SMART
# Journal of Business Management Studies

(A Professional, Refereed, International and Indexed Journal)

Vol-22 Number-2 July - December 2026 Rs. 500

ISSN 0973-1598 (Print) ISSN 2321-2012 (Online)

Professor MURUGESAN SELVAM, M.Com, MBA, Ph.D, D.Litt

Founder - Publisher and Chief Editor

SCIENTIFIC MANAGEMENT AND ADVANCED RESEARCH TRUST (SMART)

TIRUCHIRAPPALLI (INDIA)

www.smartjournalbms.org

**S M A R T  J O U R N A L  O F  B U S I N E S S  M A N A G E M E N T  S T U D I E S**
**(A Professional, Refereed, International and Indexed Journal)**
www.smartjournalbms.org

***DOI : 10.34293/2321-2012.2026.0002.6***

# SMART TECHNOLOGY IN HOSPITALITY: THE INTERPLAY BETWEEN EFFICIENCY AND VULNERABILITY

**Richa Misra**
*Jaipuria Institute of Management, Noida, India*
Email: richa.misra@jaipuria.ac.in

**Vranda Jain***
*Jaipuria Institute of Management, Noida, India*
Email: vrandajain@gmail.com

**Anupama Rajesh**
*Amity Business School, Amity University, Noida, India*
Email: anupamar@amity.edu

**Mahima Shukla**
*Sharda University, Greater Noida, India*
Email: mahima.shukla@sharda.ac.in

***Abstract***

*This study examines the influence of motivational (utilitarian and hedonic) and IS vulnerability factors (user and provider) on guests' behavioural intentions toward smart hotels. Data were collected from 240 Indian hotel guests through online surveys. The findings revealed that efficiency, perceived control, enjoyment, and customised services significantly improved perceived benefits; user and provider vulnerabilities significantly influenced information privacy concerns. Moreover, perceived benefits positively affected guests' intentions to stay at smart hotels whereas concerns regarding information privacy negatively affected behavioural intentions, although this impact was not statistically significant. The study delivers insightful information that hotel managers can use to leverage smart technologies to enhance guests' experiences. Addressing guests' privacy concerns and enhancing their familiarity with technological innovations, can help maximise their adoption and effective use of these technologies in hospitality settings.*

***Keywords:*** *Smart hotels, perceived benefit, vulnerability, privacy concerns*

***JEL Code :*** *C83, D83, L86, O33*

***Paper Received :*** *02.04.2025* ***Revised :*** *08.04.2026* ***Accepted :*** *15.04.2026*

*** Corresponding Author**

## 1. Introduction

Recently, technological interventions have led to changes in service environments across cities, healthcare, tourism, and hotels (**Misra *et al.*, 2022**). Organisations are increasingly creating smart environments to upgrade their offerings and enable better experiences. According to a recent report by **Deloitte (2024**), the hotel industry is evolving. A survey of hoteliers in Asia, Europe, and North America reveals that the use of technology enables hotels to streamline their processes, achieve cost efficiency, reduce staff workloads, enhance customer experience, increase the potential for revenue generation, and gain a competitive edge and future-proof business (**Statista, 2022**). Technological advances such as voice search, artificial intelligence (AI), augmented reality (AR), the Internet of Things (IoT), contactless payments, mobile check-ins, and the use of robots, chatbots, and recognition technology by hotel guests, create personalised options, induce feelings of comfort and warmth, and reduce stress and waiting time (**Elshaer and Marzouk, 2024)**. Smart hotels represent a technologically integrated system that offers hospitality services. Smart hotels can be described as a logical transformation from traditional hotels to those with enormous technical capabilities (**Yaðmur *et al.*, 2024**) to enhance guest experiences.

These technological interventions in the hotel industry represent a new service concept (**Kim and Han, 2020**). Hence a thorough understanding of the factors determining hotel guests' behavioural intentions towards smart hotels is an important research agenda. Based on the motivation theory, the study examined the role of efficiency, perceived control, perceived enjoyment and customised services in influencing behavioural intention toward smart hotels. By using the perceived risk theory, this study examined informational privacy concerns from the perspective of the user as well as provider vulnerability. The study could enrich existing literature and provide a nuanced understanding of behavioural intention by integrating insights from perceived benefits and vulnerabilities. Thus this study extends existing research that has focused on the positive aspects of smart hotel technologies, by also exploring the negative impacts of user and provider vulnerability on intentions to adopt these technologies in hotels.

## 2. Review of Literature

Efficiency is a salient aspect of discussions of technology adoption. Hotel guests consider smart hotels efficient, as they save time and effort. In a study, **Wu and Cheng (2018)** have demonstrated that cutting-edge technologies increase customer efficiency and impart to them a feeling of control over their surroundings. Therefore, the influence of perceived control was examined in our study. Perceived enjoyment is a hedonic factor involved in the use of technology-powered goods/services. The study defines it in terms of feelings of positive emotions, happiness, pleasure, and playfulness while using smart technology in hotels. Researchers have found that AI robotic devices are useful in meeting consumers' hedonic needs (**Ozturk *et al.* 2023**). Studies have also recognised the ability of technology to offer personalised services to users (**Yang *et al.* 2021**).

Information systems research focuses on informational privacy concerns, which are feelings or attitudes originating from privacy violations (**Rana *et al.*, 2022**) that negatively impact users' behaviour (**Ashrafi *et al.*, 2024**). While user vulnerability is defined as the lack of complete knowledge in using and managing the device, provider vulnerability refers to the absence of maintaining users' personal information (PI) securely by the third party or service provider (**Lee, 2020**). While privacy is a fundamental virtue, nonetheless, attaining complete privacy is difficult in the digital age. Individuals routinely make trade-offs, relinquishing a degree of privacy for expected benefits. **Dinev and Hart (2006)** examined the dynamics of online transactions, highlighting the interaction between perceptions of privacy threats and trust in institutional assurances that influence consumers' willingness to disclose personal information. Therefore, this research could help clarify the role of perceived benefits and information privacy concerns in predicting guest behaviour towards smart hotels.

Consumer motivation for online booking in star hotels is driven by two factors. Utilitarian Motivation (UM) is primarily concerned with utility or usefulness and addresses the various logical and functional aspects of smart hotels, such as check-in and other automated services **(Kim and Han, 2020; Yaðmur *et al*., 2024).** The study used UM to refer to constructs, such as efficiency and perceived control. HM focuses on the soft aspects, which echo customers' emotions and invoke positive responses such as joy, happiness, thrill, fun, and delight (**Kabadayi *et al.* 2019**). The study uses the term 'hedonic motivation' (HM) to refer to similar constructs, such as perceived enjoyment (**Khan and Khan, 2024**) and customised services.

## 3. Statement of Problem

Since the concept of smart hotels is still evolving, the available knowledge and research in this area are limited. A considerable number of studies in the tourism and hospitality domains have only explored the challenges and effects of technology adoption from employees' perspectives. Few researchers have also examined the changes in organisational performance **(Ezzaouia and Bulchand-Gidumal, 2022)** and the cost implications (**Kim *et al*., 2020**) of technology implementation in hotels. From the customer's perspective, existing research has predominantly investigated guest experiences (**Bharwani and Mathews, 2021**). Although perceived benefits and information privacy concerns are critical factors in technology usage, no study has comprehensively analysed the combined effect of these factors on behavioural intention towards smart hotels. This research extends the current framework to the smart hotel industry, where visitors interact with personalised, data-driven services.

## 4. Need of the Study

Technological advances such as voice searches, AI, AR, IoT, contactless payments, mobile check-ins, and the use of robots, chatbots, and recognition technology by hotel guests, create personalised options, induce feelings of comfort and warmth, and reduce stress and waiting time. The findings of a recent report by **Revfine (2022)** demonstrates the benefits of such technologies from the perspective of hotel guests. These technological interventions in the hotel industry represent a new service concept (**Kim and Han, 2020; Fauzel *et al*., 2024**). Hence a thorough understanding of the factors determining hotel guests' behavioural intentions towards smart hotels is an important research agenda.

## 5. Objective of the Study

The objective of the study was to analyse the influence of perceived benefits of smart hotel technologies on customers' behavioural intentions to use these services. The study also assessed the impact of information privacy concerns on customers' behavioural intentions towards smart hotels. Using the NVM theory, study wanted to find out why customers are receptive or averse to an emerging smart hotel service.

## 6. Hypotheses of the Study

### 6.1. Efficiency and Perceived Benefit

The efficiency of a hotel can be determined by the effectiveness of the interactions between clients, service technology systems, and hotel staff, as well as the speed at which consumers obtain hotel services (**Kabadayi *et al.* 2019**). Smart hotel customers may enjoy the hotel's differentiated products and services without using too much time and effort, thus making their stay more efficient (**Kim *et al.* 2021**).

*H1a: Higher efficiency in smart hotel services leads to greater perceived benefits among guests.*

### 6.2. Perceived Control and Perceived Benefit

The perceived control of technology refers to the perception that users may be responsible for the processes and outcomes of a technology (**Dabholkar & Bagozzi, 2002**). Recent studies claim that smart hotels provide their guests with control over their preferred conditions by customising their surroundings and services during their stay, including dining at hotel's restaurant, attending meetings and events, etc (**Mehraliyev *et al.*, 2020**). In an unpredictable technological environment, consumers' sense of control makes them feel less worried about risk and more satisfied (**Lau *et al.* 2018**).

*H1b: Increased perceived control over the smart hotel environment enhances the perceived benefits for guests.*

### 6.3. Enjoyment and Perceived Benefit

Enjoyment plays an important role in influencing users' attitudes and behaviour (**Tussyadiah, 2018**). It also facilitates the use of new experiences, by using technology products, which are enjoyable experiences (**Dabholkar and Bagozzi, 2002**). Online chatting, artificial intelligence, and the use of robots evoke feelings of excitement and "fun" (**Tussyadiah, 2018**). Virtual reality and other innovative technologies are known to positively influence tourists' attitudes (**Yang *et al.* 2021**).

*H1c: Higher perceived enjoyment from interacting with smart hotel services increases the perceived benefits.*

### 6.4. Customised Service and Perceived Benefit

Customised services enhance operational excellence and increase customers' perceived value and attitude towards the service provider (**Rana *et al.*, 2022**). Customised experiences help realise customer expectations (**Yang *et al.* 2021**). Smart technologies facilitate customisation (**Kim *et al.* 2021**). Customised services has been found to be a key benefit in shaping positive attitudes by previous studies (**Kim *and Han,* 2020**).

*H1d: Customised services in smart hotels positively impact guests' perceived benefits.*

### 6.5. User Vulnerability and Information Privacy Concern

Privacy and security concerns are obvious fallouts of systems' vulnerability. User vulnerability is considered a major factor impacting users' resistance to use. User characteristics and earlier experience with technology also have an impact (**Lee, 2020**). User ignorance and carelessness may also contribute extensively to overall vulnerability (**Yang *et al.*, 2021**). There may also be poor management of devices, such as passwords or updates, or low levels of technology comfort and literacy (**Sharma *et al.*, 2024**).

*H2a: Higher user vulnerability regarding smart technologies uses in hotels increases information privacy concerns among guests.*

### 6.6. Provider Vulnerability and Information Privacy Concerns

Vulnerability may be in the design, implementation, or operation of technology infrastructure (**Kim and Han, 2020**). The reliability and responsibility of technology belong to the provider (**Malhotra *et al.* 2004**). Occasionally, the provider may compromise user information to gain another benefit (**Bano and Siddiqui, 2024**).

*H2b: Provider vulnerability, in terms of handling personal information insecurely, heightens information privacy concerns among guests.*

### 6.7. Perceived Benefit and Intention to Stay in Smart Hotels

Implementation of technology enhances both perceived and realistic benefits **(Buhalis *et al.* 2019)**. Studies have listed hedonistic, emotional, and social benefits as drivers of technology adoption (**Rana *et al.*, 2022**). Some of the benefits may include automation, lower operating costs, higher customer satisfaction, and increased efficiency, resulting in an overall improvement in the image of the hotel.

*H3: Perceived benefits from using smart hotel services positively influence guests' behavioural intentions towards staying in smart hotels.*

### 6.8. Information Privacy Concerns and Intention to Stay in Smart Hotels

IPC is the "extent to which an individual is concerned about organisational practices related to the collection and use of his or her personal information" (**Hsu *et al.*, 2022**). The perception of threat comprises its likelihood, severity, vulnerability, and resultant magnitude of impact (**Rogers, 1975**). These concerns impact buying, acceptance or resistance to the use of technology (**Bano and Siddiqui, 2024**).

*H4: Information privacy concerns negatively impact guests' behavioral intentions towards staying in smart hotels.*

## 7. Research Methodology

### 7.1. Sample Selection

The sample consisted of Indian participants, aged 18 and above, who possessed awareness or experience of staying in smart hotels. An initial purposive sampling technique was used to identify participants who met the inclusion criteria, followed by snowball sampling by which initial respondents recommended others who shared similar knowledge. Purposive sampling ensured that the respondents reported awareness of smart hotel technologies like smart check in, customised room setting or service robots while snowballing ensured a wide pool of users. To calculate the minimum sample size, the sample-to-item ratio was used. Based on the number of items in a study, it should not be less than 5:1 (Westland, 2010). The study survey consisted of 25 items, and 240 valid responses were collected. The study followed the G power approach (effect size=0.10, power level=0.85, predictors=8 and probability level=0.01), suggesting a minimum sample size of 236. In total, 240 responses were collected via online surveys (primary data), using Google Forms links sent via email, WhatsApp groups, and social media.

### 7.2. Period of Study

Data were collected in the months of September-November 2024 through the google form. As this study examined travellers' perceptions of smart hotels, online surveys were considered appropriate (**Misra *et al.* 2022**). The introduction of the survey form included the study's academic goal and the assurance of preserving respondents' anonymity, along with the definition and characteristics of a smart hotel. The survey ensured anonymity and confidentiality of the respondents.

### 7.3. Sources of Data

The measurement scales were adapted from previously established studies and used the 5-point Likert-type scale.

### 7.4. Tools used in the Study

The analysis employed the PLS-SEM (version #4) for the data analysis. The approach was particularly relevant to identifying associations among latent variables or constructs with a limited sample size (**Hair *et al.*, 2019**). The two-stage approach enabled the assessment of the measurement model's reliability in stage one and then the structural model was used to evaluate the inter-relationships between the constructs in stage two (**Hair *et al.*, 2019**).

## 8. Data Analysis and Interpretation

The data analysis included the demographic characteristic of respondents and an evaluation of the measurement model to test reliability and validity. Convergent validity was established, using AVE and factor loadings while discriminant validity was established, using the Fornell and Larcker & HTMT criterion. The structural model was assessed, using path coefficients, multicollinearity, explanatory power ($R^2$), and model fit (SRMR).

### 8.1 Sample Characteristics

Of the 240 respondents, 56% (n = 137) were male and 44% (n=103) were female. Most of respondents were in the age group of 25-40 years (108, 44.8%) and 40-55 years (72, 30%). The majority of respondents had reported an annual household income of over USD 15,000 (56% (n = 134) and between USD 10,000 and USD 15,000 (44% (n = 106)). In terms of the hotel stay experience, 20.0% (n = 48) stayed at hotels six to eight times a year; 43.9% (n = 106) stayed at hotels two to six times a year and 35.9% (n = 86) stayed at hotels less than two times a year (**Table-1**).

### 8.2 Measurement Model

The measurement model was evaluated for reliability and validity prior to the structural model. **Table-2** shows the factor loadings, and the Cronbach alpha, AVE and CR values for each construct. All outer loadings were greater than the suggested minimum of 0.70 **(Hair et al., 2019)**, ranging from 0.756 to 0.944, demonstrating adequate indicator reliability. The alpha for each construct ranged from 0.708 to 0.878, suggesting good internal consistency **(Hair et al., 2017)**. Composite reliability (CR) scores varied from 0.717 to 0.911, all exceeding the established benchmark of 0.7 **(Hair et al., 2019)**, thus establishing construct reliability. The average variance extracted (AVE) values varied between 0.630 and 0.855, all surpassing the minimum threshold of 0.5 **(Hair et al., 2019)**, thus confirming convergent validity.

Behavioural intention exhibited the largest AVE at 0.855 whereas Perceived Control recorded the smallest AVE at 0.630 but they met the acceptable threshold limit. With good internal consistency and convergent validity, the model was considered an optimal measurement model (Table-2).

Fornell–Larcker criterion and the heterotrait-monotrait ratio of correlations (HTMT) were employed to assess discriminant validity. **Table 3** indicates that the square root of the AVE, for each latent variable exceeded the off dieground values (**Fornell and Larcker, 1981**). **Henseler et al. (2015)** recommended the threshold value below 0.90 for HTMT. The results presented in **Table-4** demonstrate that all measured constructs did exhibit sufficient discriminant validity, according to the HTMT criterion.

### 8.3 Structural Model

After establishing the reliability and validity of the measured construct, the next step was to test the hypothesised relationship among measured constructs. The structural model analysis involves assessing the statistical significance and relevance of path coefficients, coefficients of determination ($R^2$), and model fitness as part of the structural model examination process **(Hair et al., 2017)**. In accordance with the suggestion by Hair for analysing the statistical significance of the path coefficient, 10,000 subsamples were used for bootstrapping. Bootstrapping resampling was used to assess the model's path coefficient (β), as recommended by **Hair *et al.* (2019)**.

As per the **Table-5**, efficiency exerted positive and significant impact on perceived benefit ($\beta = 0.197$, $p = 0.005$), supporting **H1a**. Perceived control exerted positive and significant impact on perceived benefit ($\beta = 0.308$, $p = 0.000$) and hence **H1b** was supported. Next, perceived enjoyment recorded significant and positive relationship with perceived benefit ($\beta$=0.130, $p$=0.013), supporting **H1c**. Customised service exerted positive and significant impact on perceived benefit ($\beta = 0.181$, $p = 0.014$) supporting **H1d**. Thus Hypotheses H1a, H1b, H1c, and H1d were accepted.

**H2a** was sustained because there was positive and significant relationships between user vulnerability and information privacy concerns ($\beta = 0.366$, $p < 0.000$). **H2b** was upheld because there was positive and significant impact of provider vulnerability on information privacy concerns ($\beta = 0.218$, $p = 0.001$). The relationship between perceived benefits and behavioural intention towards smart hotels ($\beta = 0.279$, $p = 0.000$) was positively significant. The result affirmed the acceptance of **H3**. The relationship between information privacy concerns and behavioural intention towards smart hotels ($\beta = -0.012$, $p = 0.886$) was negative but not significant. Hence **H4** was rejected.

The $R^2$ values for perceived benefits and information privacy concerns were 0.363 and 0.244, respectively, explaining high to moderate explanatory power **(Cohen, 1988).** The absence of collinearity, was inferred as all the VIF values were below 3.00 (**Hair et al., 2019**). The standardised root mean square residuals (SRMR = 0.065) were assessed, to determine the goodness-of-fit index and it was found to be below the critical threshold of 0.08 (**Hair *et al.,* 2019**).

### 9. Findings of the Study

The findings revealed the factors and constraints that are most influential in shaping behavioural intentions towards smart hotels. The study confirmed that efficiency, control, enjoyment, and customisation are advantageous elements of smart hotel technologies, validating past studies and utilising technological innovations to streamline operations and improve interaction with customers (**Kabadayi *et al.*, 2019**). The findings revealed that there was positive as well as significant relationship between efficiency and perceived benefit, perceived control, and perceived benefit. Smart hotel guests may take advantage of hotels' unique services and offerings without expending excessive time and energy, making their stays more productive (**Kim *et al.* 2021**). This is consistent with numerous empirical studies that have demonstrated how smart gadgets, digitalised service platforms, and data-driven systems, can improve operational efficiency and enhance customer experience (**Kim and Han, 2020; Kim *et al.*, 2021**). The main challenge, associated with IoT-enabled devices, was data security. In a smart hotel, guests' privacy is their protection against unauthorised access to information about their identity, location, likings, interactions with other guests, and activities **(Rana *et al.*, 2022).** Weakness in technology offerings, resulting from a lack of technological stability, is referred to as technological vulnerability. Another important finding of the study was that it conceptualised information privacy concerns as vulnerability from user and provider perspectives. The study found strong and positive relationships of both types of vulnerability with perceived risk. Undoubtedly, it is crucial to consider vulnerability aspects while creating smart hotel systems.

## 10. Suggestions

According to the findings, it is vital for hotel leaders to anticipate consumer trends and enhance guest experiences. Integrating smart technologies into hotel operations can help managers to understand and analyse guest behaviour, meet their needs and expectations, improve service quality, and maintain competitiveness. However, the provision of these cutting-edge technologies by hotels does not necessarily entail their expected use by guests. It is important to understand customer perceptions of such technology use. Aspects such as a lack of knowledge, privacy concerns, feelings of enjoyment, and customised services can influence this usage. The findings of the study suggest that hotel managers must be concerned with improving guests' familiarity with these technologies, which can further influence their perceptions of such usage. Thus, hotels can position themselves as a technology-driven brand and act as an enabler of value co-creation in the hostile service ecosystem in the hospitality area.

## 11. Conclusion

The risk, flowing out of the perception of the travellers on the likelihood of failure of smart hotel apps, is a negative outcome while perceived benefits as the expected positive outcome. Using NVM, the study found that positive attitudes towards smart hotels will arise when benefits outweigh risks. Prominent benefits include increased comfort and personalization. However, poorly secured IoT infrastructures present vulnerabilities that threaten customers' privacy from smart devices. It is, therefore, critical to address these vulnerabilities in the design of smart hotels. The findings of the study revealed that sustainable adoption of smart hotels will only be achieved through an optimal balance between efficiency and security. In other words, developers, policymakers and hospitality industry leaders are responsibles for designing secure smart technology.

## 12. Limitations of the Study

Although the findings have important theoretical and practical implications, there are few limitations that can be addressed in future studies. The current model was tested for technology adoption in the Indian hotel industry, which might limit its generalizability to international contexts and countries with diverse cultural backgrounds. Further, the study captures guest's perspective but overlooks hotel staff/ operator perspectives on smart tech implementation. In addition, future studies can employ longitudinal design, multi stakeholder analysis, or qualitative techniques like focus groups to enhance the contextual understanding of experience in smart hotels, as cross-sectional survey data might restrict the inference about long term adoption.

## 13. Scope for Further Study

Researchers can also examine the similarities and dissimilarities between guests' actual experiences of using smart technologies and devices with perceived benefits and information privacy concerns. This multigroup analysis can help us understand the behavioural gaps perceived by users and experienced in actual situations. Conducting a longitudinal study would provide an opportunity to understand the changes in guests' perspectives over time. It may also be useful to examine these relationships in the context of the moderating impact of variables like age, gender, and prior experience with technology usage.

## 14. References


**Ashrafi, D. M., Ahmed, S., and Shahid, T. S. (2024)**. Privacy or trust: understanding the privacy paradox in users intentions towards e-pharmacy adoption through the lens of privacy-calculus model. *Journal of Science and Technology Policy Management*, 2053-4620.

**Ajzen, I (1991).** The theory of planned behavior. Organisation. Behaviour. Human Decision Process. 50, 179–211.

**Baird, A., & Raghu, T. S. (2015).** Associating consumer perceived value with business models for digital services. European Journal of Information Systems, 24(1), 4-22.

**Bano, N., and Siddiqui, S. (2024).** Consumers' intention towards the use of smart technologies in tourism and hospitality (TandH) industry: a deeper insight into the integration of TAM, TPB and trust. *Journal of Hospitality and Tourism Insights*, *7*(3), 1412-1434.

**Bharwani, S., and Mathews, D. (2021).** Techno-business strategies for enhancing guest experience in luxury hotels: a managerial perspective. *Worldwide Hospitality and Tourism Themes*, *13*(2), 168-185.

**Buhalis, D., Harwood, T., Bogicevic, V., Viglia, G., Beldona, S. and Hofacker, C., (2019).** Technological disruptions in services: lessons from tourism and hospitality. *Journal of service management*, *30*(4), 484-506.

**Cohen, J. (1988).** Statistical power analysis for the behavioural sciences (2nd ed). Lawrence Erlbaum Associates.

**Dabholkar, P. A. (1996).** Consumer evaluations of new technology-based self-service options: An investigation of alternative models of service quality. International Journal of Research in Marketing, 13(1), 29–51.

**Dabholkar, P. A., & Bagozzi, R. P. (2002).** An attitudinal model of technology-based self-service: moderating effects of consumer traits and situational factors. *Journal of the academy of marketing science*, *30*, 184-201.

**Deloitte (2024)**. Deloitte Technology Trends 2024: India perspective at: https://www2.deloitte.com/content/dam/Deloitte/in/Documents/technology/in-technology-deloitte-tech-trends-2024-india-10.04-noexp.pdf (accessed 7 October 2024).

**Dinev, T., & Hart, P. (2006).** An extended privacy calculus model for e-commerce transactions. Information Systems Research, 17(1), 61–80

**Elshaer, A. M., & Marzouk, A. M. (2024).** Memorable tourist experiences: the role of smart tourism technologies and hotel innovations. *Tourism Recreation Research*, *49*(3), 445-457.

**Ezzaouia, I., and Bulchand-Gidumal, J. (2022).** The impact of information technology adoption on hotel performance: Evidence from a developing country. *Journal of Quality Assurance in Hospitality and Tourism*, 1-23.

**Fauzel, S., Tandrayen-Ragoobur, V., and Matadeen, S. J. (2024).** A literature survey of technological disruptions in the service sector. *Review of Technologies and Disruptive Business Strategies*, 185-202.

**Fornell, C., & Larcker, D. F. (1981).** Evaluating structural equation models with unobservable variables and measurement error. Journal of

Marketing Research, 18(1), 39–50.

**Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2017).** A primer on partial least squares structural equation modeling (PLS-SEM) (2nd ed.). SAGE Publications.

**Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019).** When to use and how to report the results of PLS-SEM. European Business Review, 31(1), 2–24.

**Henseler, J., Ringle, C. M., & Sarstedt, M. (2015).** A new criterion for assessing discriminant validity in variance-based structural equation modeling. Journal of the Academy of Marketing Science, 43(1), 115–135.

**Hsu, C.L., Liao, Y.C., Lee, C.W., & Chan, L.K.(2022).** Privacy concerns and information sharing: the perspective of the u-shaped curve. *Frontiers in Psychology*, *13*, 771278.

**Kabadayi, S., Ali, F., Choi, H., Joosten, H., and Lu, C. (2019).** Smart service experience in hospitality and tourism services: A conceptualization and future research agenda. Journal of Service Management, 30(3), 326-348.

**Khan, S., & Khan, S. U. (2025).** Tourist motivation to adopt smart hospitality: the impact of smartness and technology readiness. *Journal of Hospitality and Tourism Insights*, *8*(4), 1268-1287.

**Kim, J. J., and Han, H. (2020).** Hotel of the future: exploring the attributes of a smart hotel adopting a mixed-methods approach. *Journal of Travel and Tourism Marketing*, *37*(7), 804-822.

**Kim, J. J., Montes, A. A., and Han, H. (2021)**. The role of expected benefits towards smart hotels in shaping customer behavior: comparison by age and gender. *Sustainability*, *13*(4), 1698.

**Lau, J., Zimmerman, B., and Schaub, F. (2018).** Alexa, are you listening? Privacy perceptions, concerns and privacy-seeking behaviors with smart speakers. Proceedings of the ACM on Human-Computer Interaction, 2(CSCW), 1-31.

**Lee, H. (2020).** Home IoT resistance: Extended privacy and vulnerability perspective. *Telematics and Informatics*, *49*, 101377.

**Malhotra, N. K., Kim, S. S., and Agarwal, J. (2004).** Internet users' information privacy concerns (IUIPC): The construct, the scale, and a causal model. *Information Systems Research,* 15(4), 336-355.

**Mehraliyev, F., Chan, I. C. C., Choi, Y., Koseoglu, M. A., and Law, R. (2020).** A state-of-the-art review of smart tourism research. *Journal of Travel and Tourism Marketing,* 37(1), 78-91.

**Misra, R., Jain, V., Srivastava, S., and Tewary, T. (2022).** Rejuvenating psychological well-being through work staycation: a COR perspective. *Tourism Recreation Research*, 1-13.

**Ozturk, A. B., Pizam, A., Hacikara, A., An, Q., Chaulagain, S., Balderas-Cejudo, A., ... and State, O. (2023).** Hotel customers' behavioral intentions toward service robots: the role of utilitarian and hedonic values. *Journal of Hospitality and Tourism Technology*, *14*(5), 780-801.

**Rana, N. P., Chatterjee, S., Dwivedi, Y. K., and Akter, S. (2022).** Understanding dark side of artificial intelligence (AI) integrated business analytics: assessing firm's operational inefficiency and competitiveness. *European Journal of Information Systems*, *31*(3), 364-387.

**Revfine (2022).** The latest Technology Trends in Hospitality Industry. Available at: https://www.revfine.com/technology-trends-hospitality-industry/ (accessed 20 April 2024).

**Rogers, R. W. (1975).** A protection motivation theory of fear appeals and attitude change1. *The journal of psychology*, *91*(1), 93-114.

**Sharma, H., Srivastava, P. R., Jasimuddin, S. M., Zhang, Z. J., and Jebabli, I. (2024).** Privacy concerns in tourism: a systematic literature review using machine learning approach and bibliometric analysis. *Tourism Review*, *79*(5), 1105-1125.

**Stanton, J. M., Stam, K. R., Mastrangelo, P., & Jolton, J. (2005).** Analysis of end user security behaviors. Computers & Security, 24(2), 124–133.

**Statista (2022)**. https://www.statista.com/statistics/1250334/key-reasons-hotels-use-technology-worldwide/ (accessed 18 April 2024).

**Tussyadiah, I. P., Wang, D., Jung, T. H., & Tom Dieck, M. C. (2018).** Virtual reality, presence, and attitude change: Empirical evidence from tourism. *Tourism management*, *66*, 140-15.

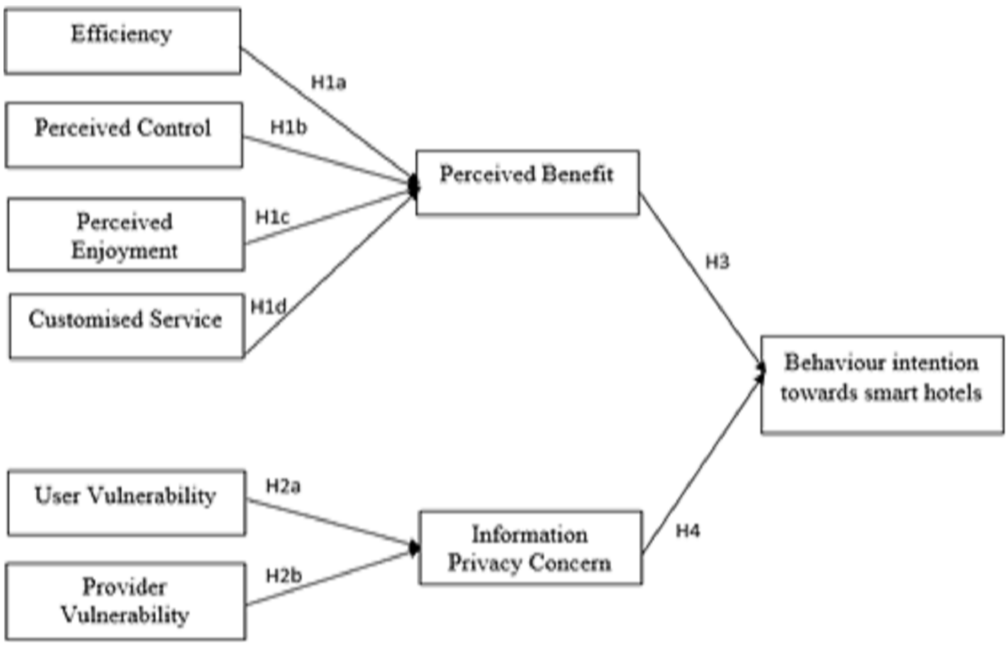
**Wu, H. C., and Cheng, C. C. (2018).** Relationships between technology attachment, experiential relationship quality, experiential risk and experiential sharing intentions in a smart hotel. *Journal of Hospitality and Tourism Management*, *37*, 42-58.

**Xu, H., Dinev, T., Smith, J., & Hart, P. (2011).** Information privacy concerns: Linking individual perceptions with institutional privacy assurances. *Journal of the Association for Information Systems*, *12*(12), 1.

**Yang, H., Song, H., Cheung, C., and Guan, J. (2021).** How to enhance hotel guests' acceptance and experience of smart hotel technology: An examination of visiting intentions. International journal of hospitality management, 97, 103000.

**Yaðmur, Y., Demirel, A., and Kýlýç, G. D. (2024).** Top quality hotel managers' perspectives on smart technologies: an exploratory study. *Journal of Hospitality and Tourism Insights*, *7*(3), 1501-1531.

**Figure 1: Conceptual Model for evaluating Behavioural Intention towards Smart Hotels (Source: Authors)**




**Source:** Authors

**Table-1: Demographic Characteristics of Respondents**

| Demographic Variable | Categories | Frequency | Percentage |
|---|---|---|---|
| Gender | Female | 103 | 42.92 |
| | Male | 137 | 57.08 |
| Age | 18-25 | 28 | 11.67 |
| | 25-40 | 108 | 45.00 |
| | 40-55 | 72 | 30.00 |
| | More than 55 | 32 | 13.33 |
| Annual Income (USD) | 10,000-15000 | 106 | 44.17 |
| | More than 15000 | 134 | 55.83 |
| Hotel Stay Experience | Less Than 2 | 86 | 35.83 |
| | 2-6 Times | 106 | 44.17 |
| | 6-8 Times | 48 | 20.00 |

**Source:** Author Survey

**Table-2: Constructs Reliability and Validity for evaluating Behavioural Intention towards Smart Hotels**

| Construct and Items | Factor Loading | Alpha (α) | CR | AVE |
|---|---|---|---|---|
| Efficiency (adopted from Dabholkar and Bagozzi, 2002) | | 0.822 | 0.834 | 0.739 |
| EF1 | 0.786 | | | |
| EF2 | 0.896 | | | |
| EF3 | 0.892 | | | |
| Perceived Control (adopted from Dabholkar, 1996) | | 0.708 | 0.717 | 0.630 |
| PC1 | 0.827 | | | |
| PC2 | 0.797 | | | |
| PC3 | 0.756 | | | |
| Perceived Enjoyment (adopted from Dabholkar and Bagozzi, 2002) | | 0.878 | 0.911 | 0.719 |
| PE1 | 0.890 | | | |
| PE2 | 0.891 | | | |
| PE3 | 0.813 | | | |
| PE4 | 0.793 | | | |
| Customised Service (adopted from Kim *et al.*, 2021) | | 0.837 | 0.834 | 0.739 |
| CS1 | 0.872 | | | |
| CS2 | 0.821 | | | |
| CS3 | 0.771 | | | |

*Table-2 continued*

*Table-2 continuation...*

| | | | | |
|---|---|---|---|---|
| Perceived Benefit (adopted from Baird and Raghu, 2015) | | 0.856 | 0.863 | 0.777 |
| PB1 | 0.907 | | | |
| PB2 | 0.845 | | | |
| PB3 | 0.892 | | | |
| User Vulnerability (adopted from Stanton *et al.*, 2005) | | 0.722 | 0.737 | 0.782 |
| UV1 | 0.868 | | | |
| UV2 | 0.900 | | | |
| Provider Vulnerability (adopted from Dinev and Hart, 2006) | | 0.844 | 0.851 | 0.762 |
| PV1 | 0.905 | | | |
| PV2 | 0.855 | | | |
| PV3 | 0.857 | | | |
| Information Privacy Concern (adopted from Xu *et al.*, 2011) | | 0.826 | 0.846 | 0.751 |
| IPC1 | 0.893 | | | |
| IPC2 | 0.857 | | | |
| IPC3 | 0.831 | | | |
| Behaviour intention (adopted from Ajzen, 1991) | | 0.833 | 0.869 | 0.855 |
| BI2 | 0.944 | | | |
| BI3 | 0.905 | | | |

**Source:** Primary data and computed using SmartPLS

**Table-3: Discriminant Validity through Fornell and Larcker Criteria**

| | BI | CON | CUS | EF | PE | IPC | PB | PV | UV |
|---|---|---|---|---|---|---|---|---|---|
| BI | 0.93 | | | | | | | | |
| CON | 0.18 | 0.79 | | | | | | | |
| CUS | 0.24 | 0.61 | 0.93 | | | | | | |
| EF | 0.29 | 0.51 | 0.57 | 0.86 | | | | | |
| PE | 0.03 | 0.06 | 0.03 | 0.04 | 0.85 | | | | |
| **IPC** | 0.11 | 0.69 | 0.55 | 0.59 | 0.05 | 0.86 | | | |
| **PB** | 0.27 | 0.53 | 0.49 | 0.46 | 0.16 | 0.45 | 0.88 | | |
| **PV** | 0.41 | 0.37 | 0.34 | 0.37 | 0.09 | 0.36 | 0.34 | 0.87 | |
| **UV** | 0.30 | 0.42 | 0.34 | 0.48 | 0.15 | 0.45 | 0.47 | 0.39 | 0.88 |

**Source:** Primary data and computed using SmartPLS

**Table-4: Heterotrait-Monotrait (HTMT)**

| | BI | CON | CUS | EF | PE | IPC | PB | PV | UV |
|---|---|---|---|---|---|---|---|---|---|
| **BI** | | | | | | | | | |
| **CON** | 0.22 | | | | | | | | |
| **CUS** | 0.28 | 0.80 | | | | | | | |
| **EF** | 0.33 | 0.68 | 0.68 | | | | | | |
| **PE** | 0.04 | 0.11 | 0.05 | 0.06 | | | | | |
| **IPC** | 0.14 | 0.89 | 0.66 | 0.72 | 0.05 | | | | |
| **PB** | 0.32 | 0.67 | 0.57 | 0.55 | 0.16 | 0.53 | | | |
| **PV** | 0.48 | 0.47 | 0.40 | 0.45 | 0.11 | 0.42 | 0.40 | | |
| **UV** | 0.37 | 0.58 | 0.43 | 0.61 | 0.18 | 0.58 | 0.60 | 0.50 | |

**Source:** Primary data and computed using SmartPLS

**Table-5: Testing of Hypotheses for evaluating Behavioural Intention towards Smart Hotels**

| Relationship | Path coefficient | T value | P value | Result |
|---|---|---|---|---|
| H1a: Efficiency -> Perceived Benefit | 0.197 | 2.779 | 0.005 | Accept |
| H1b: Perceived Control-> Perceived Benefit | 0.308 | 4.640 | 0.000 | Accept |
| H1c: Perceived Enjoyment -> Perceived Benefit | 0.130 | 2.489 | 0.013 | Accept |
| H1d: Customised Service -> Perceived Benefit | 0.181 | 2.451 | 0.014 | Accept |
| H2a: User Vulnerability -> Information Privacy Concern | 0.366 | 4.826 | 0.000 | Accept |
| H2b: Provider Vulnerability -> Information Privacy Concern | 0.218 | 3.467 | 0.001 | Accept |
| H3: Perceived Benefit > Behaviour intention | 0.279 | 4.409 | 0.000 | Accept |
| H4: Information Privacy Concern -> Behaviour intention | -0.012 | 0.144 | 0.886 | Reject |

**Source:** Primary data and computed using SmartPLS