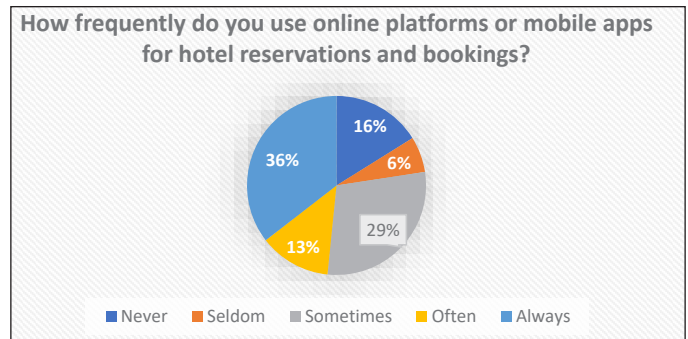


Fig. 3: Frequency of using Online Platforms

Satisfaction with Check-in and Check-out Processes

Regarding satisfaction with the ease of the check-in and check-out processes, the majority of respondents express relatively high levels of contentment (Fig 4). Ratings on a scale of 1 to 5 generally fall within the upper range, indicating that most individuals find the check-in and check-out procedures during their recent hotel stays to be satisfactory. This positive sentiment suggests that hotels are effectively implementing streamlined processes to enhance the overall guest experience, thereby contributing to guest satisfaction and loyalty (Yi & Gong, 2009; Foris & Foris, 2020).

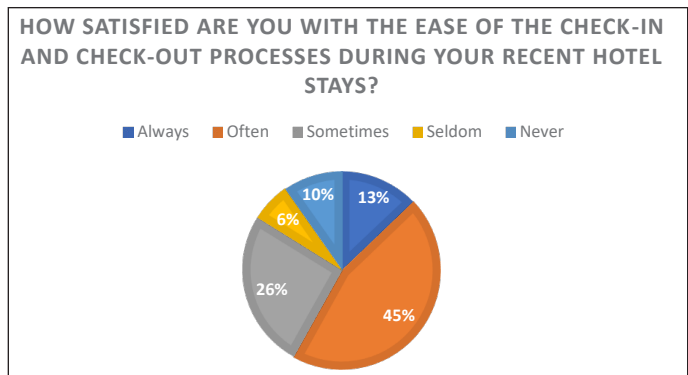


Fig. 4: Satisfaction with Check-in and Check-out Processes

Challenges Encountered with Technology in Hotels

Despite the overall satisfaction with check-in and check-out processes, respondents report encountering various

challenges when using technology for reservations or accessing services within hotels (Sing & Munjal, 2012). Issues such as synchronization problems between hotel staff and apps, reservation inaccuracies, slow Wi-Fi speeds, and excessive procedural complexity are highlighted. These challenges underscore the importance of seamless integration and user-friendly interfaces in technological solutions within the hospitality industry to mitigate friction points and enhance guest satisfaction (Lee et al., 2012; Mellinas & Nicolau, 2020).

Impact of Personalized Recommendations on Hotel Choice

The data reflects a significant impact of personalized recommendations and promotions based on preferences on the decision-making process when selecting a hotel (Fig. 5). With ratings predominantly falling between 3 and 5, respondents acknowledge the influence of tailored suggestions in shaping their choices. This underscores the importance of data-driven marketing strategies and personalized guest experiences in attracting and retaining customers in the competitive hotel industry.

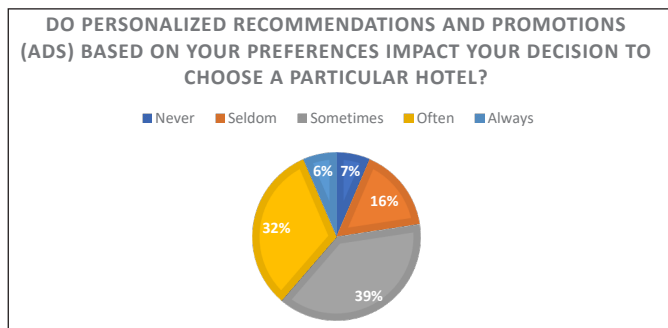


Fig. 5: Personalized Recommendation

Importance of High-Speed Internet and Wi-Fi Connectivity

High-speed internet and Wi-Fi connectivity emerge as critical factors influencing guest satisfaction during hotel stays (Fig. 6). While most respondents recognize the significance of reliable connectivity, some report experiencing network issues that hinder their experience. This highlights the ongoing need for hotels to invest in robust infrastructure to ensure seamless digital experiences for guests, especially in an increasingly connected world

where internet access is integral to various aspects of travel.

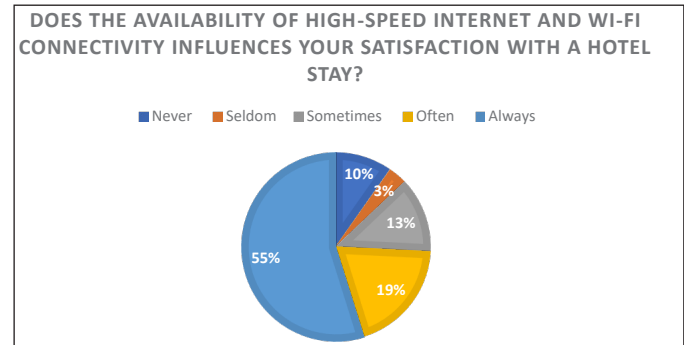


Fig. 6: High-Speed Internet and Wi-Fi Connectivity

Preference for Technological Check-in Methods

Preferences regarding check-in methods reveal a divided sentiment among respondents, with some favoring the convenience of mobile room keys and digital check-in, while others express a preference for traditional key cards and in-person interactions. This indicates that while technological advancements offer convenience and efficiency, there remains a segment of guests who value human interaction and tangible key cards during their hotel stays.

Effects of Technological Advancements on Customer Service Quality

Overall, respondents report positive effects on the quality of customer service resulting from technological advancements in hotels. However, there are occasional mentions of negative experiences, suggesting that while technology can enhance efficiency and convenience, human oversight and personalized interactions remain essential in delivering exceptional guest service (Rather & Hollebeek, 2019).

Valuable Technological Amenities during Hotel Stays

The data highlights various technological amenities that guests find valuable during their hotel stays, including smart room controls, virtual concierge services, in-room tablets, smart bathrooms, and mobile or digital key cards. These amenities contribute to enhancing the overall guest

experience by providing convenience, customization, and efficiency (Lee et al., 2003).

Concerns About Data Privacy and Security

Respondents express varying levels of concern about data privacy and security when using technology-based services in the hospitality industry (Fig. 7). While some individuals are relatively unconcerned, others rate their level of concern higher, indicating a need for hotels to prioritize data protection measures and transparent privacy policies to reassure guests and build trust (Yu et al., 2002).

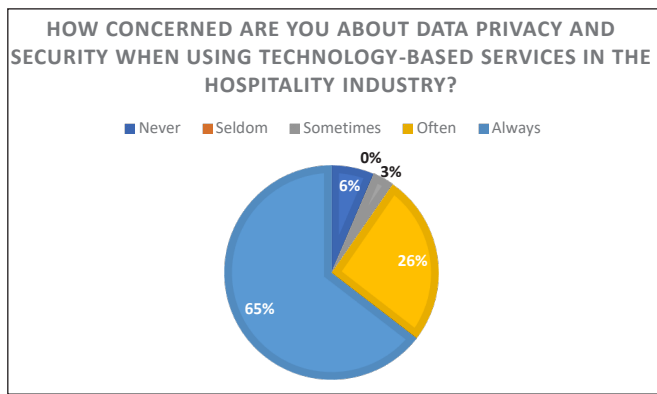


Fig. 7: Concerns About Data Privacy and Security

Likelihood of Recommending Technologically Integrated Hotels

Finally, respondents generally express a willingness to recommend hotels that effectively integrate technology into their services based on their overall experience (Fig. 8). This indicates that guests perceive value in technologically advanced hotels and are likely to endorse such establishments to friends or colleagues, further emphasizing the importance of continued innovation and technological integration in the hospitality industry (Bharwani & Mathews, 2021).

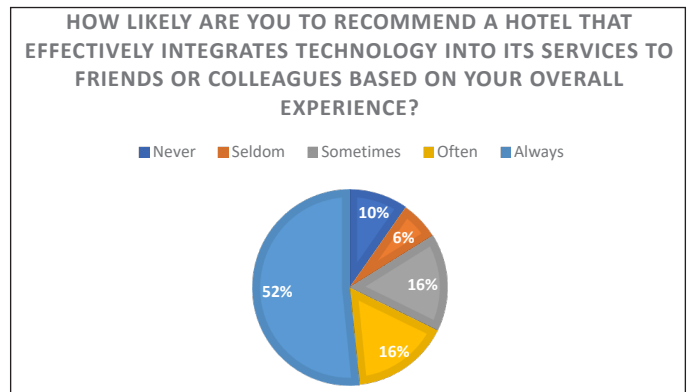


Fig. 8: Recommending Technologically Integrated Hotels



Fig. 9: 10 Dominant Themes

These findings can be better understood in the light of the two mentioned theories- expectancy disconfirmation and social exchange theory.

The Social Exchange Theory posits that individuals engage in relationships or transactions based on the expectation of receiving rewards or benefits while minimizing costs or negative outcomes.

In the context of the hospitality industry, guests may engage with technological advancements based on the perceived benefits they offer, such as convenience, efficiency, and personalized experiences (Priporas et al., 2017). The findings related to the impact of personalized recommendations on decision-making and satisfaction levels with check-in and check-out processes align with this theory. Guests are more likely to embrace technology when they perceive it as providing value and enhancing their overall experience, thus reflecting a positive social exchange (Ajzen, 1991).

Furthermore, the Expectancy Disconfirmation Model suggests that satisfaction is influenced by the disconfirmation of expectations. When expectations are met or exceeded, individuals experience satisfaction, whereas when expectations are not met, dissatisfaction may occur.

In the context of the data analysis, satisfaction levels with check-in and check-out processes and the impact of personalized recommendations on decision-making can be viewed through the lens of expectancy disconfirmation (Woodruff & Gardial, 1996). If guests' expectations regarding the ease of check-in processes or the relevance of personalized recommendations are met or exceeded, they are likely to experience satisfaction. Conversely, challenges with technology implementation or discrepancies between expectations and experiences may lead to dissatisfaction.

Challenges

Based on the data and theory analysis here are some challenges that hotels could face while implementing technology.

- *Synchronization between Staff and Apps-* Some respondents noted challenges with the synchronization between hotel staff and digital platforms, suggesting a potential communication

gap or lack of integration between backend systems and customer-facing applications. This could lead to inconsistencies in service delivery and guest dissatisfaction.

- *Technical Glitches and Connectivity Issues-* Instances of delays in internet connectivity and network issues were reported by respondents, highlighting the risk of technical glitches and connectivity issues disrupting the guest experience. Such challenges can result in frustration among guests and impact their perception of the hotel's technological capabilities.
- *Reservation Accuracy and Process Complexity-* Several respondents mentioned challenges related to reservation accuracy and the complexity of processes, indicating potential issues with the booking system or the user interface of digital platforms. Complicated processes may deter guests from utilizing technology for reservations and lead to dissatisfaction.
- *Data Privacy and Security Concerns-* Concerns about data privacy and security were raised by some respondents, reflecting apprehensions regarding the protection of personal information when using technology-based services (Yu et al., 2002). Hotels need to address these concerns by implementing robust security measures and ensuring compliance with data protection regulations.
- *Discrepancies between Online Platforms and Actual Services-* Some respondents reported discrepancies between online platform quotes and actual billing, as well as differences in the availability of amenities such as complimentary breakfast. Such inconsistencies may erode trust in the hotel's digital offerings and lead to negative guest experiences.
- *Staff Training and Adoption-* Hotels may encounter challenges in staff training and adoption of new technologies, particularly if employees are not adequately trained to use digital systems or resist embracing technological changes. Ensuring comprehensive training programs and fostering a culture of innovation can help mitigate these challenges.
- *Cost and Resource Allocation-* Implementing and maintaining technological infrastructure can involve significant costs and resource allocation for hotels, especially smaller establishments with limited

budgets. Balancing investments in technology with other operational priorities while ensuring a positive

return on investment poses a challenge for hotel management.

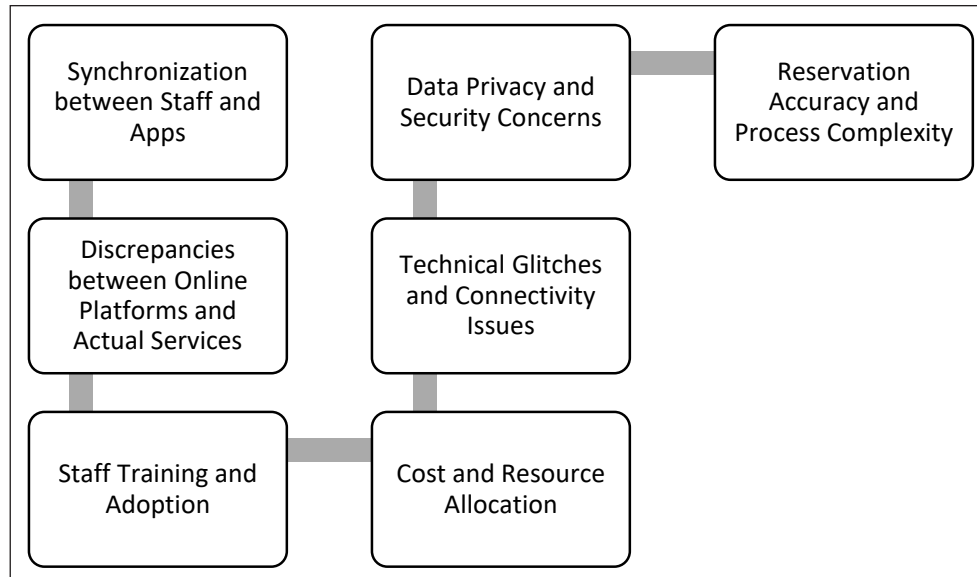


Fig. 10: Challenges in Implementation of Technology

These challenges range from technology related challenges to staff related challenges. Hence, the implementation of technology comes with diverse problems which need to be evaluated before implementation.

CONCLUSION

The analysis underscores the dual nature of technology adoption in the hospitality industry, offering both opportunities and challenges for hotels. While technology promises enhanced efficiency, personalized experiences, and improved guest satisfaction, its implementation often encounters hurdles such as synchronization issues, technical glitches, and concerns about data privacy. Addressing these challenges necessitates a strategic approach encompassing technological innovation, staff training, data security measures, and prudent resource allocation. By navigating these obstacles, hotels can leverage technology to streamline operations, elevate guest experiences, and maintain competitiveness in a rapidly evolving market landscape.

Looking ahead, future research in hospitality technology should delve deeper into areas such as user experience design, staff training strategies, data privacy, and the cost-

benefit analysis of technology adoption. Additionally, exploring guest preferences regarding technology integration and its impact on service quality can provide valuable insights for hotels seeking to enhance customer satisfaction. By addressing these research gaps, scholars and practitioners can develop more effective strategies for leveraging technology to meet evolving guest needs and drive sustainable business growth in the hospitality sector.

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