International Journal of Scientific Research in Engineering and Management (IJSREM)
Volume: 08 Issue: 04 | April - 2024 SJIF Rating: 8.448 ISSN: 2582-3930

Smart Tourism: An Overview on Tourist Perception with Special Reference to Himachal Pradesh

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Abstract: The swiftly growing concept of "Smart Tourism" utilizes advanced technologies to enhance the overall travel experience. It is important to comprehend how tourists view smart tourism initiatives in Himachal Pradesh, a popular Indian holiday spot known for its breathtaking scenery and cultural significance, to promote sustainable development and visitor satisfaction. This article's aim is to give an overview of the unique tourism initiatives in Himachal Pradesh and explore how tourists perceive and interact with them. This study aims to explore the benefits and challenges of implementing smart tourism strategies in Himachal Pradesh, a region known for its diversity and fast-paced environment, by analyzing the relationship between technology and tourism in this unique setting.

Keywords: Smart tourism technology, Smartphone applications, Tourist Perception

Introduction:

Recently, destinations around the globe have demonstrated a keen focus on smart tourism projects to enhance the visitor experience through the integration of technology and innovation. Himachal Pradesh, well-known for its stunning landscapes and deep-rooted cultural legacy, is exploring smart tourism initiatives to effectively draw in and engage visitors to the region.

The rapid progress of information and communication technology has led to the emergence of "smart" systems in various industries, including tourism. The concept of intelligent tourism includes integrating modern technologies into destinations, businesses, and tourist experiences. These technologies when combined create personalized and seamless experiences for travelers, as well as effective resource utilization and reduced environmental footprint. Additionally, it is vital to leverage intelligent tourism to effectively market destinations and collect valuable data for strategic development and expansion.

Moreover, incorporating intelligent tourism tactics can improve the overall visitor experience by providing instant information, personalized recommendations, and interactive services. This not only enhances tourists' contentment but also contributes to the growth of the local economy by increasing visitor expenditures and lengthening their stay.

In conclusion, the concept of smart tourism revolutionizes the understanding and management of tourism, offering potential for sustainable growth and enhanced competitiveness in the global tourism sector.

The digital revolution has significantly transformed the tourism sector, revolutionizing how travelers plan, experience, and document their trips. Today, travelers have a wide range of online tools and platforms at their disposal to assist them in every aspect of their journey, from booking accommodations and transportation to researching destinations and sharing their adventures on social media. This digital transformation has fundamentally changed the way people engage with the tourism industry.

The rise of online travel agencies, review sites, and social media platforms allows tourists to make informed decisions and connect with like-minded travelers. Conventional tourism businesses have faced challenges due to this shift, as they must adapt to the digital space and engage with customers through various online channels. Moreover, the advancement of mobile technology has also changed the way travelers interact with locations. Mobile applications, location-dependent services, and augmented reality encounters have become necessary for enhancing the visitor experience and offering instant information and recommendations.

As the tourism sector evolves in the digital age, destinations and companies must embrace smart tourism strategies in order to stay competitive and meet the evolving needs of technologically savvy travelers. Incorporating advanced technologies aims to enhance efficiency, sustainability, and cater to the preferences of modern travelers by offering exceptional and memorable experiences. Smart tourism aims to improve competitiveness, promote sustainability, and enhance resource management efficiency through the use of technological advancements and following best practices. China is one of the leading nations in the smart tourism sector. Tourists at the location commonly perform simple phone activities like requesting food, booking tours, checking wait times, discovering attractions, and scanning QR codes while on their trip. The term "smart" has become increasingly popular in recent years for this reason. In order for a product or service to be deemed intelligent, it must possess sophisticated technological features that allow it to leverage different data for directing its functions and enhancing its product design. Nevertheless, the typical tourist may be unaware of these internal workings. Although there is no clear connection between intelligence and technology, it is undeniable that modern society is intertwined with both. The central idea is based on utilizing technology.

Attractions and other stakeholders in the tourism industry use a variety of technological advancements and strategies to turn their locations into "smart" destinations. The platform's system is impartial and can be used by stakeholders and end users at different points of interaction in a flexible manner.

Modern smart tourist destinations incorporate technology at different levels through adaptive processes and environments. In the modern era, many travel companies focus on sustainability to minimize the negative effects of tourism on the environment, society, and economy. Within the sustainable smart tourism industry, important aspects consist of decreasing carbon emissions, adopting eco-friendly strategies, and interacting with the surrounding communities. An example of this is Helsinki's commitment to sustainable transportation, as demonstrated at the Sustainable Flow festival. Estonia is committed to encouraging sustainable travel by supporting local green projects like eco-lodges, eco-hotels, and eco-resorts, and by incorporating solar-powered lighting. The digitization of modern society has opened up a plethora of chances for travel providers to interact with a wide range of travelers through sharing information. Due to the increasing popularity of social media, QR codes, and small projects, travel agencies now have access to opportunities that were previously unavailable. In the present day, travel agencies have the chance to benefit from opportunities both prior to, during, and following a guest's trip. They could also utilize better promotional techniques on these online platforms. Businesses can improve their understanding of their customers by using sophisticated algorithms, cookies, and other digital tracking techniques to provide tailored products and services. Organizations have used technological methods to transmit information in order to capitalize on future opportunities provided by smart tourism. For example, encouraging the use of particular social media hashtags, incorporating geotags, and developing original apps. There exists several techniques for gathering and organizing information and extensive data sets that companies can utilize to develop successful strategies. Developing a customized CRM strategy for the tourism industry or installing a traffic monitor can greatly improve business outcomes. Malaga has introduced a parking application to reduce congestion and promote improved parking behaviors. Tourism industry providers are now integrating advanced technological methods to enhance and enhance the overall tourist experience. For instance, guests staying at the UK's Hub Hotel by Premier Inns can utilize augmented reality via wall maps in their rooms. Virtual reality enables individuals to recreate activities such as riding a rollercoaster or floating in a hot air balloon without the need for actual physical travel.

The tourism sector, like other industries, has witnessed the rise of intelligent systems due to the quick developments in information and communication technology. By combining these technologies, resource management can be enhanced, environmental impact lessened, and visitors can smoothly enjoy customized experiences. Moreover, smart tourism also has a significant impact on promoting destinations by enabling focused marketing strategies and gathering essential data for future growth and enhancement.

Furthermore, smart tourism strategies can improve tourists' experiences by offering immediate information, personalized suggestions, and interactive services. Promoting increased spending and extended stays among tourists not only enhances visitor enjoyment but also contributes to economic development in travel destinations. In today's age of technology, contemporary travelers can utilize various online platforms and tools that impact their decision-making process. The digital revolution has had a significant effect on the tourism sector, leading to

alterations in travel plans, booking accommodations, discovering new destinations, and posting experiences on social platforms.

Due to the rise of social media, review platforms, and online travel agencies, travelers now have more resources available to help them organize their vacations.

India has been gradually embracing smart tourism initiatives in order to enhance the overall travel experience. This involves integrating technology to improve communication, convenience, and amenities for passengers. With the advancement of technology, the smart tourism sector in India is expected to grow, offering visitors enhanced and personalized experiences. Intelligent tourism could boost sustainable development and improve competitiveness in the worldwide tourism sector.

Literature Review:

Sharma, S., (2022) Based on the data provided, this research recognises all tourism-related difficulties in mountain tourism destinations like Himachal Pradesh in the Indian Himalayas. Transport, human resources, the tourism industry, growing urbanisation, natural catastrophes, and environmental protection were some of the recurrent themes that defined the difficulties. India's tourist destination is Himachal Pradesh. In terms of tourism, the state is unable to realise its full potential. Due to its location in the rugged, mountainous western Himalayas, Himachal has several development-related difficulties. In addition, Himachal Pradesh is a small Indian state with a restricted economy and level of income. Due to its high cost, building world-class infrastructure may not be possible in the present day. As the idea of "smart tourism destinations" gains traction, Himachal, is the right time to make its name as an emerging pioneer of Smart Tourism destinations and gain free publicity worldwide and a new USP. Hence, this paper suggests that the government look up to these opportunities and support research & development in this area.

Valeri, (2021) The absence of smart tourism tactics that capitalise on current technology developments is one of the many problems that today's visitor faces. Another challenge is developing smart tourism strategies that consider a variety of long-term experience objectives for visitors, including social and functional benefits.

Hamid et al (2021) offered a cutting-edge e-tourism data management categorization taxonomy based on smart concepts, and they assessed works in many disciplines against it.

Knotogianni and Alepis, (2020) The next development above historical tourism is "smart tourism." The literature on the subject of smart tourism is extensive, as far as we can tell, but it hasn't yet been put together into a thorough evaluation.

Pencarelli (2020) Utilising a conceptual approach and concentrating on the tourist industry, the aim was to offer a point of view on how the digital revolution has affected travel, as well as similarities and differences between travel 4.0 and smart travel.

Correa. S. C. H. Gosling. M. S., (2020) Travellers can use their mobile devices to obtain information through websites and applications, GPS signals, and Wi-Fi networks in both public and private spaces. With the use of connected applications or websites, people may locate comprehensive, accurate, and truthful information quickly and simply thanks to digital accessibility.

Yuan et al., (2019) Now moving towards the interactions that occur during STEs, it is observed that with the advent of technology, tourists started to co-create value in a physical-virtual experience, thus enabling interactions between people, organizations and information.

Wise and Heidari (2019) provided useful frameworks for destination managers and other interested parties in this new smart tourism paradigm, having first established a fundamental knowledge of the Internet of Things and its potential for smart cities.

Femenla-Serra et al., (2019) Stakeholders can engage in smart tourism experiences in STDs. These partnerships are based on the exchange of data to personalise experiences and the use of mobile and smart technology to improve them.

Koo et al., (2017) The most visible elements for travellers are applications, as they provide immediate benefits. This means that other smart tourism technology resources enable virtual platforms for the creation, collection, and exchange of information.

Kulakov (2017) spoke about a technique to assess the efficacy of services that possess intelligence. The standard (non-smart) service for comparison, the execution scenario, the estimations employed, and each characteristic are provided. Smart services utilising big data analytics can employ the approach presented here.

Huang et al., (2017) Travel-related apps and online information sources such as travel agencies, personal vlogs, public and corporate websites, social media, mobile apps and the like are referred to as smart tourism technologies.

Lemon & Verhoef, (2016) These technologies create and enable virtual platforms, that is, spaces where interconnections between stakeholders take place through the collection, creation and post-purchase.

Del Chiappa and Baggio, (2015) According to the papers, a smart tourist location is a link between stakeholders and their digital representations, which demonstrates the increased effectiveness and efficiency of smart tourism.

Yin and Wang, (2015) Smart Scenic Spot Service is another platform that will increase tourism company earnings, standardise and improve tourist visits through scientific tourism management.

Koo et al., (2015) "Smart" has been applied in tourism to represent the massive usage of ICT not only for information but also for analytics in tourism to render customized services to the tourists.

Dickinson et al (2014) Technological application reveals the implementation of e-tourism with the help of the digital revolution.

Buhalis & Amaranggana, (2014) The presence of ICTs is relevant to travellers, as they ensure the realization of the journey in real time.

Wang et al., (2012) The benefits of the meditating role of ICTs on tourist experiences are evident before, during and after trips and include the meditation of tourists' behaviour and emotional states, by accessing a wide variety of information, particularly in the case of real-time support that enables problem-solving.

Research Methodology:

Objective:

This research aims to provide an overview of tourists' perception of smart tourism initiatives in Himachal Pradesh. This study aims to understand how tourists perceive smart tourism technologies and services in the region and identify the factors influencing their perception.

Hypothesis:

H0: There will not be a positive perception of tourist towards smart tourism initiatives, as these technologies and services are expected to enhance their overall travel experience.

H1: There will be a positive perception of tourist towards smart tourism initiatives, as these technologies and services are expected to enhance their overall travel experience.

Research Design: The research adopts a quantitative approach to gather data on tourists' perceptions of smart tourism initiatives in Himachal Pradesh. A cross-sectional survey design was used to collect data from tourists visiting various tourist destinations in Himachal Pradesh.

Sampling: A convenience sampling technique was employed to select participants for the study. Tourists visiting popular tourist spots in Himachal Pradesh were approached to participate in the survey.

Variables: The key variables that were measured include tourists' perception of smart tourism technologies and services, demographic variables (age, gender, education level), travel experience, and overall satisfaction with their travel experience in Himachal Pradesh.

Data Analysis and Interpretation:

Fifty women and seventy males made up the population, according to a descriptive study of the demographic data. Fourteen to thirty and thirty to forty-five years old accounted for thirty-two and forty-five per cent, respectively, of the total data. The sample's members were split in half: 14.2% were between the ages of 46 and 60, while about 5.5% were under 18. Older over 60 made up just 5.5% of the population. 53.3% of those who were surveyed were married out of all the data collected. Regarding education, 32.3% of the population had a postgraduate degree, followed by graduates (28.1%), professional degree holders (20.5%), matriculating(1.6%) and secondary students (17.3%). Students provided the most data, or 30.7%, which was followed by private employees and company owners, who provided 28.35 and 17.3% of the data, respectively. Agriculture and government employees, with 15.74% and 7.9%, respectively, are the least. Most people's yearly income was under 3 lakh, then it was between 3 and 6 lakhs (29.9%), 6 and 10 lakhs (26%) and, least of all, beyond 10 lakhs (9.4%). The demographic information of the sample is presented in Table 1.

PARTICULARS	CATEGORY	FREQUENCY	PERCENTAGE
Gender	Male	77	60.6
	Female	50	39.4
Marital Status	Married	68	53.5
	Unmarried	59	46.5
Age	Below 18 years	07	5.5
	18-30 years	41	32.3
	31-45 years	54	42.5
	46-60 years	18	14.2
	Above 60 year	07	5.5
Education	Matriculation(10th)	02	1.6
	Secondary(12th)	22	17.3
	Graduate	36	28.3
	Post-Graduation	41	32.3
	Professional Degree	26	20.5
Income	Below 3 lakh	44	34.6
	3 lakh- 6 lakh	38	29.9
	6 lakh- 10 lakh	33	26
	Above 10 lakh	12	9.4
Occupation	Govt. employee	20	15.74
	Private employee	36	28.35
	Student	39	30.7
	Business	22	17.3
	Agriculture / horticulture	10	7.9

Table1. Demographic variable

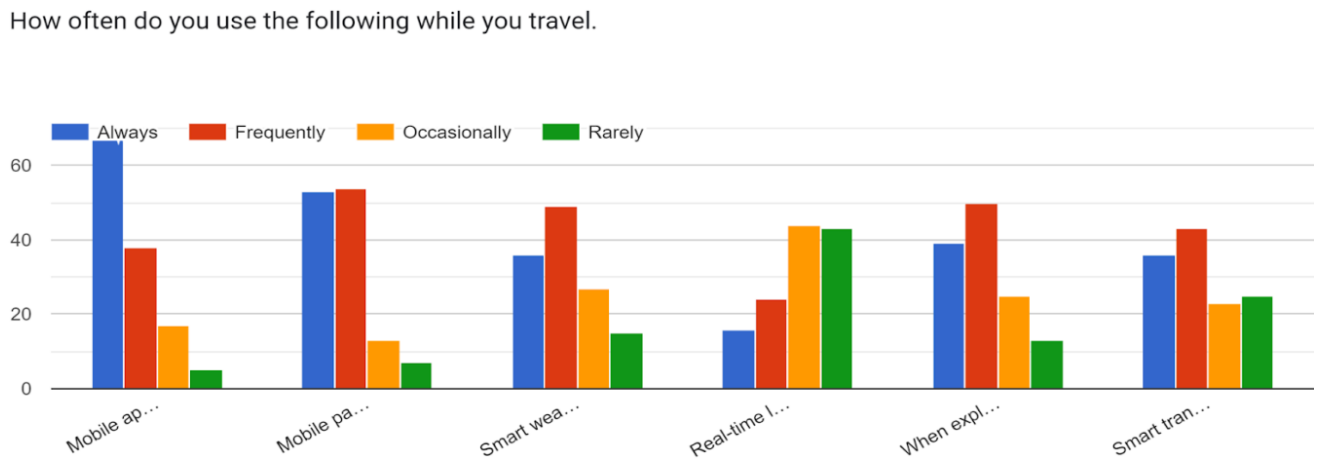

Figure 1: Usage of Smart app

Figure 1 shows the frequency of usage of the smart app during travel by tourists as it is visible that maximum use of Mobile apps or smart devices to plan their travel. Where else there is a tie between always and frequently for the use of Mobile payment methods for transactions during travel.

Smart wearables (smart watches) to enhance the travel experience, such as receiving notifications, and tracking activities are used frequently by travellers Only a few travellers used Real-time language translation through smart devices to facilitate communication during travels. When exploring a new destination, frequently people rely on reviews and ratings from other tourists available through smart apps. Smart transportation options(eg. ride-sharing apps, and public transport apps) also facilitate travellers frequently.

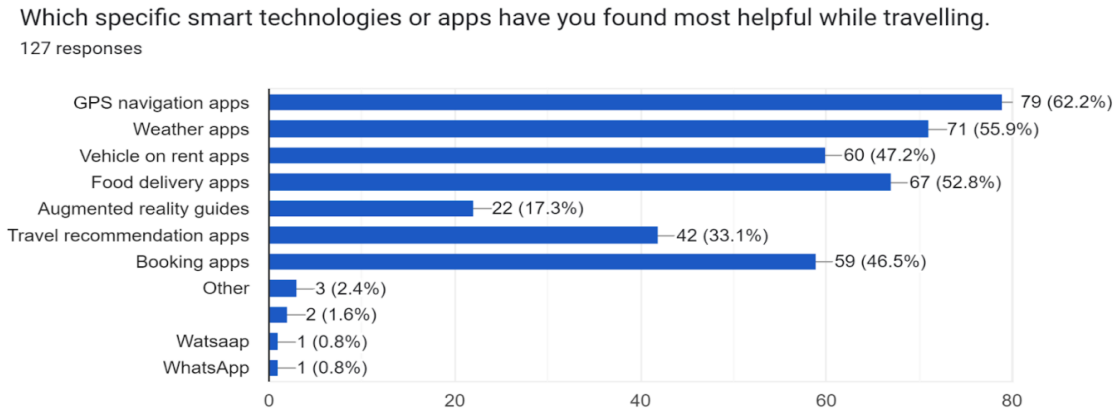

Figure 2: Tourist Perception of Smart Technologies

In Figure 2 Tourist perception of Smart Technologies can be seen GPS navigation apps being on the top of the list with 62.2% followed by weather apps (55.9%), food delivery apps (52.8%), vehicle on rent(47.2%), booking apps (46.5%), travel recommendation apps(33.1%) and augmented reality guides(17.3%).

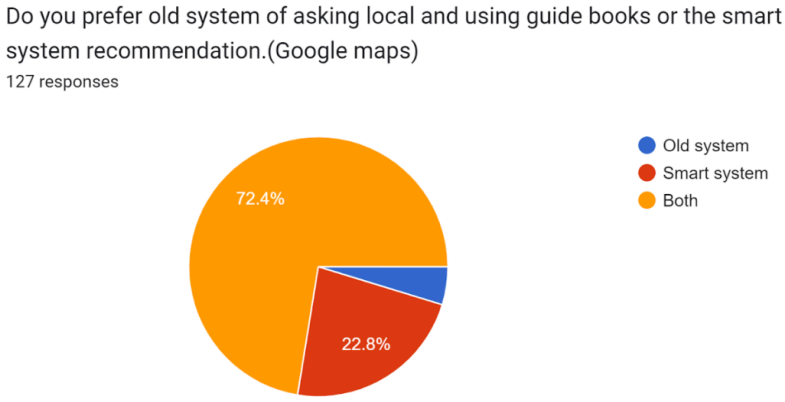

Figure 3: Tourist Preference

In the above Figure, 3 Majority of tourists prefer Both systems i.e 72.4% whereas the smart system benefits the tourist and is preferred by 22.8% of the people where the use of Google Maps and more such technology is recommended.

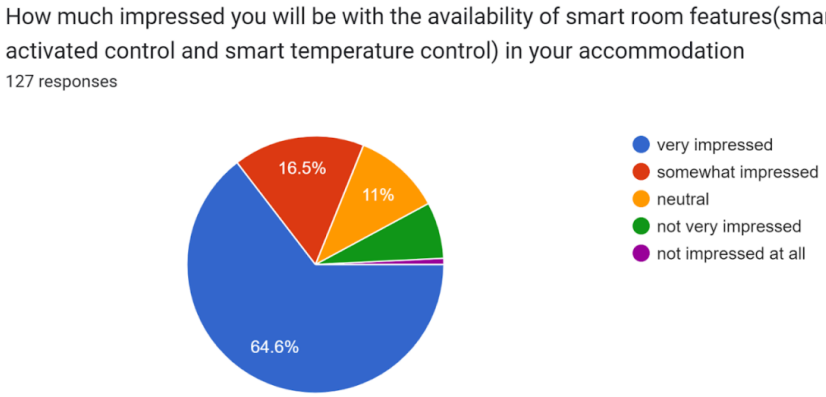

Figure 4: Tourist Impression

Figure 4 shows tourists' impression of the use of smart technology at their accommodation or smart room features (smart lighting, voice-activated control and smart temperature control)around 82 tourists were very impressed 21 responded somewhat impressed 14 were neutral and 9 were not very impressed with the availability of the smart room.

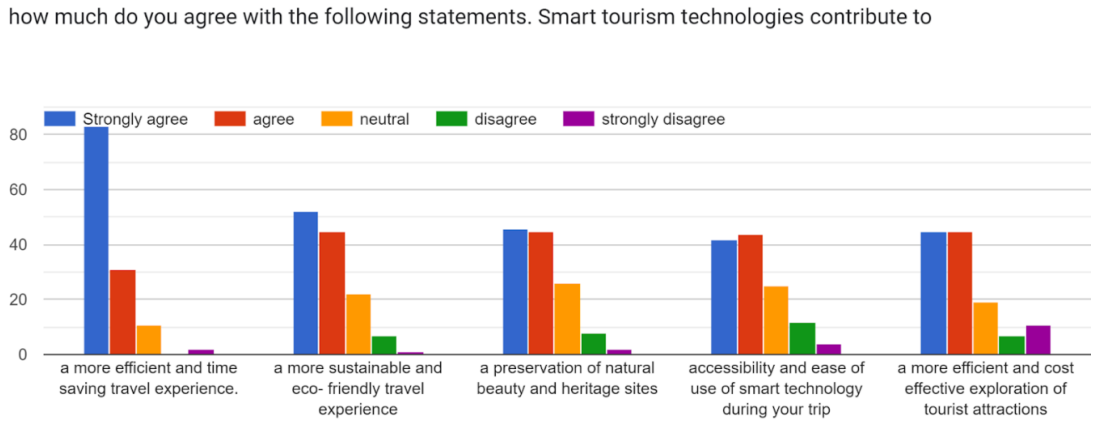

Figure 5: Smart Technology Contribution

The above Figure 5: Smart Technology Contribution The Majority of respondents strongly agree tha smart tourism contributes to a more efficient and time-saving travel experience. Smart tourism is more sustainable and eco-friendly agreed and strongly agreed by the tourist. According to Tourist smart tourism contributes to the preservation of natural beauty and heritage sites, accessibility and ease of use of smart technology during the trip. Smart tourism also contributes to a more efficient and cost-effective exploration of tourist attractions.

PARTICULARS	NO	MAYBE	YES	TOTAL	MEAN	SD	Variance
Are you comfortable with sharing personal data (location, preferences etc) to receive personalized smart recommendations?	21	45	61	127	2.31	0.74	0.55
Is it important for you that a destination provides free wifi and a charging station for the use of smart devices during your visit?	32	40	55	127	2.18	0.81	0.65
Does the use of smart tourism technologies enhance your travel experience?	07	18	102	127	2.75	0.55	0.29
Are you interested in participating in virtual guided tours or experiences using VR technology for destinations you plan to visit?	10	28	89	127	2.62	0.63	0.39
Do you engage with augmented reality (Google Lens, Google translate, Google Maps etc) experiences that provide cultural or historical information about tourist attractions?	12	0	115	127	2.81	0.59	0.34
in your opinion, do destinations that prioritize smart tourism initiatives often provide better value for money in terms	09	27	91	127	2.65	0.61	0.37

of overall tourist experiences?							
Have you encountered any concerns or challenges related to cybersecurity or privacy while using smart tourism services?	66	0	61	127	1.96	0.99	0.99

Table 2. Tourists perception

Tourist Perception is represented in Table 2 in which the majority of respondents use smart technology during their travel and help enhance their travel experience (102). Around 61 respondents are comfortable with sharing personal data (location, preferences etc) to receive personalized smart recommendations with 45 maybe and 21 straight No. For 55 participants it is important for them that a destination provides free wifi and a charging station for the use of smart devices during the visit. 89 tourists are you interested in participating in virtual guided tours or experiences using VR technology for destinations plan to visit.whereas 115 respondents engage with augmented reality (Google Lens, Google translate, Google Maps etc) experiences that provide cultural or historical information about tourist attractions.In 91 respondents' opinions, destinations that prioritize smart tourism initiatives often provide better value for money in terms of overall tourist experiences.61 tourists have encountered concerns or challenges related to cybersecurity or privacy while using smart tourism services and 66 participants never experienced such concerns.

Conclusion and Suggestions:

To sum up, the study emphasizes the important progress Himachal Pradesh has made in adopting smart tourism to improve the tourist experience in the state. Himachal Pradesh is becoming a modern and innovative tourist destination by utilizing technology such as smartphone apps, online booking platforms, digital marketing, and smart infrastructure projects. Additionally, importance given to environmental monitoring and sustainable practices highlights the state's dedication to responsible tourism. In the future, combining virtual reality, augmented reality, and artificial intelligence offers exciting possibilities for improving visitor engagement and safety. In the end, the promise of smart tourism in Himachal Pradesh is in providing a travel experience that is more connected, seamless, and environmentally friendly, which will keep attracting and pleasing visitors in the years to come.

Furthermore, to augment the smart tourism endeavours in Himachal Pradesh, the following recommendations are proposed:

1. Personalised Recommendations: To provide experiences and recommendations that are specifically catered to the interests and behaviour of visitors, customise recommendation systems.

2. Interactive Maps: To make it easier for tourists to explore the area, create interactive maps that include up-to-date information on services, events, and attractions.

3. Multilingual help: To accommodate a wide variety of foreign guests, provide multilingual help via translation services or language-specific guides.

4. Community Engagement: Establish collaborations with nearby communities to uphold sustainable tourist practices, encourage genuine cultural experiences, and assist neighbourhood businesses.

5. Smart Transportation: To avoid traffic and lower carbon footprints, use smart transportation strategies including electric cars, bike sharing schemes, and effective public transit choices.

6. Data Analytics: To continually enhance services and products, employ data analytics to get insights into visitor patterns, preferences, and feedback.

7. Digital Storytelling: To engage tourists and highlight the distinctive tradition and scenic beauty of Himachal Pradesh, embrace digital storytelling approaches like podcasts, virtual tours, and interactive vlogs.

By adopting these recommendations, Himachal Pradesh can strengthen its smart tourism programmes and establish itself as a top destination for tech-savvy tourists looking for eco-friendly and engaging travel experiences.

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