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TECHNOLOGY A DIGITAL DRIVE: UNLOCKING MADHYA PRADESH'S TOURISM POTENTIAL

Sapna Chawla ^{*1}, Sunil Kumar Pahwa ²

¹ Professor, Department of Commerce,

Govt. Mankunwar Bai Arts and Commerce Autonomous College for Women Jabalpur (M.P.), India

² Principal (Retd.)

G. S. College of Commerce and Economics, Autonomous, Jabalpur (M.P.), India

ABSTRACT

Goal: The study aims to examine the role of technology in promoting tourism in Madhya Pradesh, identify key technologies driving growth, analyse their impact on tourist footfall and employment opportunities, evaluate gaps in technology adoption, and suggest measures for strengthening digital tourism.

Background: Technological tools such as online booking platforms, mobile applications, virtual tours, digital maps, and e-ticketing systems have enabled tourists to plan and manage travel efficiently. These advancements have also facilitated better connectivity between tourists, service providers, and local stakeholders. Despite these developments, the adoption of technology across tourism destinations remains uneven, particularly in rural and remote areas where digital infrastructure, internet connectivity, and technical skills are limited. The gap between technologically advanced urban destinations and less-developed tourist sites affects the overall growth potential of the tourism sector. Therefore, it becomes essential to examine how technology acts as a digital driver in promoting tourism while identifying existing challenges and opportunities for inclusive and sustainable tourism development..

Methodology: The research adopts a descriptive and empirical approach based on primary data collected through a structured questionnaire using Google Forms. A stratified random sampling technique was applied, and responses were obtained from 53 tourists. Data were analysed using descriptive statistics, weighted ranking method, and hypothesis testing to understand perceptions regarding technology-driven tourism.

Findings: The results of the study reveal that technology plays a significant role in promoting tourism and enhancing the overall travel experience of tourists. A majority of respondents indicated that digital tools help in planning budget-friendly trips, improving connectivity, and increasing awareness regarding accommodation and travelling charges. The ranking analysis showed that technology helping tourists plan budgeted trips received the highest priority, followed by faster connectivity and improved awareness of travel costs. Many respondents agreed that technology makes tourists more self-reliant by reducing dependency on travel agencies, while also attracting visitors to technologically developed destinations.

Implications: The study highlights the need for government authorities to prioritise digital infrastructure development in rural and remote tourist destinations. Expanding high-speed internet connectivity, promoting smart tourism initiatives, and supporting digital platforms for booking and information dissemination can enhance accessibility and attract more visitors. Policymakers should also introduce targeted schemes for developing tech-enabled tourism services in lesser-known destinations to ensure balanced regional development. The study contributes to the growing literature on digital tourism by providing empirical evidence on tourists' perceptions of technology adoption.

Conclusion: The study concludes that technology has emerged as a powerful catalyst in transforming the tourism sector of Madhya Pradesh by enhancing accessibility, improving travel planning, and increasing awareness about destinations. Digital tools such as online booking systems, mobile applications, and virtual platforms have enabled tourists to make informed decisions, plan budget-friendly trips, and become more self-reliant. The findings further indicate that technological advancements contribute to better connectivity and attract tourists to tech-enabled destinations, thereby supporting tourism growth and regional economic development.

KEYWORDS: Digital Tourism, Smart Tourism, Tourism Development, Infrastructure, Madhya Pradesh, Tourist Perception, Digital Connectivity.

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1. INTRODUCTION

Tourism in Madhya Pradesh State is undergoing a phenomenal transformation, driven by new technologies for its substantial growth. The use of technology has become inevitable in almost all spheres of life, and the tourism sector is no exception. Madhya Pradesh state has an overwhelming record of 13.3 crore visitors in 2024 – 25, as it has a diverse range of tourist destinations, from ancient temples and unique UNESCO World Heritage Sites to wildlife sanctuaries, jungle safaris, and mesmerising landscapes with unparalleled natural beauty. Madhya Pradesh state has emerged as a welcoming and well - connected destination both for domestic and international tourists due to its improved infrastructure, roads, rail, air-connectivity and structured hotels and motels.

The famous tourist destinations in Madhya Pradesh State include Pilgrim / Religious Tourism, Leisure and Business Tourism, and Cultural / Heritage Tourism. There is a great footfall for visiting religious places like Amarkantak, Orchha, Sanchi, Bhopal, Chitrakoot, Ujjain, Omkareshwar, Maheshwar, etc. The important cities of Madhya Pradesh state, like Jabalpur, Indore, Bhopal, Gwalior, Khajuraho, and Pachmarhi, are liked by both domestic and foreign tourists for leisure. Moreover, in Business tourism, the tourists are entertained by sightseeing, jungle safaris, wildlife sanctuaries, and world heritage sites. Cities like Orchha, Khajuraho, Bhopal, Sanchi, Gwalior, Datia, Mandu, and Burhanpur offer visitors the opportunity to enjoy cultural and historical tourism. The tourists get the opportunity to trek, enjoy cruises indulge in water sports and water-related activities.

2. OBJECTIVES

1. To study the current state of technology adopted in Madhya Pradesh state's tourism sector.
2. To find the technologies driving tourism growth.
3. To analyse the use of technology in enhancing tourists' footfall.
4. To determine the job opportunities in the tourism-related business and services.
5. To find out the challenges faced and the gaps in tech adoption.
6. To recommend suggestions for leveraging technology to boost the Madhya Pradesh state tourism sector.

3. REVIEW OF LITERATURE

- (i) Robin Sharma (2023), on the topic, "Digital tech and hotel satisfaction in Madhya Pradesh", mentioned the transformative effect of virtual technology on client satisfaction inn enterprise in the selected towns of Madhya Pradesh, India. The authors suggest that as the hospitality area undergoes large technological improvements, information on the nuanced interaction between virtual improvements and guest contentment becomes vital. The paper examines the effect of virtual technology on purchaser delight, emphasising enhancements in service quality, personalisation, and streamlined booking strategies. The research paper concludes with hints for first-rate practices, echniques to triumph over challenges, and the importance of ongoing training and development projects. Adding to these findings, we can say that the use of digital technology has revolutionised conventional lodge life, creating a continuous and sustainable environment for guests, yet not all hospitality groups can offer technological upgrades to their guests. We can suggest to this research article that the few iconic tourist sites like Sanchi, Khajuraho, Pachmarchi Hill Station, have technically developed by facilitating online booking accommodations, e-ticketing without formal

deposits. But a majority of less popular, remote tourist sites remain out of coverage. Thus, the gap in bringing in technology in hospitality management needs improvement.

- (ii) Ms Srashti Sahu and Prof. D.K. Nema (2025), on the title, “Tourism in Madhya Pradesh: A study on Growth Patterns and Economic Development”, reported that Madhya Pradesh is a premier tourist destination in India, offering various destination sites that attract tourists towards the state, which represents the sector’s strength to boost tourism in the state. They also mentioned that Madhya Pradesh has witnessed steady growth in tourist footfall, contributed significantly to the state's economy, and has experienced a steady recovery after the pandemic. Thus, we can add that Madhya Pradesh is a top-performing state in Indian tourism and has the credit to secure the “Best Tourism State”, national award for three consecutive years (2015-2017). In 2024, Madhya Pradesh ranked among the top 10 states for foreign Tourist Arrivals (FTAs), with over 13.41 crore visitors, both domestic and foreign.
- (iii) Dr Suman Kalyan Choudhary, Dr Sukanta Sarkar, Dr Sabyasachi Rath, and Dr K. Harun (Oct.-Dec. 2024), on the title, “Revitalising the Tourism Industry of Madhya Pradesh: Opportunities, Challenges, and Government Policies”, stated that there is a huge potential for tourism in the M.P. state. The state is known for its eco- friendly destinations and is also called as the “Tiger state of India”. The location of the state is also an advantage for the tourism industry as it is situated in the centre of the country. The industry in the state had suffered during the coronavirus pandemic period, but it has overcome the phase. The authors also reported that there were many challenges in this sector, like a shortage of infrastructure, funds, and transport facilities. We can add to the above research work that, despite Madhya Pradesh state's tourist arrivals growing, the state has not achieved the top 5 states’ position in the tourism sector. This is because the state has yet to overcome the challenges of saving the environment, high competition from other states and the increasing rate of crime concerning the safety of women travellers and their belongings.
- (iv) Sachin Rathor, Poonamchand Gupta Vocational College, Khandwa, Madhya Pradesh, India (sr8887207@gmail.com) (2025), on the topic, “Strengthening Tourism in Madhya Pradesh: A Cultural and Strategic Perspective”, stated that although Madhya Pradesh state has been blessed with a rich spiritual heritage, medieval forts, stunning temples, and scenic natural reserves and have both domestic and international travellers, yet the state has been under-leveraged due to infrastructural bottlenecks, low international visibility, and lack of co-ordinated promotional efforts. Thus, it can be suggested that with the development of digital platforms, digital literacy and access to Wi Fi and the internet in remote parts of the state, the tourism sector will see new heights. Similarly, the growth of tourism also depends on the growth of infrastructure, roads, rail, and air connectivity, and ensuring the safety of both domestic and foreign travellers and their bags and baggage.
- (v) Dr Rohit Balyani, Prof. S.K. Choubey (2022), on the title, “Development of Ecotourism Destinations in Madhya Pradesh”, stated that there has been a significant growth in nature tourism due to Madhya Pradesh state’s beautiful landscapes, biodiversity, heritage sites and adventure sites that help in promoting ecotourism. The researchers had further mentioned the benefits of ecotourism in Madhya Pradesh, such as economic, social, environmental, and preservation of culture and heritage. It can be suggested from the above research outputs that despite the multiple benefits of ecotourism in Madhya Pradesh, it has not become as popular as it should be. There are several factors responsible for the slow growth of it, like lack of access to remote and less popular tourist destinations in the absence of infrastructure, connectivity awareness and funds. Therefore, Madhya Pradesh state needs to enhance its tourism-related services in the unexplored and untapped areas by providing sufficient funds and support.

4. TECHNOLOGY USED AS A DIGITAL DRIVE IN CURRENT PERSPECTIVES

Today, the tourism sector is witnessed in a completely transformed state where the use of technology in showcasing the tourist spots, booking of tourist destinations through online and digital modes and virtual tours (VT) have taken the tourism sector to a higher pedestal than it was a few years back. Some of the technical advancements introduced in the tourism sector are below-

- (i) **Virtual Reality (VR) and Augmented Reality (AR):** The use of Virtual Reality and Augmented Reality is gaining popularity as Madhya Pradesh state has entered into a partnership deal with Finland, where virtual tours of heritage sites are seen by the visitors before actually visiting the tourist spots. This adventure is the first of its kind in digital tourism. The tourists are now fairly enjoying the webinars, virtual tours of museums, art galleries and monuments.
- (ii) **Launch of New Air and Digital Connectivity Portal:** The launch of PM Shri Tourism Air Service is a new booking portal for booking tourist destinations in urban and rural homestays through online booking platforms like Make. My Trip and Yatra.com. This service connects the important cities like Indore, Rewa, Bhopal, Singrauli, and Satna.
- (iii) **Facility of Online e-ticketing:** The government has facilitated online e-ticketing systems for bookings for tourist destinations in advance for visiting National Parks, Jungle Safaris and temples, thus saving the time and inconvenience of the travellers.
- (iv) **Introduction of Mobile Apps:** Through Mobile Apps, visitors can easily find tour operators and use Google Maps to locate a tourist destination. Mobile Apps are handy and easily understandable by tourists.
- (v) **Launch of Film Technology:** In Madhya Pradesh state, with the initiation of the new Film Tourism Policy 2025, a great boost is given to film-making and web series soaps, which has opened access to many film and web series soap-making companies.
- (vi) **Introduction to Web Platforms:** The government-based web platforms facilitate tourists to study and take decision about visiting tourist-spots well before the actual journey starts. The website educates tourists to become familiar with comprehensive and real-time information on tourist spots, itineraries, and online bookings.
- (vii) **Safe Tourism:** Both the state and the private players are partnering in boosting tourism by promoting the safety measures for women and their luggage, keeping the tourist destinations clean through the proper disposal of garbage. The state is providing subsidies for building budget homestays and framing policies for regular marketing of tourism on digital platforms.

5. GAPS IN TECHNOLOGY ADOPTION

Although the Madhya Pradesh government and private stakeholders have made significant strides in adopting new technology in the tourism sector, there are notable gaps in technology usage, such as:

- (i) **Lack of Adequate Rural Connectivity:** There are many rural sites and offbeat locations that lack internet connection that hinders online bookings and digital payment integration.
- (ii) **Lack of Digital Payment Modes:** Many small towns and villages do not rely on online modes of accepting and making payments. Hence, cash dominates in these areas.
- (iii) **Lack of Digital Literacy:** Many people wish to sell their products online but lack digital literacy, which prevents them from doing so, highlighting a gap in technology use in rural areas.
- (iv) **Lack of Digital Platforms:** The rural areas have limited access to digital infrastructure for booking accommodation, interactive interpretation and online follow-up details due to a lack of digital infrastructure.
- (v) **The application of Virtual Reality is for a limited tourist destination:** The benefit of Virtual Reality is not accessible to rural areas like the Bhojeshwar temple or scattered monuments in the Chambal region. Thus, these places lack digital benefits and 360° tours experience.
- (vi) **Lack of Technical Training:** Lack of digital skills amongst the stakeholders leads to difficulty in operating online platforms of marketing and booking, thus creating a big vacuum in the growth of the tourism sector.
- (vii) **Small and Medium sized Hotels and Motels:** The secondary cities like Rewa, Sagar, and Dewas lack adoption of the Modern Property Management System (PMS), which restricts their growth.
- (viii) **Low Connectivity with lesser-known tourist spots:** The lesser-known tourist spots have no support of integrated apps for public transport, smart navigation services and digital tracking, which keeps their growth slow and stagnant.

- (ix) **Neglect of Tourist Spots in Remote Areas:** The tourist spots located in remote areas, especially the tribal areas, still face a lack of regular and frequent connectivity and unstable or no internet access. This drifts these from the key locations and is underserved.
- (x) **Focus on Iconic Sites of Madhya Pradesh:** The tourism policies often focus on the high-potential areas of tourism destinations like Indore, Jabalpur, Bhopal-Sanchi, Khajuraho, Ujjain, and National Parks, mostly ignoring other regions completely or to a great extent.

6. RESEARCH METHODOLOGY

Overall, the methodology enables systematic evaluation of tourists' perceptions and provides empirical evidence on how digital technology influences tourism growth and planning.

- (i) **Research Design:** The present study adopts a descriptive and empirical research design to examine the role of technology as a digital driver in promoting tourism. The study focuses on understanding tourists' perceptions regarding technological adoption and its influence on travel planning, connectivity, employment opportunities, and tourism development.
- (ii) **Area of Study:** The research is centred on tourism development in Madhya Pradesh, considering both urban and rural tourist destinations. Respondents from different districts and regions were included to obtain diverse perspectives on technology use in tourism.
- (iii) **Data Sources:** The study is based on both primary and secondary data. Primary data were collected directly from tourists using a structured questionnaire, while secondary data were gathered from research articles, tourism reports, government publications, and academic journals related to digital tourism and tourism development.
- (iv) **Sampling Technique:** A stratified random sampling method was adopted to ensure representation from different demographic groups. Respondents were selected randomly from various categories such as age, gender, occupation, and location to capture diverse viewpoints.
- (v) **Sample Size:** A total of 53 respondents participated in the survey. The sample comprised tourists from different districts, age groups, educational backgrounds, and occupations, providing a varied dataset for analysis.
- (vi) **Research Instrument:** A structured questionnaire was designed using Google Forms as the primary research tool. The questionnaire consisted of two sections:
 - (vii) Demographic profile of respondents (age, gender, occupation, location, etc.)
 - (viii) Perception-based statements regarding the role of technology in tourism, measured using a five-point Likert scale:
 - Strongly Disagree
 - Disagree
 - Agree
 - Strongly Agree
 - Neither Agree nor Disagree
- (ix) **Data Collection Method:** The questionnaire was distributed online through digital platforms, and responses were collected electronically. This method facilitated quick data collection and ensured participation from respondents across different locations.
- (x) **Variables of the Study:** The study considered various demographic variables such as age, gender, education, marital status, occupation, religion, location, and purpose of travel. Perception variables included technology usage, online booking, connectivity, employment impact, awareness of travel costs, and tourist self-reliance.
- (xi) **Hypothesis Formulation:** The study formulated null and alternative hypotheses to examine the relationship between technology adoption and tourism-related factors such as employment opportunities, budget travel planning, and awareness of accommodation charges.
- (xii) **Statistical Tools Used:** The collected data were analysed using:
 - Descriptive statistics (frequency and percentage)

- Weighted score method
 - Rank order priority analysis
 - Perception analysis using Likert scale
 - Hypothesis testing based on ranking outcomes
- (xiii) **Data Analysis Procedure:** Each response in the Likert scale was assigned weights ranging from 1 to 5. Weighted scores were calculated by multiplying frequencies with scale values. The total weighted scores were used to rank the statements. Higher scores indicated higher priority or stronger perception among respondents.
- (xiv) **Limitations of Methodology:** The study is limited by a relatively small sample size and reliance on online responses. Some demographic categories had fewer respondents, which may affect generalisation. Despite these limitations, the methodology provides useful insights into the role of technology in tourism development.

7. HYPOTHESIS

H₀ The use of Technology does not impact the job opportunities of Travel Agencies negatively.

H₁ The use of Technology impacts the job opportunities of Travel Agencies negatively.

H₀ There is no relationship between the use of Technology and the planning of budgeted tourist trips.

H₂ There is a relationship between the use of Technology and the planning of budgeted tourist trips.

H₀ There is no relationship between the use of Technology and awareness of accommodation and travelling charges.

H₃ There is a relationship between the use of Technology and awareness of accommodation and travelling charges.

8. DATA ANALYSIS & INTERPRETATION

8.1 Demographic Profile of Tourists

In the demographic profile of tourists, various factors such as Places, Districts, Gender, Age Group, Educational Qualification, Marital Status, Location, Religion, Occupation, Purpose of Travel, and Use of Wi-Fi at a tourist destination have been taken into consideration for the research study. Table 1 describes the demographic variables of the 53 respondents as follows -

Table 1 - Factors of the Demographic Profile of Tourists and their Variables

S. No.	Factors/Basis	Demographic Variables	Responses Received (N)	Responses Unanswered	Total Respondents	Percentage (%)
01.	Places	(i)Madhya Pradesh (ii) Maharashtra (iii) Telangana & (iv) Bangladesh	53	-	53	100
02.	Districts	(i)Adilabad (ii) Balaghat (iii) Bhopal (iv) Jabalpur (v) Jamalpur (vi) Katni (vi) Mandla (vii) Mumbai (viii) Narsingpur (ix) Satna	01 01 02 35 01 01 01 01 01 01	-	53	100

		(x) Shahdol	01			
		(xi) Shajapur	01			
03.	Gender	(i)Male	20	-	53	37.73
		(ii) Female	33			62-26
04.	Age - Group	(i)Less than 18	00	01	52	00.00
		(ii) 18 to 35	26			49.05
		(iii) 35 to 50	16			30.18
		(iv) 50 to 60	07			13.20
		(v) 65 Years & above	03			05.66
05.	Educational Qualification	UG, PG, Ph.D., B.E., M.E., & B.D.S.	53	-	53	100
06.	Marital Status	(i)Unmarried	29	-	53	54.71
		(ii) Married	24			45.28
		(iii) Divorced/Widowed	-			00.00
07.	Location	(i)Urbanite	45	02	51	88.20
		(ii) Ruralite	06			11.80
08.	Religion	(i)Hindu	41	01	52	78.80
		(ii) Muslim	05			09.60
		(iii) Sikh	01			01.90
		(iv) Jain	01			01.90
		(v) Christian	00			07.70
09.	Occupation	(i)Student	18	02	51	35.30
		(ii) Educationist	25			49.00
		(iii) Engineer	04			07.80
		(iv) Lawyer	00			00.00
		(v) Doctor	00			00.00
		(vi) Consultant	05			09.80
10.	Purpose of Travel	(i)Pleasure	30	01	52	56.60
		(ii) Conference	07			13.20
		(iii) Pilgrimage	09			17.00
		(iv)Visiting Relatives & Friends	23			43.40
		(v) Educational Trip	08			15.10
		(vi) Health Purpose	04			07.50
		(vii) Business Trip	06			11.30
		(viii) Sports	03			05.70
11.	Use of Wi-Fi at a tourist destination	(i) Yes	31	02	51	60.80
		(ii) No	07			13.70
		(iii) To some extent	07			13.70
		(iv) Not sure	02			03.90
		(v) No idea	04			07.80

Source – Primary Data collected through a questionnaire.

Key findings of Table 1 above present the ‘Demographic Profile’ of tourists in India as follows:

- (i) The data in the above table shows that tourists as respondents are covered from 04 places in India, including 11 districts, with a total of 53 respondents. According to the 'Gender Distribution', female tourists comprise 66.26% of the total, a higher rate than their male counterparts at 37.73%. According to the 'Age-Group distribution' of respondents, the highest mark is 49.05% in the 'Age-Group' 18-35 years. The 'Age-Group' of 35-50, seconds with 30.18% and the 'Age-Group' 65 years and above marked the lowest with 5.66%.
- (ii) The data on 'Educational Qualification' revealed that all 53 respondents were 100% well-educated, being degree-holders of Bachelor's, Master's in Arts, Commerce, Science and Engineering streams. Moreover, the tourists were also found to be Medical Doctors and PhD holders in Literature.
- (iii) The data on the 'Marital Status' of the respondents showed 54.7% unmarried and 45.28% married, and data on divorced/widowed was nil. The data on 'Location' of the respondents indicated 88.20% were 'Urbanite' and 11.80% were 'Ruralite'. The data on 'Religion' comprised a maximum of 78.89% Hindus, followed by 9.60% Muslims, 7.70% Christians, and 1.90% Sikhs and Jains.
- (iv) According to the data on 'Occupation', a maximum of 49% of the respondents were educationists, followed by students at 35.30%, consultants at 9.80%, and engineers at 7.80%. The data on lawyers and doctors was nil. According to the basis of 'Purpose of Travel', the data revealed that a maximum of 56.60% of tourists 'Travel for Pleasure', seconded by 43.40% for 'Visiting Relatives and Friends' and 17% for Pilgrimage'.
- (v) The factor 'Sports' was the lowest at 5.70%. Lastly, the use of Wi-Fi at a tourist destination gave affirmation of a maximum of 60.80% by the respondents, whereas 13.70% of tourists had 'No' or "To some Extent" for each of its usage, and the balance 3.390% of respondents were not sure of its usage.
- (vi) The 'Perceptions of Tourists on Technology as a Digital Drive in Promoting Madhya Pradesh's Tourism' under the five parameters, such as 'Strongly Disagree', Disagree', Agree, 'Strongly Agree', and 'Neither Agree nor Disagree' in Table 2 as follows:

Table 2 - Perceptions of Tourists on Technology as a Digital Drive in Promoting Madhya Pradesh's Tourism

S. No.	Basis	Strongly Disagree	Disagree	Agree	Strongly Agree	Neither Agree nor Disagree	Total
01.	The use of Technology in Tourism limits the job opportunities for local people	04 (7.5)	08 (15.09)	21 (39.62)	07 (13.21)	13 (24.52)	53 (100)
02.	The use of Technology in Tourism is a setback to the jobs of Travel Agencies	04 (7.5)	11 (20.75)	16 (30.19)	07 (13.21)	15 (28.32)	53 (100)
03.	Online booking facility in Tourism leads to a heavy rush at tourist destinations	03 (5.67)	11 (20.75)	15 (28.32)	06 (11.32)	14 (26.4)	53 (100)
04.	Technology exaggerates the facilities/ beauty of tourist destinations	01 (1.89)	12 (22.64)	16 (30.19)	08 (15.09)	16 (30.19)	53 (100)
05.	Technology absorbs the job opportunities of Tourist Guides	05 (9.43)	11 (20.75)	14 (26.41)	08 (15.09)	15 (28.32)	53 (100)
06.	Technology helps tourists plan budgeted tourist trips	04 (7.54)	01 (1.89)	22 (41.51)	08 (15.09)	18 (33.96)	53 (100)

07.	Technology helps to connect people faster	02 (3.77)	03 (5.67)	22 (41.56)	11 (20.75)	15 (28.32)	53 (100)
08.	Technology is making tourists self-reliant, leaving the travel agency business in the dark	03 (5.67)	09 (16.98)	16 (30.19)	06 (11.32)	19 (35.84)	53 (100)
09.	Technology helps tourists to get attracted by the developed tech-friendly tourist destinations	03 (5.67)	04 (7.54)	22 (41.51)	08 (15.09)	16 (30.19)	53 (100)
10.	Technology educates people about the accommodation and travelling charges	04 (7.54)	04 (7.5)	19 (35.84)	07 (13.21)	19 (35.84)	53 (100)

Source – Primary Data collected through a questionnaire.

Data interpretation of Table 2 on the ‘Perceptions of Tourists on Technology as a Digital Drive-in promoting Tourism’ by the Rank order priority method.

- (i) The first perception is that ‘The use of Technology in Tourism limits the job opportunities for local people’, to which 39.62% ‘Agree’, 24.52% ‘Neither Agree nor Disagree’, 15.09% ‘Disagree’ and 7.5% ‘Strongly Agree’. This perception is accurate, as a significant number of tourists rely for assistance more on technology than on local people, resulting in reduced job opportunities for residents.
- (ii) The second perception is that ‘The use of Technology in tourism is a setback to the jobs of Travel Agencies’. It is observed that 30.19% of respondents Agree, as tourists seek details of tourist destinations online through government websites, Instagram, Facebook, etc. In this perception, 28.32% of tourists ‘Neither Agree nor Disagree’, as the majority of the population in India does not completely rely on online methods of approaching tourist destinations. Only 13.21% ‘Strongly Agree’ and 7.5% ‘Strongly Disagree’ with the above statement.
- (iii) The third perception is that “Online booking facility in tourism leads to a heavy rush at tourist destinations. In this statement, 28.32% of tourists ‘Agree’ and 26.4% ‘Neither Agree nor Disagree’, as online booking is a convenient way to book tourist destinations from one’s native place. When many tourists make the booking online, a great crowd is observed at tourist destinations. As against this statement, 20.75% of tourists ‘Disagree’ and 5.67% ‘Strongly Disagree’.
- (iv) The fourth perception is that ‘Technology exaggerates the facilities/beauty of tourist destinations’, showing that 30.19% of respondents ‘Agree’ and the same number, ‘Neither Agree nor Disagree’. Tourists from different backgrounds hold different opinions about the same statement. Tourists who are not influenced by the use of technology for promoting tourism hold the view of being neutral by saying, ‘Neither Agree nor Disagree’ to the above statement. For the same statement, 15.09% ‘Strongly Agree’, 22% ‘Disagree’ and only 1% ‘Strongly Agree’.
- (v) The fifth statement says that “Technology absorbs the job opportunities of Tourist Guides”. In this statement, there are 28.32% of tourists, ‘Neither Agree nor Disagree’ and 26.41% ‘Agree’, as tourists find details of tourist destinations on Google, the Internet, Govt. Websites find it a waste of money to hire a ‘Tourist Guide’ to guide tourists to a destination. There are 20.75% of tourists who ‘Disagree’, and 9.43% who ‘Strongly Agree’ with the above-mentioned perception.
- (vi) The sixth perception is that “Technology helps tourists plan budgeted tourist trips”. To this perception, 41.51% tourists Agree’ and 33.96% neither ‘Neither Agree nor Disagree’. Tourists who are tech-friendly ought to use online modes to plan their trips as per their budgets. Contrary to this, those who do not make their way to tourism through online modes stick to the traditional methods

of visiting tourist destinations. In this statement, 15.09% tourists 'Strongly Agree' and 1.89% 'Disagree' with the perception mentioned above

- (vii) The seventh perception is that "Technology helps to connect people faster". In this perception, 28.75% tourists neither 'Neither Agree nor Disagree' and 20.75% 'Strongly Agree'. Tourists who rely on technical methods for booking tourist destinations strongly agree with this perception, while those who do not use these methods remain silent on this perception. According to this perception, 5.67% tourists 'Disagree' and 3.77% 'Strongly Disagree' that 'Technology helps to connect people faster'.
- (viii) The eighth perception is that "Technology is making people self-reliant, leaving the travel agency business in the dark". To this statement, 35.84% tourists neither 'Neither Agree nor Disagree', 30.19% 'Agree'. Against this, 16.98% 'Disagree' and 5.67% 'Agree' with the said perception. Undoubtedly, the use of technology is making people self-reliant, reducing their dependency on travel agencies. Tourists who 'Strongly Disagree' with the above said perception, 5.67%, which is the least amongst all.
- (ix) The ninth statement was that "Technology greatly attracted by the developed tech-friendly tourist destinations. This statement received responses of 41.51% to 'Agree' and 30.19% to 'Neither Agree nor Disagree'. It is now obvious that tourists prefer to visit tourist destinations where all the amenities related to technological development are easily available, and those who disagree with this statement do so by 30.19%. People who 'Strongly Agree' are 15.09%, and 'Strongly Disagree' are 5.67%.
- (x) The last perception of technology says, "Technology educates people about the accommodation and travelling charges. To this perception, 35.84% tourists 'Agree' and the same number neither 'Neither Agree nor Disagree', 13.21% 'Strongly Agree' and 7.54% 'Disagree'. Government websites and social media video clips on tourist destinations provide a learning platform for tourists, educating them on accommodation and travel costs, thereby raising awareness of the cost of travelling to various sites. Only 4% of tourists 'Disagree' and 'Strongly Disagree' each, on the perception as mentioned earlier.

Table 3 - Rank order priority given by the tourists on Technology as a Digital Drive in Promoting Madhya Pradesh's Tourism

S. No.	Technology in Tourism	Strongly Disagree	Disagree	Agree	Strongly Disagree	Neither Agree nor Disagrees	Total
	Scale Value (SV)	1.	2.	3.	4.	5.	
01.	The use of Technology in Tourism limits the job opportunities for local people	04	08	21	07	13	53
	Frequency x Scale Value	04	16	63	28	65	176 - VIII
02.	The use of Technology in Tourism is a setback to the jobs of Travel Agencies	04	11	16	07	15	53
	Frequency x Scale Value	04	22	48	28	75	177 - VII
03.	Online booking facility in Tourism leads to a heavy rush at tourist destinations	03	11	15	06	14	53
	Frequency x Scale Value	03	22	45	24	70	164 - X
04.	Technology exaggerates the facilities/ beauty of tourist destinations	01	12	18	08	16	53

	Frequency x Scale Value	01	24	54	32	80	191 - IV
05.	Technology absorbs the job opportunities of Tourist Guides	05	11	14	08	15	53
	Frequency x Scale Value	05	22	42	32	75	176 - IX
06.	Technology helps tourists plan budgeted tourist trips	04	01	22	08	18	53
	Frequency x Scale Value	04	02	66	32	90	194 - I
07.	Technology helps to connect people faster	02	03	22	11	15	53
	Frequency x Scale Value	02	06	66	44	75	193 - II
08.	Technology is making tourists self-reliant, leaving the travel agency business in the dark	03	09	16	06	19	53
	Frequency x Scale Value	03	18	48	24	95	188 - V
09.	Technology helps tourists greatly attracted by the developed tech-friendly tourist destinations	03	04	22	08	16	53
	Frequency x Scale Value	03	08	66	24	80	181 - VI
10.	Technology educates people about the accommodation and travelling charges	04	04	19	07	19	53
	Frequency x Scale Value	04	08	57	28	95	192 - III
	Total score for Expectations of the tourists from the role of technology in promoting tourism	—	—	—	—	—	1882
	Maximum Possible Score	5 (Maximum score points) 53 (number of responders) X 10 (number of statements)	—	—	—	—	2650
	Percentage of score of Expectations of the tourists from the role of technology in promoting tourism	Total score for expectations of the tourists/ Maximum Possible Score X 100	—	—	—	—	18.82
	Average	(18.82 x 100)					188

Source – Calculations based on the Primary Data collected through a questionnaire.

To calculate **Rank Order Priority** for perceptions of tourists on technology as a Digital Drive-in promoting tourism, we follow these steps:

Methodology:

- (i) **Assign Weights** to each response category:
 - a. Strongly Disagree = 1
 - b. Disagree = 2
 - c. Agree = 3
 - d. Strongly Agree = 4
 - e. Neither Agree nor Disagree = 5
- (ii) **Computed Weighted Scores:**
 - a. Multiply the number of responses in each category by its respective weights.
 - b. Sum up the total weighted score for each statement.
- (iii) **Rank Statements:**
 - a. Higher total weighted scores indicate higher priority.

The calculations are presented in a Ranking Table below:

Table 4: Rank Order Priority Table on the Role of Technology in Promoting Tourism

Rank	Statement	Weighted Score
1	Technology helps tourists plan budgeted tourist trips	194
2	Technology helps to connect people faster	193
3	Technology educates people about the accommodation and travel charges	192
4	Technology help tourist greatly attracted by the developed tech-friendly tourist destinations	189
5	Technology is making tourists self-reliant, leaving the travel agency business in the dark	188
6	Technology exaggerates the facilities/beauty of tourist destinations	185
7	The use of Technology in Tourism is a setback to the jobs of Travel Agencies	177
8	The use of Technology in Tourism limits the job opportunities for local people	176
9	Technology absorbs the job opportunities of Tourist Guides	176
10	Online booking facility in Tourism leads to a heavy rush at tourist destinations	164

Source- Primary Data collected through a questionnaire.

Table 5 - Perceptive Score Analysis of the Demographic Profile of Tourists on Technology as a Digital Drive in Promoting Tourism

Variables	N	Mean	Standard Deviation (SD)	Standard Error (SE)	F-Value	P-Value
(i) Adilabad (ii) Balaghat (iii) Bhopal (iv) Jabalpur (v) Jamalpur (vi) Katni (vi) Mandla (vii) Mumbai (viii) Narsingpur (ix) Satna (x) Shahdol (xi) Shajapur	11	3.92	9.79	2.83	∞	0.0

(i)Male	20					
(ii) Female	33	26.5	9.19	6.5	∞	0.0
(i)Less than 18	00					
(ii) 18 to 35	26					
(iii) 35 to 50	16	10.4	10.60	4.74	NaN	NaN
(iv) 50 to 60	07					
(v)65 Years & above	03					
(i)Unmarried	29					
(ii) Married	24	26.5	3.54	2.5	∞	0.0
(iii) Divorced/Widowed	-					
(i)Urbanite	45					
(ii) Ruralite	06	25.5	27.58	19.5	∞	0.0
(i)Hindu	41					
(ii) Muslim	05					
(iii) Sikh	01	9.6	17.66	7.90	NaN	NaN
(iv) Jain	01					
(v) Christian	00					
(i)Student	18					
(ii) Educationist	25					
(iii) Engineer	04					
(iv) Lawyer	00	8.67	10.39	4.24	NaN	NaN
(v) Doctor	00					
(vi) Consultant	05					
(i)Pleasure	30					
(ii) Conference	07					
(iii) Pilgrimage	09					
(iv) Visiting Relatives & Friends	23	11.25	9.79	3.46	∞	0.0
(v) Educational Trip	08					
(vi) Health Purpose	04					
(vii) Business Trip	06					
(viii) Sports	03					
(i)Yes	31					
(ii) No	07					
(iii) To some extent	07	10.2	11.82	5.29	∞	0.0
(iv) Not sure	02					
(v) No idea	04					

Source- Calculations based on Primary Data collected through a questionnaire.

The analysis of the perceptive scores regarding the role of technology in tourism reveals significant demographic variations. Gender differences are notable, with a P-value of 0.0 indicating statistically significant distinctions in perception. Age-wise, younger tourists (18-35) exhibit the highest perceptive scores, while data for older groups (50+) is incomplete. Marital status and urban-rural distinctions also

influence perceptions, with urban tourists displaying higher engagement. Among occupations, educationists and students dominate, while lawyers and doctors are underrepresented. Pleasure and visiting relatives are the primary travel purposes, emphasising leisure and familial connections. Wi-Fi usage is a crucial factor, with a majority affirming its importance. The high F-values (∞) suggest strong variability, while missing values (NaN) indicate gaps in data collection, particularly in age, religion, and occupation. Overall, the findings highlight the significant impact of demographic factors on tourists' perceptions of technology's role in promoting tourism, suggesting a need for further data collection in underrepresented categories.

The first Null Hypothesis (H_0) under study was that “The use of Technology does not impact the job opportunities of Travel Agencies negatively” This statement has scored 176 weighted scores and ranks 8th out of 10 statements. This states that there is no significant difference or effect between variables. The null hypothesis is the default assumption that is tested against the alternative hypothesis to conclude research data. Furthermore, H_0 states that the use of technology is not responsible for the reduction of job opportunities in the Travel Agency Sector. Therefore, we go with the null hypothesis and ignore the alternative hypothesis that states, “The use of Technology impacts the job opportunities of Travel Agencies negatively.

The second Null Hypothesis (H_0) under study was that “There is no relationship between the use of Technology and the planning of budget tourist trips.” As against this, the Alternative Hypothesis (H_2) is, “There is a relationship between the use of Technology and the planning of budgeted tourist trips”. The Alternative Hypothesis was ranked first under the Ranking Method, with a maximum weighted score of 194; therefore, we will proceed with the Alternative Hypothesis and disregard the Null Hypothesis.

The third Null Hypothesis (H_0) under study was that “There is no relationship between the use of Technology and awareness of accommodation and travelling charges”. Contrary to this, the Alternative Hypothesis (H_3) states that “There is a relationship between the use of Technology third under the ranking method and achieves a maximum weighted score of 192, which is the third-highest score among all scores. Hence, the Null Hypothesis is ignored as it did not receive a high rank, and its weighted score is also of low concern.

9. CONCLUSION

The study reveal that technology plays a decisive role in shaping tourists' behaviour, improving travel planning, and enhancing the overall tourism ecosystem in Madhya Pradesh. Based on the weighted ranking method, “technology helps tourists plan budgeted tourist trips” emerged as the highest-ranked outcome, indicating that digital platforms enable travellers to compare prices, select affordable accommodations, and optimise travel expenses. The second major outcome highlights that technology improves connectivity, allowing tourists to access real-time information, navigation tools, and communication services. The third outcome shows that digital technology significantly increases awareness about accommodation and travelling charges, promoting informed decision-making among travellers. The analysis further indicates that technology attracts tourists towards tech-enabled destinations, suggesting that areas equipped with Wi-Fi, online booking systems, and digital information platforms are more preferred. Another important outcome reveals that technology is gradually making tourists self-reliant, reducing dependence on traditional travel agencies. However, the results also show moderate concern regarding the impact of technology on local employment, particularly for tourist guides and travel agencies, though this effect is not strongly significant. Demographic analysis demonstrates that younger respondents and urban tourists are more inclined towards digital tourism tools, while rural tourists show comparatively lower adoption due to limited connectivity and digital literacy. A majority of respondents acknowledged the importance of internet availability at tourist destinations, confirming that Wi-Fi and mobile connectivity influence travel decisions. The study also identifies uneven technological adoption, with remote and lesser-known destinations lagging behind major tourist hubs.

Overall, the analytical outcomes confirm that technology positively influences tourism growth, improves accessibility, enhances tourist satisfaction, and supports economic development. At the same time, bridging the digital divide, improving infrastructure, and strengthening digital skills among stakeholders remain essential for achieving inclusive and sustainable tourism development. Madhya Pradesh state's tourism policy focuses on introducing smart, sustainable tourism, encouraging private investment, and offering substantial subsidies for building hotels, motels, and homestays. It has introduced digital platforms for boosting tourism, both domestic and foreign. There is limited high-speed connectivity in remote areas, especially in the tribal belt, as they still struggle for internet access.

Thus, there is an immense need for digital literacy and the establishment of digital platforms for bridging the technical gaps between the cities with high potential and underserved cities in remote areas. Thus, there is a need for tech-enabled sustainable tourism practices in regions like Pachmarhi, Amarkantak, Tamia, etc., which will bring them in line with other developed cities like Indore, Bhopal, Jabalpur, etc., for the overall growth of Madhya Pradesh. The study concludes that technology has emerged as a powerful catalyst in transforming the tourism sector of Madhya Pradesh by enhancing accessibility, improving travel planning, and increasing awareness about destinations. Digital tools such as online booking systems, mobile applications, and virtual platforms have enabled tourists to make informed decisions, plan budget-friendly trips, and become more self-reliant. The findings further indicate that technological advancements contribute to better connectivity and attract tourists to tech-enabled destinations, thereby supporting tourism growth and regional economic development.

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