# Enhancing Tourist Satisfaction through Smart Tourism Technologies: Insights from Diverse Regions of India

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## ARTICLE HISTORY

## ABSTRACT

**Purpose:** The objective of this study is to delve into the impact of Smart Tourism Technologies (STTs) attributes on tourist satisfaction in India, a country experiencing rapid development and characterized by its rich cultural, geographical, and economic diversity.

**Design/Methodology/Approach:** This study employed a two-step methodology. Initially, focused group discussions were conducted to gain a deeper understanding of tourists' experiences and perceptions. Insights from these discussions were then used to develop a comprehensive survey. This survey was administered to 206 respondents across five diverse cities in India (Kerala, Maharashtra, Jamshedpur, Kolkata, Chandigarh,). The survey aimed to measure the adoption rate of STTs, the perceived attributes of STTs, and the specific and overall satisfaction levels of tourists.

**Findings:** The findings of the study indicate a positive correlation between the adoption of STTs and enhanced tourist experiences and satisfaction levels. Key attributes of STTs, including information availability, accessibility, interactivity, personalization, security, and convenience, were found to significantly influence tourist satisfaction.

**Originality/Value:** This study distinguishes itself through its extensive coverage of diverse regions and its in-depth analysis of the attributes and impacts of STTs within the Indian context. Notably, the study incorporates data from five different cities, providing a broader and more comprehensive perspective. By employing a mixed-methods approach, starting with focus group discussions followed by a survey, and adopting a multidimensional perspective, this study makes a significant contribution to the existing literature on smart tourism and tourist satisfaction.

**Paper Type:** Empirical Research Paper.

## Introduction

During the age of digital evolution, the tourism industry has undergone significant transformations. The incorporation of Information and Communications Technology (ICT) into tourism has led to the emergence of the concept known as "smart tourism," drawing inspiration from IBM's "Smarter Planet" and "Smarter City" initiatives (Azis et al., 2020; Huang et al., 2017; Jeong & Shin, 2019). In simpler terms, smart tourism refers to the growing use of technology (such as mobile apps, data analytics, and other digital tools) in the tourism industry. This technology helps create better experiences for tourists, improves business operations, and enhances overall competitiveness. Essentially, it's about making tourism smarter and more efficient by leveraging information and communication technologies (Gretzel et al., 2015a). Smart Tourism Technologies (STTs) are acknowledged for their capacity to enrich the tourism experience and provide additional value (Buhalis and Amaranggana, 2015). They comprise a wide array of tools and services such as IoT, cloud computing, AI, mobile communication, RFID, smart devices, AR, VR, mobile payment, social networking sites, and platforms specific to tourism (Zhang et al., 2012). Despite the rapid progress in STTs, studies indicate the absence of a universally accepted definition for the attributes of STTs and smart tourism (Roziqin et al., 2023; Zhang et al., 2022). This absence of a standardized understanding of STTs attributes and smart tourism poses a challenge within the field (Liu et al., 2017). Smart tourism remains ambiguously defined, and Ye et al. (2020) highlight the growing dependence of tourism destinations on emerging ICT forms. These findings underscore the necessity for a standardized comprehension and definition of STTs attributes and smart tourism.

Within this context, a report from the UNWTO Tourism Academy explores the transformative influence of smart tourism and sustainability within the industry. It underscores the role of novel technologies and inventive concepts in fostering a more sustainable and intelligent tourism model. The report suggests that these advancements can foster a balanced coexistence between humans and nature while enriching the tourist experience. This marks a significant progression towards a more sustainable and intelligent future for the tourism sector (*A New Model of Tourism, Smarter and More Sustainable*, 2022). Tourists are increasingly relying on a plethora of smartphone applications, altering their behaviors and sparking heightened interest among all stakeholders in the tourism infrastructure towards smart, interconnected products (Porter and Heppelmann, 2014). These products promise novel functionalities, enhanced reliability, and increased utilization, thereby boosting the competitiveness of tourism destinations by offering both residents and visitors a fresh experience (Koo et al., 2017). The notion of smartness advocates for the integration of multiple networking layers, facilitating seamless collaboration among tourism stakeholders and business associates, whether human or machine. With the proliferation of innovations in daily life within smart cities, these advancements are expected to seamlessly extend to smart tourism systems, enabling travelers to engage with one another (Koo et al., 2016). However, Liu et al., (2017) highlight the impact of STTs attributes on tourists' travel satisfaction and intentions to revisit, underscoring a dearth of studies assessing tourists' experiences with STTs applications and websites. Zhang et al. (2022) delve into the effects of various dimensions/attributes of smart technologies on the tourism experience, noting user competence as a mediator between STTs attributes (such as informativeness, accessibility, and interactivity) and tourists' memorable experiences (Torabi et al., 2023). Meanwhile, Jeong and Shin, (2019) demonstrate that informativeness, interactivity, and personalization significantly shape tourists' experiences, satisfaction levels, and intentions to revisit.

Tyan, (2020) and Puri, (2023) have explored the potential of blockchain technology within this context. Additionally, Nafrees, (2021) underscores the pivotal role of information and communication technologies in propelling tourism innovation, focusing on IoT, virtual and augmented reality, big data, cloud computing, and mobile applications. Dalli and Bri (2016) suggested an electronic ticketing system as a foundational technology for smart tourism, emphasizing the necessity of a unified platform to consolidate information for tourists. This corresponds with the observation that tourists are increasingly utilizing diverse smartphone applications related to tourism, reshaping their behaviors and heightening interest among all stakeholders in smart, interconnected products (Porter & Heppelmann, 2014). Liberato et al., (2018) discovered that the utilization of Information and Communication Technologies (ICTs) notably enriches the tourist experience in smart destinations like Porto, with internet accessibility emerging as a critical factor in tourists' decision-making processes. In smart tourism technologies (STTs), informativeness significantly influences user satisfaction, loyalty, and word-of-mouth (WOM) recommendations. Although attributes such as UI design, accessibility, and personalization also contribute to satisfaction, surprisingly, interactivity does not. Content users are more inclined to display loyalty and engage in positive WOM, while procedural switching costs moderate this relationship (Ng et al., 2022). Wang, (2014) explores various facets of smart tourism, encompassing information technologies usage, data sharing among tourism enterprises, integration of cutting-edge technologies in hotels, and the challenges and opportunities in smart tourism development. The focus lies on the smart tourism concept and how it can enhance the tourist experience through smart technologies. Meanwhile, Gajdošík, (2018) offers insights into smart tourism concepts from the Central European perspective, emphasizing that while smart tourism is crucial, it shouldn't be the sole objective. Through leveraging technology, fostering innovation, and promoting collaboration, smart tourism

can enhance overall tourist experiences, improve resident well-being, enhance business and destination effectiveness, and contribute to sustainable competitiveness.Hence, it's imperative for governments and practitioners to collaborate in comprehending customer needs and preferences to enhance the co-creation of tourism experiences. Regular large-scale consumer surveys concerning smart tourism demand and preferences are necessary as customer demands may evolve over time (Shafiee et al., 2022).

The involvement of various stakeholders in the smart tourism ecosystem is pivotal for its success, encompassing not only service providers and tourists but also the government, local communities, and other entities contributing to the tourism experience (Buhalis & Amaranggana, 2015; Gretzel et al., 2015b). Buhalis and Amaranggana, (2015) as well as Baggio & Cooper (2010) propose that examining the sustainability of smart tourism initiatives is crucial, encompassing environmental, economic, and social aspects. They suggest that Smart Tourism Technologies (STTs) hold potential to foster sustainable tourism practices but acknowledge the need to address potential challenges for these benefits to be fully realized. Ye et al, (2020) conduct a systematic review of smart tourism research, revealing South Korea, Spain, and the U.S. as the top regions for such studies. They note the prevalence of quantitative analysis in selected articles. Kontogianni et al., (2020) provide a comprehensive review of smart tourism advancements over the past six years, emphasizing the importance of personalized services to enhance the tourist experience. Similarly, Cimbaljević et al., (2018) discuss smart tourism destinations and their potential to improve the tourist experience through personalized products and services tailored to individual needs. Pribadi et al., (2021) and Sun et al., (2022) discuss the challenges in developing smart tourism, highlighting the need for significant investment, potential threats to environmental sustainability, and reduced reliance on human resources. Tung et al., (2019) examine historical and future perspectives of smart mobility within destination settings, suggesting that smart mobility advancements can revolutionize tourism management, influencing tourist travel behaviors and decision-making processes. Chuang, (2023) advocates for a shift in focus towards understanding the integration of fundamental service propositions within a smart tourism framework to effectively foster sustainable tourist value co-creation behaviors.

The rapid advancement of technology and its integration into various sectors have profoundly transformed business operations and consumer interactions with services. The tourism industry, a major global sector, has seen significant changes due to the emergence of Smart Tourism Technologies (STTs), which offer enhanced experiences to tourists and innovative ways for tourism businesses to manage operations and engage with customers (Halim, 2022). However, despite the growing body of research on STTs, there remains a need for more comprehensive studies exploring the specific attributes of STTs and their impact on tourist satisfaction, especially in diverse and rapidly evolving contexts like India. This study aims to address this gap by investigating how STTs attributes influence tourist satisfaction in India, offering a nuanced understanding of the dynamics involved.

## Research Objectives

**R1**: To explore the Adoption of Smart Tourism Technologies in the Indian Landscape.

**R2**: To investigate the Impact of Smart Tourism Technologies and their attributes on Tourist Experiences and Satisfaction Levels in the Indian Landscape.

## Hypothesis

1.  H1: The adoption of Smart Tourism Technologies (STTs) is positively associated with tourist experiences in the Indian landscape.

2.  H2: Information attributes of STTs have a positive impact on tourist experiences.

3.  H3: Accessibility attributes of STTs have a positive impact on tourist experiences.

4.  H4: Security attributes of STTs have a positive impact on tourist experiences.

5.  H5: Interactivity attributes of STTs have a positive impact on tourist experiences.

6.  H6: Personalization attributes of STTs have a positive impact on tourist experiences.

## Research Methodology

### Focused Group Discussion

To gain insights into the research objective and develop constructs for the questionnaire, a qualitative approach was initially employed through focused group discussions. These discussions aimed to gather diverse perspectives and understandings related to smart tourism technologies and tourist experiences.

1.  **Participant Selection:** Twenty to thirty participants were purposively selected for the focused group discussions. Participants were chosen to ensure representation from various demographics and stakeholder groups relevant to the study, such as tourists, industry professionals, and policymakers. We conducted two focus group discussions with a total of 40 participants. We stopped collecting data from the focus group when the responses became redundant and no new information emerged. We then used the insights from the focus group to develop our constructs.

2. **Discussion Topics:** The focus group discussions explored the attributes of smart tourism technologies (STTs) that affect tourist satisfaction in India. STTs are those that use information and communication technologies, such as the internet of things, artificial intelligence, augmented and virtual reality, and blockchain, to enhance the attractiveness, efficiency, inclusiveness, and sustainability of tourism destinations and services. Participants were encouraged to share their perspectives, experiences, and opinions regarding how STTs influence their travel decisions, expectations, and outcomes. Key themes that emerged from the discussions were:

* **Information:** The availability, quality, and timeliness of information provided by STTs, such as destination guides, travel tips, reviews, and recommendations. Participants expressed their preferences and needs for accurate, relevant, and up-to-date information that would help them plan and enjoy their trips.

* **Accessibility:** The ease, convenience, and affordability of accessing and using STTs, such as online booking, mobile payment, and location-based services. Participants discussed their experiences and challenges with different modes and platforms of STTs, and how they affected their travel costs, convenience, and satisfaction.

* **Security:** The protection and privacy of personal and sensitive data collected, stored, and used by STTs, such as online platforms, mobile devices, sensors, and cameras. Participants expressed their concerns and preferences for the security of data when using STTs, and how they perceived the risks and benefits of sharing their data with tourism providers. Participants also discussed how they trusted or verified the security of data practices of the tourism providers.

* **Interactivity:** The degree, mode, and quality of interaction and engagement enabled by STTs, such as virtual tours, simulations, and gamification. Participants described their feelings and perceptions of using STTs to experience and learn about the destinations, and how they enhanced or diminished their sense of immersion, involvement, and enjoyment.

* **Personalization:** The extent, type, and effect of personalization and customization offered by STTs, such as tailored recommendations, preferences, and feedback. Participants shared their opinions and preferences for having STTs that cater to their individual needs, wants, and values, and how they influenced their travel choices, satisfaction, and loyalty.

* **Satisfaction:** The overall level of satisfaction and well-being derived from using STTs, as well as the specific aspects of satisfaction, such as cognitive, affective, and behavioral satisfaction. Participants evaluated their overall and specific satisfaction with STTs, and how they related to their expectations, experiences, and outcomes of their trips.

3. **Construct Development Process**: Insights gathered from the focused group discussions served as the foundation for developing constructs for the questionnaire. Recurring themes, concepts, and perspectives identified during the discussions were analysed and synthesized to formulate the constructs representing various aspects of smart tourism technologies and tourist experiences. We developed our own scales and instruments based on the insights from the focus group discussions and the literature review. We tested them for validity and reliability using Cronbach's alpha and exploratory factor analysis (EFA). We extracted six constructs from the data, namely: STTs adoption, information, accessibility, security, interactivity, personalization, and overall satisfaction. The Cronbach's alpha values for the constructs ranged from 0.71 to 0.82, indicating acceptable reliability. The EFA results showed that the constructs had eigenvalues greater than 1 and factor loadings greater than 0.4, indicating adequate validity.

4. **Survey Development:** Based on the constructs identified during the focused group discussions, a survey instrument was developed to further explore and quantify the relationships between variables. The survey aimed to measure participants' perceptions, attitudes, and behaviours related to smart tourism technologies and their impact on tourist experiences. The selection of the five Indian regions (Cochin, Mumbai, Jamshedpur, Kolkata, and Chandigarh) as the study locations was primarily driven by the researchers' familiarity with these areas. This familiarity allowed the researchers to leverage their understanding of the local context, which is crucial in interpreting the data and ensuring its accuracy.

5. **Sampling Technique:** We strategically combined purposive sampling and snowball sampling to select our participants. Purposive sampling allowed us to intentionally choose participants based on specific criteria relevant to our research objectives. Snowball sampling involved recruiting additional participants through referrals from existing participants. In total, we had a sample size of 206 participants. Data collection spanned from April to August 2023.

## Table 1: Constructs and Dimensions of STTs-Compiled by Researchers

| Construct | Dimensions |
|---|---|
| STT Adoption | Frequency of use<br>Comfort level with using STTs |
| Information | Usefulness of the information provided by STTs<br>Accuracy of the information provided by STTs |
| Accessibility | Ease of access and use of STTs<br>Availability of STTs in tourist destinations |
| Security | Perceived security while using STTs<br>Confidence in the privacy of data when using STTs |
| Interactivity | Level of interactivity of the STTs<br>Satisfaction with the level of engagement offered by STTs |
| Personalization | Degree of personalized recommendations and services based on user preferences<br>Satisfaction with the level of personalization offered by STTs |
| Overall Satisfaction | Overall satisfaction with the experience of using STTs<br>Likelihood of recommending STTs to others based on personal experience |

# Analysis and Findings

## Descriptive Statistics (Section A)

- **Gender:** Among the 206 respondents, 146 were male, and 58 were female, indicating a higher representation of males in the study. 2 respondents chose not to disclose their gender.

- **Age Group of Respondents:** The age distribution of participants revealed that the largest group, consisting of 70 respondents, fell within the age range of 18-29 years. The second most prominent age group was 30-39 years with 67.

- **Family Income:** The survey captured various income groups, with the highest proportion (38%) of participants reporting a family income between 10-15 lakh INR. The second-largest income group was 16-20 lakh INR, representing 23% of the respondents.

- **Education Level:** Among the participants, 75 individuals held a graduate degree, while 52 respondents reported having completed postgraduate studies.

## Empirical Analysis (Section B)

### Test for Reliability

#### Table 2: Average Mean, Standard Deviation, and Cronbach's Alpha for Each Variable

| Construct | Mean | SD | Cronbach's α |
|---|---|---|---|
| STT Adoption | 3.85 | 0.868 | 0.707 |
| Information | 3.95 | 0.894 | 0.824 |
| Accessibility | 3.88 | 0.885 | 0.775 |
| Security | 3.87 | 0.903 | 0.720 |
| Interactivity | 3.90 | 0.904 | 0.777 |
| Personalization | 4.00 | 0.875 | 0.779 |
| Overall Satisfaction | 3.83 | 0.915 | 0.776 |

The table provides a summary of the reliability statistics for different aspects of Smart Tourism Technologies (STTs) usage. It includes the average score (mean), the dispersion of responses (standard deviation), and the internal consistency of the responses (Cronbach's alpha) for each aspect. All the aspects have a Cronbach's alpha value above 0.7, indicating a high level of reliability. The aspects evaluated include STT adoption, information quality, accessibility, security, interactivity, personalization, and overall satisfaction. The scores help understand users' experiences and perceptions of STTs during their travels. Overall, the study's measures are reliable and consistent for further analysis.

### KMO and Bartlett's Test of Sphericity

#### Table 3: KMO and Bartlett's Test of Sphericity

| Variable | Measure of Sampling Adequacy (MSA) |
|---|---|
| Overall | 0.862 |
| A | 0.852 |
| B | 0.932 |
| C | 0.848 |
| D | 0.869 |
| E | 0.827 |
| F | 0.801 |
| G | 0.905 |
| H | 0.818 |
| I | 0.851 |
| J | 0.872 |
| K | 0.882 |
| L | 0.866 |
| M | 0.878 |
| N | 0.881 |

The overall KMO measure is 0.862, which is quite high. This suggests that the sample is adequate and factor analysis should yield distinct and reliable factors. The individual KMO measures for all variables are also above 0.8 (except for F), indicating that each variable has shared variance with other variables and should yield reliable factors.

The results of Bartlett's Test of Sphericity are:

$\chi^2$ (Chi-square): 1875

df (Degrees of Freedom): 91

p-value: < .001

The p-value is less than .001, which is below the common alpha level of 0.05. This means that we can reject the null hypothesis that variables are uncorrelated in the population. In other words, there is a statistically significant relationship among the variables, which makes them suitable for factor analysis. This is a good sign when we conduct Exploratory Factor Analysis (EFA).

• **Exploratory Factor Analysis**

### Table 4: EFA

**Factor Loadings**

| | Factor | | | | | | |
|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | Uniqueness |
| A | 0.943 | | | | | | 0.04757 |
| B | 0.335 | | | | | | 0.54732 |
| C | 0.334 | 0.549 | | | | | 0.10356 |
| D | | | | 0.553 | | | 0.08611 |
| E | | | 0.981 | | | | -0.00121 |
| F | | 0.530 | 0.394 | | | | 0.30085 |
| G | 0.685 | | | | | | 0.20129 |
| H | | | | 0.621 | | | 0.10148 |
| I | | 0.581 | | | | | 0.04707 |
| J | | | | | | 0.908 | 0.00150 |
| K | | 0.594 | | | | | 0.20214 |
| L | | | | 0.572 | | | 0.08506 |
| M | 0.816 | | | | | | 0.07282 |
| N | | | | | 0.966 | | 0.00484 |

*Note: 'Minimum residual' extraction method was used in combination with a 'oblimin' rotation*

### Table 5: Summary of SS Loading and percentage variance

**Summary**

| Factor | SS Loadings | % of Variance | Cumulative % |
|---|---|---|---|
| 1 | 3.23 | 23.1 | 23.1 |
| 2 | 2.03 | 14.5 | 37.6 |
| 3 | 1.72 | 12.3 | 49.9 |
| 4 | 1.92 | 13.7 | 63.6 |
| 5 | 1.66 | 11.8 | 75.4 |
| 6 | 1.65 | 11.8 | 87.1 |

- **Factor Loadings**: The factor loadings are mostly high, indicating that most variables have strong relationships with at least one factor.

- **Explained Variance**: The six factors explain 87.1% of the total variance, which is a substantial proportion. This suggests that the model accounts for a large part of the information in the data.

- **Testing of Hypothesis**

### Regression Analysis

#### Table 6: Model Fit Measure

| Hypothesis | R | R² |
|---|---|---|
| H1 | 0.665 | 0.442 |
| H2 | 0.698 | 0.488 |
| H3 | 0.510 | 0.260 |
| H4 | 0.761 | 0.579 |
| H5 | 0.701 | 0.491 |
| H6 | 0.708 | 0.502 |

The results for Hypothesis 1 (H1) from the regression analysis are as follows:

#### Model Fit Measures:

The R-value is 0.665, indicating a good degree of correlation. The R² value is 0.442, suggesting that approximately 44.2% of the variance in the dependent variable can be explained by the model.

#### Model Coefficients:

The intercept (or constant term) is 0.874. This is the expected value of the dependent variable when all predictor variables are zero.

Predictor A has a coefficient (Estimate) of 0.484. This means that for each one-unit increase in A, the expected increase in the dependent variable is 0.484, assuming all other variables are held constant. The p-value is less than 0.001, which is statistically significant at the commonly used alpha level of 0.05. This provides evidence to support a positive association between predictor A and the dependent variable, in line with H1.

#### Table 7: Model Coefficients

| Hypothesis | Predictor | Estimate | SE | t | p |
|---|---|---|---|---|---|
| H1 | Intercept | 0.874 | 0.3359 | 2.60 | 0.011 |
| H1 | A | 0.484 | 0.0866 | 5.59 | <.001 |
| H1 | B | 0.281 | 0.0916 | 3.07 | 0.003 |
| H2 | Intercept | 0.7499 | 0.3206 | 2.339 | 0.021 |
| H2 | C | 0.0496 | 0.0989 | 0.501 | 0.617 |
| H2 | D | 0.7196 | 0.1054 | 6.825 | <.001 |
| H3 | Intercept | 1.522 | 0.384 | 3.97 | <.001 |
| H3 | E | 0.326 | 0.116 | 2.82 | 0.006 |
| H3 | F | 0.262 | 0.108 | 2.42 | 0.017 |
| H4 | Intercept | 0.505 | 0.2846 | 1.77 | 0.079 |
| H4 | G | 0.450 | 0.0727 | 6.18 | <.001 |
| H4 | H | 0.406 | 0.0792 | 5.12 | <.001 |
| H5 | Intercept | 0.810 | 0.3142 | 2.58 | 0.011 |
| H5 | I | 0.290 | 0.0958 | 3.02 | 0.003 |
| H5 | J | 0.483 | 0.0873 | 5.54 | <.001 |
| H6 | Intercept | 0.532 | 0.3280 | 1.62 | 0.108 |
| H6 | K | 0.139 | 0.0893 | 1.55 | 0.124 |
| H6 | L | 0.678 | 0.0986 | 6.88 | <.001 |

Predictor B has a coefficient (Estimate) of 0.281. This means that for each one-unit increase in B, the expected increase in the dependent variable is 0.281, assuming all other variables are held constant. The p-value is 0.003, which is also statistically significant at the 0.05 level. This provides evidence to support a positive association between predictor B and the dependent variable, in line with H1. The results provide support for Hypothesis 1 (H1): The adoption of Smart Tourism Technologies (STTs) is positively associated with tourist experiences in the Indian landscape. Both predictors A and B are statistically significant and have a positive relationship with the dependent variable and similarly results for all the hypothesis is mentioned below .

## Results

- **H1:** The adoption of Smart Tourism Technologies (STTs) is positively associated with tourist experiences in the Indian landscape. Both predictors A and B are statistically significant and have a positive relationship with the dependent variable.

- **H2:** The model explains 48.8% of the variance. Predictor D is significantly and positively associated with tourist experiences, but predictor C is not. This partially supports H2, suggesting that information attributes of STTs have a positive impact on tourist experiences.

- **H3:** The model explains 26% of the variance. Both predictors E and F are significantly and positively associated with tourist experiences, supporting H3. This suggests that accessibility attributes of STTs have a positive impact on tourist experiences.

- **H4:** The model explains 57.9% of the variance. Both predictors G and H are significantly and positively associated with tourist experiences, supporting H4. This suggests that security attributes of STTs have a positive impact on tourist experiences.

- **H5:** The model explains 49.1% of the variance. Both predictors I and J are significantly and positively associated with tourist experiences, supporting H5. This suggests that interactivity attributes of STTs have a positive impact on tourist experiences.

- **H6:** The model explains 50.2% of the variance. Predictor L is significantly and positively associated with tourist experiences, but predictor K is not. This partially supports H6, suggesting that personalization attributes of STTs have a positive impact on tourist experiences.

## Conclusion

Based on the results of our research, we can conclude that the adoption of Smart Tourism Technologies (STTs) significantly enhances tourist experiences in the Indian landscape. Various attributes of STTs, including information, accessibility, security, interactivity, and personalization, have

a positive impact on these experiences. However, the strength of these relationships varies, suggesting that some attributes may be more important than others in shaping tourist experiences. These findings have important implications for both practitioners and policymakers in the tourism industry. For practitioners, such as tour operators and travel agencies, enhancing these attributes of STTs can lead to improved tourist experiences, potentially leading to higher customer satisfaction and loyalty. For policymakers, promoting the adoption of STTs can contribute to the development and competitiveness of the tourism industry. While our research provides valuable insights, it also opens up avenues for future research. One area that needs further exploration is understanding the challenges in the adoption of STTs in India. Despite the potential benefits of STTs, their adoption may be hindered by various challenges, such as lack of infrastructure, digital literacy, or resistance to change among users.

As researchers, we are currently working on this aspect in the next part of our research. We aim to identify the key challenges in the adoption of STTs and propose strategies to overcome these challenges. This will not only contribute to the academic literature on STTs but also provide practical recommendations for stakeholders in the tourism industry in India.

In conclusion, our research highlights the importance of STTs in enhancing tourist experiences. However, to fully realize the potential of STTs, it is crucial to address the challenges in their adoption.

## Limitations of the Study

As the study concentrates on the Indian tourism industry, the results may not be directly applicable to other countries or regions with different socio-economic and cultural contexts. The survey primarily targeted domestic travellers, with only a few international tourists. The perspectives of foreign tourists could provide additional insights into the implementation of STTs in India's tourism industry.

## Recommendation for Further Study

Future research could focus on understanding user resistance to adopting Smart Tourism Technologies (STTs) by investigating attitudes, perceptions, and behaviours related to these technologies. Additionally, a longitudinal study could be conducted to comprehend the long-term effects of STTs on tourist experiences and satisfaction levels. These studies would provide deeper insights into the adoption and impact of STTs over time.

## References

- *A new model of tourism, smarter and more sustainable*. (n.d.). https://www.unwto-tourismacademy.ie.edu/2022/12/a-new-model-of-tourism-smarter-and-more-sustainable

- Azis, N., Amin, M., Chan, S., & Aprilia, C. (2020). How smart tourism technologies affect tourist destination loyalty. *Journal of Hospitality and Tourism Technology*, *11*(4), 603–625. https://doi.org/10.1108/jhtt-01-2020-0005

- Baggio, R., & Cooper, C. (2010). Knowledge transfer in a tourism destination: the effects of a network structure. *Service Industries Journal*, *30*(10), 1757–1771. https://doi.org/10.1080/02642060903580649

- Buhalis, D., & Amarangganga, A. (2015). Smart Tourism Destinations Enhancing Tourism Experience Through Personalisation of Services. In *Springer eBooks* (pp. 377–389). Springer Nature. https://doi.org/10.1007/978-3-319-14343-9_28

- Chuang, C. (2023). The conceptualization of smart tourism service platforms on tourist value co-creation behaviours: an integrative perspective of smart tourism services. *Humanities and Social Sciences Communications*, *10*(1). https://doi.org/10.1057/s41599-023-01867-9

- Cimbaljevi□, M., Stankov, U., & Pavlukovi□, V. (2018). Going beyond the traditional destination competitiveness – reflections on a smart destination in the current research. *Current Issues in Tourism*, *22*(20), 2472–2477. https://doi.org/10.1080/13683500.2018.1529149

- Dalli, A., & Bri, S. (2016). Design of electronic ticket system for smart tourism. *12th International Conference on Signal-Image Technology & Internet-Based Systems (SITIS),*. https://doi.org/10.1109/sitis.2016.82

- Gajdošík, T. (2018). Smart Tourism: Concepts and Insights from Central Europe. *Czech Journal of Tourism: Journal of Masaryk University*, *7*(1), 25–44. https://doi.org/10.1515/cjot-2018-0002

- Gretzel, U., Sigala, M., Xiang, Z. et al. Smart tourism: foundations and developments. Electron Markets 25, 179–188 (2015). https://doi.org/10.1007/s12525-015-0196-8

- Gretzel, U., Werthner, H., Koo, C., & Lamsfus, C. (2015). Conceptual foundations for understanding smart tourism ecosystems. *Computers in Human Behavior*, *50*, 558–563. https://doi.org/10.1016/j.chb.2015.03.043

- Halim, H.S. (2022). Technology in Smart Tourism: Concepts and Applications. In: Hassan, A. (eds) Handbook of Technology Application in Tourism in Asia. Springer, Singapore. https://doi.org/10.1007/978-981-16-2210-6_21

- Huang, C., Goo, J., Nam, K., & Yoo, C. G. (2017). Smart tourism technologies in travel planning: The role of exploration and exploitation. *Information & Management*, *54*(6), 757–770. https://doi.org/10.1016/j.im.2016.11.010

- Jeong, M., & Shin, H. H. (2019). Tourists' Experiences with Smart Tourism Technology at Smart Destinations and Their Behavior Intentions. *Journal of Travel Research*, *59*(8), 1464–1477. https://doi.org/10.1177/0047287519883034

- Kontogianni, A., & Alepis, E. (2020). Smart tourism: State of the art and literature review for the last six years. *Array*, *6*, 100020. https://doi.org/10.1016/j.array.2020.100020

- Koo, C., Ricci, F., Çobano□lu, Ç., & Okumu□, F. (2017). Special issue on smart, connected hospitality and tourism. *Information Systems Frontiers*, *19*(4), 699–703. https://doi.org/10.1007/s10796-017-9776-9

- Koo, C., Shin, S., Gretzel, U., Hunter, W. C., & Chung, N. (2016). Conceptualization of smart Tourism Destination Competitiveness. *Gyeong'yeong Jeongbohag Yeon'gu*, *26*(4), 561–576. https://doi.org/10.14329/apjis.2016.26.4.561

- Liberato, P., Alén, E., & Liberato, D. (2018). Smart tourism destination triggers consumer experience: the case of Porto. *European Journal of Management and Business Economics*, *27*(1), 6–25. https://doi.org/10.1108/ejmbe-11-2017-0051

- Liu, Y., Hu, C., Huang, C., & Duan, L. (2017). The concept of smart tourism in the context of tourism information services. *Tourism Management*, *58*, 293–300. https://doi.org/10.1016/j.tourman.2016.03.014

- Nafrees, A.C., & Shibly, F. (2021). Smart technologies in tourism: a study using systematic review and grounded theory. *2021 International Research Conference on Smart Computing and Systems Engineering (SCSE), 4*, 8-13.

- Ng, K. S. P., Wong, J. W. C., Xie, D., & Zhu, J. (2022). From the attributes of smart tourism technologies to loyalty and WOM via user satisfaction: the moderating role of switching costs. *Kybernetes*, *52*(8), 2868–2885. https://doi.org/10.1108/k-09-2021-0840

- Porter, M. E., & Heppelmann, J. E. (2014). How smart, connected products are transforming competition. *Harvard Business Review*, *92*(11), 18. https://dialnet.unirioja.es/servlet/articulo?codigo=5544175

- Pribadi, T., Tahir, R., & Yuliawati, A. K. (2021). The Challenges in Developing Smart Tourism: A Literature review. *InfoTekJar : Jurnal Nasional Informatika Dan Teknologi Jaringan*, *5*(2), 254–258. https://doi.org/10.30743/infotekjar.v5i2.3462

- Puri, V., Mondal, S. R., Das, S., & Vrana, V. (2023). Blockchain Propels Tourism Industry—An Attempt to Explore Topics and Information in Smart Tourism Management through Text Mining and Machine Learning. *Informatics (Basel)*, *10*(1), 9. https://doi.org/10.3390/informatics10010009

- Roziqin, A., Kurniawan, A. S., Hijri, Y. S., & Kismartini, K. (2023). Research trends of digital tourism: a bibliometric analysis. *Tourism Critiques*, *4*(1/2), 28–47. https://doi.org/10.1108/trc-11-2022-0028

- Shafiee, S.; Ghatari, A.R.; Hasanzadeh, A.; Jahanyan, S. Developing a model for sustainable smart tourism destinations: A systematic review. Tour. Manag. Perspect. 2019, 31, 287–300.

- Sun, H., Ye, H., Law, R., & Hsu, A. Y. (2022). Hindrances to smart tourism development. *Journal of Hospitality and Tourism Technology*, *13*(4), 763–778. https://doi.org/10.1108/jhtt-10-2021-0300

- Torabi, Z., Pourtaheri, M., Hall, C. M., Sharifi, A., & Javidi, F. (2023). Smart Tourism Technologies, Revisit Intention, and Word-of-Mouth in emerging and smart rural destinations. *Sustainability*, *15*(14), 10911. https://doi.org/10.3390/su151410911

- Tung, V. W. S., Cheong, T. M. F., & To, S. J. (2019). Tourism management in the era of smart mobility: a perspective article. *Tourism Review*, *75*(1), 283–285. https://doi.org/10.1108/tr-05-2019-0180

- Tyan, I., Yagüe, M. I., & Plaza, A. J. G. (2020). Blockchain technology for smart tourism destinations. *Sustainability*, *12*(22), 9715. https://doi.org/10.3390/su12229715

- Wang, N. (2014). Research on Construction of Smart Tourism Perception System and Management Platform. *Applied Mechanics and Materials*, *687–691*, 1745–1748. https://doi.org/10.4028/www.scientific.net/amm.687-691.1745

- Ye, B. H., Ye, H., & Law, R. (2020). Systematic Review of Smart Tourism Research. *Sustainability*, *12*(8), 3401. https://doi.org/10.3390/su12083401

- Zhang, L., Li, N., & Liu, M. (2012). On the Basic Concept of Smarter Tourism and Its Theoretical System. Tourism Tribune, 27(5), 66–73.

- Zhang, Y., Sotiriadis, M., & Shen, S. (2022). Investigating the Impact of Smart Tourism Technologies on Tourists' Experiences. *Sustainability*, *14*(5), 3048. MDPI AG. Retrieved from http://dx.doi.org/10.3390/su14053048

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## Annexure 16.1.1

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### Reviewers Memorandum

**Reviewer's Comment 1:** Authors came up with the novel idea of Smart Tourism Technologies. The study employs a mixed-methods approach, including focused group discussions and a survey, to explore the adoption and impact of various attributes of STTs on tourist satisfaction. The findings suggest a positive association between STT adoption and tourist experiences, with attributes such as information, accessibility, security, interactivity, and personalization playing significant roles.

**Reviewer's Comment 2**: A strong empirical study was done. 206 participants from the five Indian regions (Kerala, Maharashtra, Jamshedpur, Kolkata, and Chandigarh) has been taken in the study. And Focused group discussion is done on 40 Participants. The authors appropriately use Cronbach's alpha and exploratory factor analysis (EFA) to assess the reliability and validity of the constructs, demonstrating adequate internal consistency and construct validity. Hypothesis is tested through regression analysis. However, providing more information on the specific items included in each construct and their theoretical underpinnings would enhance the clarity and comprehensibility of the methodology section.

**Reviewer's Comment 3**: Although the paper is quite well structured but author could have added review of the literature section could have been stronger. Also the discussion on the limitations of the study could be strengthened by addressing potential biases in participant selection and survey methodology. Furthermore, additional insights into the future scope practical implications of the research findings for tourism industry practitioners and policymakers would enhance the manuscript's relevance and applicability.

### Citation

**Conflict of Interest:** Author of a Paper had no conflict neither financially nor academically.

### Editorial Excerpt

The article has 08% of plagiarism which is the accepted percentage as per the norms and standards of the journal for publication. As per the editorial board's observations and blind reviewers' remarks the paper had some minor revisions which were communicated on a timely basis to the authors (Ruchi, Prince & Sam), and accordingly, all the corrections had been incorporated as and when directed and required to do so. The comments related to this manuscript are noticeably related to the theme "**Enhancing Tourist Satisfaction through Smart Tourism Technologies: Insights from Diverse Regions of India**" both subject-wise and research-wise. The article presents a comprehensive examination of Smart Tourism Technologies (STTs) and their impact on tourist experiences, with a focus on the Indian landscape. The rigorous mixed-methods approach employed, coupled with detailed analyses, provides valuable insights into the adoption and influence of various STT attributes on tourist satisfaction. The findings contribute to the existing literature by highlighting the importance of attributes such as information quality, accessibility, security, interactivity, and personalization in shaping tourist experiences. However, further clarification on the study's theoretical underpinnings and practical implications would enhance the manuscript's coherence and relevance to both academic and industry audiences. After comprehensive reviews and the editorial board's remarks, the manuscript has been categorized and decided to publish under the "**Empirical Research Paper**" category.

### Acknowledgement

### Disclaimer

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