

# Digital Transformation of the Hospitality Sector in Rajasthan: A Literature Review

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## Abstract

Digital transformation has become a pivotal driver of change in the hospitality industry, especially in culturally rich and tourist-centric regions like Rajasthan. By examining the current landscape, this study aims to provide insights into how digitalization is reshaping the hospitality industry in Rajasthan. This article explores the current status, potential opportunities, and prevailing challenges associated with the digital transformation of the hospitality sector in Rajasthan. It delves into the technological trends reshaping service delivery, customer engagement, and operational efficiency. The research further identifies the gaps in infrastructure, digital literacy, and policy frameworks that inhibit the seamless adoption of digital practices. It examines how the adoption of digital marketing and data analytics further enables targeted service offerings and strategic decision-making. Through a review of literature analysis, the study provides insights into how Rajasthan's hospitality sector can leverage digital innovation to remain competitive while preserving its rich cultural heritage. The methodology used is a systematic review of literature with a sample size of 16 papers, which aims to synthesize existing academic literature to identify and analyze key trends, opportunities, and challenges shaping the hospitality industry in Rajasthan.

## Keywords

Digital transformation, customer engagement, operational efficiency

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## Introduction

A popular tourist destination in India, Rajasthan is known as the ‘land of kings’ and is well known for its magnificent forts, lavish palaces, lively festivals, and rich cultural legacy. From the sand dunes of the Thar Desert to the bustling bazaars of Jaipur and the serene lakes of Udaipur, Rajasthan offers a unique blend of historical grandeur and traditional hospitality. With its substantial contributions to infrastructure development, job creation and heritage preservation, Rajasthan’s tourism sector is vital to the state’s economy. Rajasthan is not an exception to the way that the world’s tourist industry has been changing recently due to its shift toward digital technology. The integration of digital tools and platforms into the tourism and hospitality sectors has transformed how tourists plan, experience, and share their journeys. From online bookings and digital payments to virtual tours and AI-powered customer service, digitalization is enabling a more seamless and personalized travel experience. Furthermore, government initiatives such as Digital India and the Rajasthan Tourism Policy 2020 have encouraged the adoption of smart tourism practices, especially in urban centers like Jaipur, Udaipur and Jodhpur. Over the past decade, the hospitality industry in the state has witnessed several evolving trends influenced by globalization, technological advancement, customer preferences, and policy interventions. Rajasthan’s tourism ranking has gone up from the eleventh position to the seventh position on national and international scales in 2023, all thanks to the government’s tourism policies (Mehta & Joshi, 2024).

Despite these advancements, the adoption of digital technologies in Rajasthan’s tourism sector remains uneven. While luxury hotels and urban establishments have embraced digital solutions, many rural and heritage properties face challenges related to infrastructure, digital literacy, and financial constraints. As the industry evolves, there is a pressing need to explore how digital transformation can be harnessed more inclusively and effectively across the state. This article seeks to analyze how digitalization and tourism interact in Rajasthan, stressing both the advantages and disadvantages of this change. It seeks to provide insights into how digital innovation can enhance service delivery, boost competitiveness, and preserve the state’s cultural heritage while ensuring sustainable and inclusive tourism development.

Although existing literature acknowledges the increasing influence of digital technology in tourism globally and in India, there is a notable lack of region-specific, empirical research examining how this transformation unfolds across diverse geographies and socioeconomic contexts within a single state like Rajasthan. Most studies to date focus on the broader benefits of digitalization or success stories in urban settings, overlooking the disparities in adoption between urban and rural tourism operators, and between large-scale businesses and small or heritage property owners. Furthermore, there is limited research on how digital technologies can be tailored to preserve cultural heritage while supporting sustainable and inclusive tourism development. This study addresses this gap by exploring the nuanced interaction between digitalization and tourism in Rajasthan, identifying barriers to widespread adoption, and offering strategies for inclusive digital transformation that align with both economic goals and heritage conservation imperatives.

## Methodology

This study adopts a qualitative secondary research approach, relying on the analysis of existing literature, industry reports, government publications, and credible online sources to explore the digital transformation of the hospitality sector in Rajasthan. This study aims to evaluate the digital transformation in Rajasthan's hospitality sector using a review of literature approach. Studies were selected based on relevance, quality, and novelty. The inclusion criteria for selecting articles in the literature review were carefully defined to ensure relevance and quality. Studies published between 2013 and 2024 were considered to capture recent and up-to-date findings. Only articles written in English were included to maintain consistency and clarity in understanding. The review focused on peer-reviewed journal articles and systematic reviews to ensure the credibility and scholarly value of the sources. The selected studies involved relevant populations and articles that specifically discussed digital tools, practices, and impacts in hospitality or tourism sectors relevant to India or similar developing regions. Terms like technologies like AI, cloud computing, IoT, CRM, PMS, digital marketing are used. Searches for relevant literature and data were conducted across multiple reputable academic databases to ensure comprehensive coverage. Scopus, Web of Science, Google Scholar, and JSTOR were among the search engines used.

Studies were excluded from the review that focused on sectors other than hospitality or if they did not explicitly address aspects of digital transformation. Additionally, studies published before 2013, those not written in English, and sources that were not peer-reviewed, such as editorials, opinion pieces, or news articles, were not considered.

## Objectives

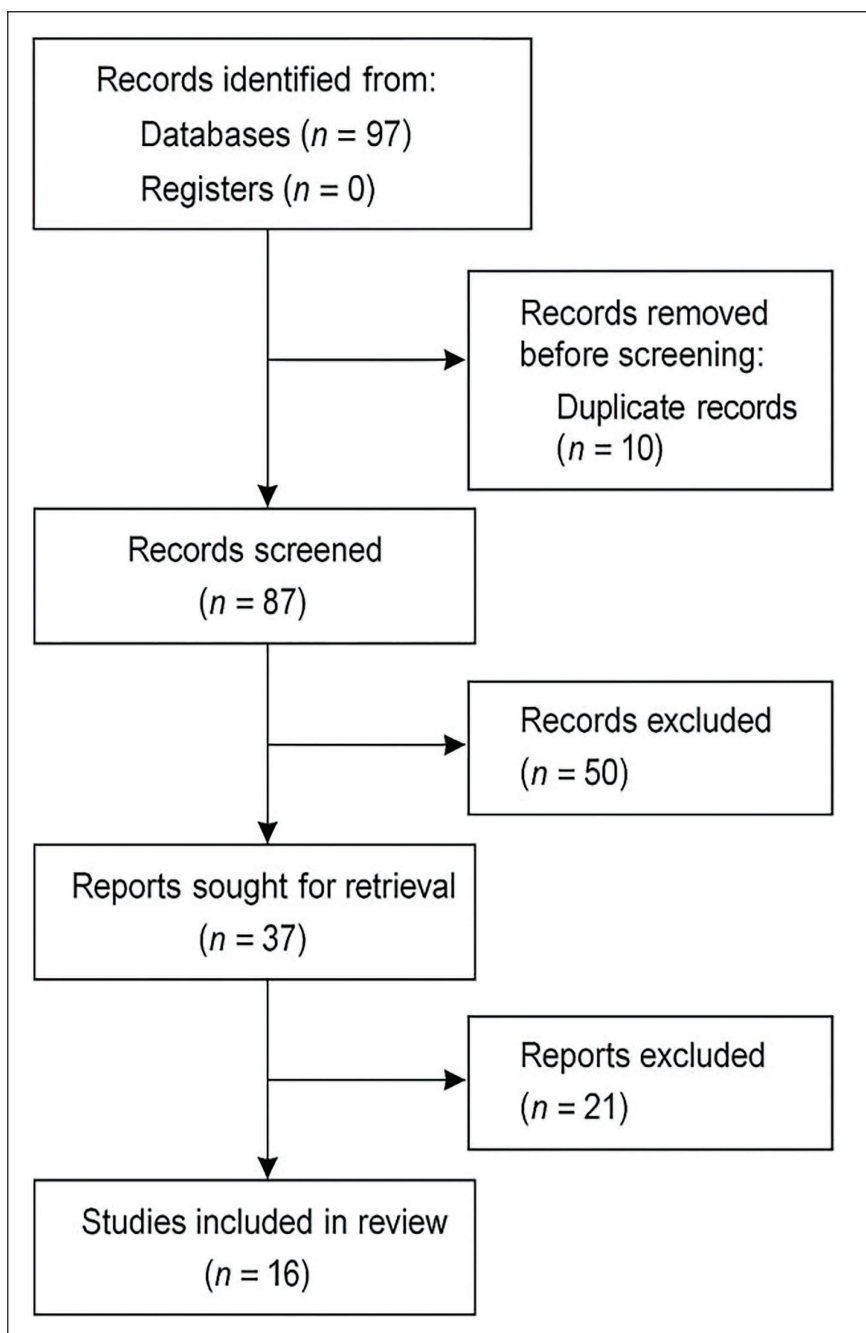
- To critically assess the trajectory and patterns of digital adoption within the hospitality sector in Rajasthan.
- To examine the opportunities emerging from digital transformation and to systematically analyze the key challenges hindering effective digital implementation.

## Review Process

A total of 97 articles were initially retrieved. After screening for duplicates, relevance, and quality, 16 studies were included in the final review (Figure 1).

## Findings and Suggestions

Recent literature underscores the growing significance of digital technologies in shaping marketing strategies, consumer engagement and operational efficiency within India's hospitality and tourism sectors (Table 1). Digital tools such as GDS, PMS, CRS, and DMS have revolutionized planning, management, and service delivery (Bhatt, 2013), while advanced technologies such as AI, big data,



**Figure 1.** PRISMA Flow Diagram.

**Table I.** Digitalization in the Hospitality Industry Literature Review.

Author	Year	Theme	Key Findings	Methodology
Anjana Singh and S. Munjal	2021	Hospitality and tourism industry in the digital era	<ul style="list-style-type: none"> <li>– The significance of digital technology in marketing.</li> <li>– Influencers and internet reviews' effects on consumer choices.</li> <li>– Current digital trends in industry.</li> </ul>	<ul style="list-style-type: none"> <li>– Analysis of influencers and online reviews.</li> <li>– Gathering perspectives from industry leaders, digital agencies, restaurant owners, and tech consumers.</li> </ul>
Lalit Mohan Bhatt	2013	Impact of artificial intelligence and chatbots	<ul style="list-style-type: none"> <li>– IT and communication technology's importance to industry development.</li> <li>– Planning, managing, and marketing services are done by ICT like GDS, CRS, PMS, and DMS.</li> </ul>	<ul style="list-style-type: none"> <li>– The research methodology used in this research paper is qualitative and exploratory, specifically using a descriptive research approach.</li> </ul>
A. Verhul	2022	The shift toward a digitalized economy	<ul style="list-style-type: none"> <li>– There is a trend toward self-booking and travel arrangements through online agencies.</li> <li>– The online travel market is growing, with e-commerce sites.</li> <li>– Cloud computing, big data, block chain and travel apps are being widely used in the industry.</li> </ul>	<ul style="list-style-type: none"> <li>– Qualitative design</li> <li>– Content analysis of hospitality and tourism industry company websites.</li> <li>– Statistical analysis of digitalization indicators</li> </ul>
Rashmeet Kapoor and Kushagra Kapoor	2021	Challenges faced in the transition to digital marketing	<ul style="list-style-type: none"> <li>– E-marketing tools are adopted in five-star hotels in India.</li> <li>– Scope and challenges of artificial intelligence in the Indian hospitality industry.</li> <li>– How digitalization has benefited the industry compared to traditional marketing methods.</li> </ul>	<ul style="list-style-type: none"> <li>– Qualitative approach</li> <li>– Data collection through one-on-one telephonic interviews (some in questionnaire format)</li> <li>– Round-table conference with general managers and marketing communication managers of 30 New Delhi/NCR hotels</li> </ul>

(Table I continued)

(Table 1 continued)

Author	Year	Theme	Key Findings	Methodology
Jyoti Jhahhra	2024	Trends in the hospitality sector	<ul style="list-style-type: none"><li>– Industry is inclined toward digital transformations due to growing digital demand and ubiquitous connectivity.</li><li>– Digital transformation and customer-centric approaches are impacting the marketing environment.</li><li>– Technology is the most pertinent trend in the hospitality sector.</li></ul>	<ul style="list-style-type: none"><li>– The study appears to use a descriptive or exploratory methodology.</li><li>– This study is based on qualitative evaluations of literature.</li><li>– The study reviewed articles published in various hospitality research journals.</li></ul>
Pawan Kumar, Shivani Dubey, and Ajay Kumar Sahu	2022	Artificial intelligence and automation in operations	<ul style="list-style-type: none"><li>– The travel industry is significantly impacted by digital innovations such as AI, big data, mobile apps, social media and VR/AR.</li><li>– Growing trend toward digital platforms for travel planning and booking, with high usage of online websites, voice search, and mobile devices.</li></ul>	<ul style="list-style-type: none"><li>– The paper is a review article, which involves a comprehensive analysis of existing literature on digital tourism in India, focusing on economic impact, trends, and technological roles.</li></ul>
Garima Mishra	2024	Social media and influencer-driven brand building	<ul style="list-style-type: none"><li>– Social media significantly influence tourists' perceptions and travel decisions in Rajasthan.</li><li>– The strategic use of social media has revolutionized Rajasthan's tourism.</li></ul>	<ul style="list-style-type: none"><li>– Personal observations and secondary data collection from reputable sources such as books, government reports, articles, and periodicals.</li><li>– A comprehensive search through online sources and social websites.</li></ul>

(Table 1 continued)

(Table 1 continued)

Author	Year	Theme	Key Findings	Methodology
E. Nikolskaya	2021	The impact of digital technologies	<ul style="list-style-type: none"><li>– The hospitality business is information-dense and needs cutting-edge digital technologies for its advancement.</li><li>– Digital technologies are essential for integration, communication, service quality and information transfer.</li><li>– The implementation of digital systems offers opportunities for resource saving and efficiency improvements.</li></ul>	<ul style="list-style-type: none"><li>– Logical, inductive, deductive, analytical, synthesis, and systematization techniques.</li><li>– Use of statistical data from state bodies and legislative documents.</li><li>– Incorporation of results from scientific research.</li></ul>
Prakash Meena and Bathini Lokesh	2024	Technology for HR transformation	<ul style="list-style-type: none"><li>– Opportunities and technical barriers for HR change in historic hotels, with technology being a key component in overcoming these obstacles.</li><li>– Relationship between technology adoption and organizational performance.</li><li>– The ANOVA test shows differences in technology platform usage among hotels, with notable returns on investment such as cost savings and increased productivity.</li></ul>	<ul style="list-style-type: none"><li>– Descriptive research methodology</li><li>– Primary data collection: surveys, interviews, and focus groups with HR professionals, employees, and technology providers</li><li>– Secondary data: literature reviews and industry publications.</li><li>– Quantitative data analysis: Microsoft Excel, Google Sheets, and one-way ANOVA test.</li></ul>
Prof. Subodh Kumar and Ashutosh Sharma	2024	Prospects and future developments in the digital economy.	<ul style="list-style-type: none"><li>– The impact of recent technological advancements on the travel and hospitality industries.</li><li>– Digitalization has significantly enhanced operational efficiency and personalized guest experiences.</li><li>– New opportunities for growth and innovation in the industry.</li></ul>	<ul style="list-style-type: none"><li>– The methodology involves a descriptive analysis.</li><li>– The study likely uses a literature review approach to explore these effects.</li></ul>

(Table 1 continued)

(Table 1 continued)

Author	Year	Theme	Key Findings	Methodology
S. Munjal and Anjana Singh	2021	Adoption of emerging technologies.	<ul style="list-style-type: none"><li>– The significance of the digital push in data analytics and marketing.</li><li>– Technology must be used promptly in the hospitality sector.</li><li>– Digital marketing is becoming a critical element of marketing.</li></ul>	<ul style="list-style-type: none"><li>– To determine how the Indian hospitality and tourism industry has responded to digitization, the process entails analyzing and summarizing previous research findings.</li></ul>
	2018	E-marketing and e-commerce	<ul style="list-style-type: none"><li>– Tourism businesses in the Hadoti region lacked a strong digital presence, limiting their visibility to potential tourists.</li><li>– E-marketing tools such as social media, SEO, and email marketing are used less.</li><li>– Significant gap in e-commerce integration, with few enterprises offering online booking or payment options.</li><li>– A noticeable gap exists in digital literacy and awareness among stakeholders.</li></ul>	<ul style="list-style-type: none"><li>– Exploratory research design is used in this research.</li></ul>
Dr. Anukrati Sharma and Om Prakash Rishi	2024	Difficulties in making the switch to digital marketing	<ul style="list-style-type: none"><li>– Technological innovations are significantly impacting the hospitality sector, particularly in areas like smart hotels, AR/VR experiences, and AI-powered customization.</li><li>– The study highlights both the advantages and challenges of technological advancement.</li></ul>	<ul style="list-style-type: none"><li>– The study employed an integrated literature review technique, analyzing previous and current studies.</li><li>– Sources included lectures, conference proceedings, internet publications, journals and books.</li><li>– Analytical, synthesis, critical thinking, and generalization techniques were used.</li></ul>

(Table 1 continued)



(Table 1 continued)

Author	Year	Theme	Key Findings	Methodology
Deborah RoseShylla Passah and Ashok Kumar	2019	Digital payment systems and contactless services	<ul style="list-style-type: none"><li>– The tourism sector in India is rapidly growing and contributes to India's GDP, ranking seventh globally.</li><li>– The study explores the digitalization process and its impact on promoting cashless tourism practices.</li><li>– Challenges faced by small and medium tourism enterprises and tourists.</li></ul>	<ul style="list-style-type: none"><li>– The study is an explorative study that reviews the process of digitalization and innovation in digital payment systems to promote cashless tourism practices in India.</li></ul>
Ozgur Ozdemir, Tarik Dogru, Murat Kizildag, Ezgi Erkmen	2023	Future outlook: embracing smart tourism	<ul style="list-style-type: none"><li>– Digitalization in the hospitality industry is still in its infancy in terms of adoption and value creation.</li><li>– Stakeholders stand to benefit from opportunities from existing and emerging digitalization applications.</li></ul>	<ul style="list-style-type: none"><li>– The study is a conceptual, critical reflection paper involving the authors' assessment and reflection on current digitalization efforts in the hospitality and tourism industry.</li></ul>
A. Tanwar	2022	New job roles and skills in the digital tourism era	<ul style="list-style-type: none"><li>– Rural tourism patterns and trends in the Shekhawati region.</li><li>– From the standpoint of rural tourism, the study aims to advance the enhancement of Shekhawati as a travel destination.</li><li>– Social impact of rural tourism on the local culture.</li></ul>	<ul style="list-style-type: none"><li>– A random sampling technique is used to collect the sample from respondents.</li><li>– Primary data were collected from respondents by surveys, questionnaires, and interview methods.</li></ul>

cloud computing, and block chain are enabling personalized experiences and enhanced decision-making (Kumar & Sharma, 2024; Verhun, 2022). A consistent theme is the transition from traditional to digital marketing, particularly in luxury hotels, with increased adoption of e-marketing, social media, and influencer-based strategies to influence tourist behavior (Kapoor & Kapoor, 2021; Mishra, 2024). Digitalization also plays a vital role in improving internal operations, from HR functions in heritage hotels to guest satisfaction through mobile apps, automated systems, and integrated digital platforms (Meena & Lokesh, 2024; Singh & Munjal, 2021). Studies highlight its potential to boost customer retention, productivity, and global competitiveness (Munjal & Singh, 2021; Ozdemir et al., 2023). However, digital adoption is uneven across regions. Areas like Hadoti face infrastructural and awareness challenges (Sharma & Rishi, 2017), while rural tourism regions such as Shekhawati show untapped potential for digital-led cultural and employment growth (Tanwar, 2022). The need for training, financial literacy, and infrastructure remains critical, particularly for SMEs and rural stakeholders (Passah & Kumar, 2019; Prasanth, 2024).

To address these issues, it is recommended that the Rajasthan tourism and hospitality ecosystem prioritize targeted government support in the form of subsidies and digital transformation grants for SMEs. Enhancing digital infrastructure in rural areas through public–private partnerships is critical. Parallel to this, digital literacy and skills training for hospitality staff should be expanded through local academic institutions and tourism boards. Organizations can use a digital maturity model as a framework to evaluate their present state of digital transformation or maturity. It offers a methodical way to assess how successfully a company has incorporated digital technology into its procedures, values, and plans. Businesses may use the approach to prioritize projects, find gaps, and develop a digital progress plan. Heritage hotels should be guided to adopt hybrid service models that balance technology with personalized hospitality, preserving cultural authenticity while improving efficiency. Cybersecurity awareness and data protection protocols must be promoted through state-level guidelines, and affordable security solutions should be made accessible to small businesses. Overall, a regionally adaptive, equity-driven approach to digital transformation is essential to ensure Rajasthan’s hospitality industry thrives sustainably in the digital age.

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