Scriptora International Journal of Research and Innovation (SIJRI)
Journal Homepage: https://scriptora.org

# Digital Interventions in Heritage Tourism: Examining the Role of PRASHANT and Swadesh Darshan Schemes in Preserving and Promoting Uttar Pradesh's Cultural and Architectural Circuits

**Dr. Aditi**
Assistant Professor (History)
School of Liberal Arts
K. R. Mangalam University, Gurugram (Haryana)

**Neeraj Chaturvedi**
Research Scholar
Jiwaji University, Gwalior (M.P.)

## Abstract

The heritage tourism is also being transformed by the digital technologies, which improved the connection with the visitors, revitalized the cultural narratives, and strengthened the preservation efforts. The paper examines how the cultural and architectural heritage of Uttar Pradesh has been retained and promoted through the two new projects in India, one of which covers PRASHANT, a digital intervention model that seeks to promote heritage awareness of particular regions, and Swadesh Darshan Scheme, a central-government programme that seeks to create theme-based tourism circuits. The paper will focus on the ways in which the integration of the digital solutions, including interactive mobile applications, virtual walkthroughs, GIS maps and heritage interpretation applications, as a subset of PRASHANT, can introduce more accessible and interactive experiences to the tourist. It also speculates how the circuit-based development of Swadesh Darshan, particularly in Buddhist, Ramayana and architectural heritage circuit, will create a facilitating infrastructure on which the digital strategies will prosper. The research uses a mixed-methodology that includes the analysis of the documents, field observations, and the stakeholder interviews with the tourism staff, conservation experts, and the local communities as the means of studying the success, difficulty, and sustainability of long-term prosperity of such interventions. The results point to the fact that PRASHANT digital projects enhance heritage literacy, diversify visitor profiles, and mitigate excessive strain on vulnerable sites with the help of virtual alternatives. At the same time, the physical and interpretive improvement of Swadesh Darshan preconditions the necessary base on which digital mediums will be able to take off. Nonetheless, there are still gaps in digital access, multilingual content, training on the community level, and maintenance of technological assets in the long term.

The paper concludes that the interaction of digital intervention and infrastructural development is a strong force that improves the heritage tourism in Uttar Pradesh. To maintain these gains, it is essential to strengthen the involvement of the people on the ground, guarantee the integrity of data, and increase digital inclusiveness. The paper highlights the increasing prospects of the integrated digital schemes to conserve, understand and market the rich cultural and architectural routes in India more vibrant and accountable.

**Keywords**: Digital heritage; Tourism circuits; PRASHANT scheme; Swadesh Darshan; Cultural preservation; Architectural heritage; Uttar Pradesh tourism; Virtual interpretation; GIS mapping; Heritage promotion; Digital interventions; Sustainable tourism development.

## 1. Introduction

Heritage tourism has emerged as a vital avenue for cultural preservation and economic development in India, particularly in states endowed with diverse historical assets such as Uttar Pradesh. Known for its rich architectural

Heritage tourism has become an important source of cultural protection as well as economic growth in India especially those states that have a wide range of historical resources like the state of Uttar Pradesh. Uttar Pradesh is a region with a rich architectural heritage, sacred territories and rich traditions that draws millions of domestic and international tourists.
each year. But the issues of conservation, asymmetrical tourist participation, and lack of interpretive services are problematic.
There has always been a potential limit on the sector by infrastructure. Over the past few years, the Government of India has launched a series of digital and policy-related projects that have been designed to improve preservation activities, as well as visitor experience. The PRASHANT portal, which is aimed at simplifying the heritage documentation process and allowing people to access cultural information, and the Swadesh Darshan Scheme, which was conceived as a way to develop tourist circuits on a thematic basis, through integrated planning, have become more visible in a list of them.
Intersection of heritage conservation and digital technology can provide new opportunities to enhance the level of awareness, promote sustainable tourism, and help communities to be involved. However, there is limited systematic academic evaluation on the effect of these initiatives on heritage tourism in Uttar Pradesh. Their practical effect on the state is an important phenomenon to understand because of the complicated combination of world-known monuments, smaller archaeological locations, and still-existing cultural practices of the state.
This paper looks at how PRASHANT and Swadesh Darshan Scheme contribute to the maintenance and development of some of the cultural and architectural circuits in Uttar Pradesh. It discusses the ways in which digital interfaces, strategic circuit development and enhanced visitor engagement could be reinforced by using an improved heritage interpretation to conserve the historical integrity. Through the analysis of policy frameworks, actual real-life applications, and experiences, the paper aims to assess the efficiency of these interventions and pinpoint the areas of further improvement. Finally, the study will also seek to add to the current debates regarding digital heritage management and its role in developing a more inclusive, more informed and sustainable model of heritage tourism in Uttar Pradesh.

## 2. Background of the study

The heritage tourism in India is at the center of the cultural identity and economic development of the country. India is the place that caters to both domestic and international travellers who want to experience the authentic culture of the land with its numerous monuments, archeological sites, sacred geographies, and living traditions. Uttar Pradesh is especially important to the national heritage. The seat of ancient cultures, the mother of major religious ones, and the owner of those sites that become known all over the world, Varanasi, Ayodhya, Sarnath, Mathura, Agra, and Lucknow, the state is the location of an unrivaled agglomeration of cultural and architectural resources. Uttar Pradesh with all its rich heritage, the opportunities in the tourism industry had not been harnessed keeping with the infrastructural lapses, lack of digital connectivity, inconsistent promotion policies and unresponsive mechanisms of visitor interaction. The Government of India has, over the last ten years, focused on revitalizing heritage tourism, using both the combined policy-based approaches and the interventions. One of these is the Swadesh Darshan Scheme which has become one of the flagship initiatives in the development of theme-based tourism circuits, and reinforcement of infrastructure in the proximity of the heritage sites. Swadesh Darshan encourages an integrated strategy within the holiday sites since most of these sites are interconnected and this strategy will maximize visitor experience, accessibility, and economic impact on the region. Such initiatives have been complemented by the state level efforts such as PRASHANT (where the programme is: Programme to the Revival, Advancement and Sustainable Heritage of Ancient Nodes and Traditions) that has been implemented to strengthen the management of the heritage, marketing of cultural resources and the application of sustainable development practices to the tourism industry in Uttar Pradesh. Collectively, these schemes are a tremendous move towards organized, technology-facilitated and community-involved approaches to heritage conservation and marketing. Digital transformation has taken its place as a key element of modern heritage tourism. The virtual tours, interactive mobile apps, GIS mapping, digital archives, augmented reality (AR), and real-time visitor information systems are becoming increasingly popular technologies in the world, to make heritage more accessible, engaging, and sustainable. Even in India, digital tools are slowly being incorporated into the tourism plans to enhance the interpretation of the sites, visitor satisfaction and the extension of the visibility of the less known heritage nodes. Uttar Pradesh being a state where the tourism circuits are abundant is likely to gain significantly through digital integration- especially in the domains of managing crowds at the tourist sites, recording the intangible heritage, regional circuit promotion and credible information dissemination to the travellers. Although the importance of digital interventions in tourism is increasingly becoming relevant, the current state of knowledge of heritage management in Uttar Pradesh is rather insufficient, particularly regarding the assessment of how government schemes integrate digital opportunities to conserve and promote cultural and architectural circuits. Although Swadesh Darshan and PRASHANT both emphasize the role of modernization, sustainability and tourist-centered development, there is a lack of scholarly research on the complexity, performance,

and difficulties of digital aspects of these two initiatives. In addition, the particular effects of such schemes on heritage management, on destination branding and visitor interaction in the state are not fully studied. This work aims to address this gap by researching the role of digital interventions in the context of PRASHANT and Swadesh Darshan, and by examining the contribution of these two efforts to heritage circuit preservation and promotion in Uttar Pradesh. Through the evaluation of digital tools, strategies of implementation and ground-level deliverables, the study will provide information about the changing relationship between technology, tourism policy, and cultural heritage preservation within one of the most important regions in the history of India.

**3. Justification**

The heritage tourism in Uttar Pradesh has an extraordinary national and international value because the state has a vast cultural, architectural and historical reserve. Nonetheless, the industry has a solid heritage base, which has been plagued by preservation, visitor attraction, lack of access to information, poor interpretation of heritage sites, and inequivalent development of regions. Government-led digital programs, especially the PRASHANT and Swadesh Darshan programs, have become a strategic intervention in recent years that seek to enhance the management of heritage, tourist experiences, and sustainable cultural circuits. However, the reality on the ground about the effect, effectiveness of implementation as well as the transformational potentiality of these digital elements is still unexplored in the scholarly literature. This is the gap which gives solid grounds to the current research.

Virtual walkthroughs, GIS mapping, intelligent signage, mobile applications and digital storytelling are some of the digital tools that increasingly influence global heritage tourism. The comprehension of the current level of adoption of similar technologies in the state of Uttar Pradesh helps to better determine whether these interventions are fulfilling their desired objectives of conservation, community involvement and visitor interaction or not. The PRASHANT and Swadesh Darshan schemes as they merge digital innovation and traditional heritage conservation offer a perfect setting where one may examine the interaction of the three components, namely technology, culture, and policy.

In addition to this, Uttar Pradesh has various cultural circuits, including the Buddhist circuit, Braj circuit, Awadh circuit, Bundelkhand circuit and the Architectural circuit of Mughal, Medieval and Colonial heritage. These circuits are given different degrees of attention, funds and incorporation of the digital world. Assessment of government schemes in these circuits can be used to identify discrepancy, successes and points where policy improvements must be conducted. They can be useful to policy makers, tourism planners, digital heritage practitioners and local stakeholders interested in sustainable tourism development.

The research is also defensible on the basis that heritage tourism is a growingly being considered as a source of livelihood generation, cultural preservation as well as regional identity. Digital interventions can make heritage more democratic, more inclusive, and preserve it in the long term in the face of urbanization and mass tourism pressures. The research can aid in informing policy making by evaluating the effectiveness of the PRASHANT and Swadesh Darshan schemes in order to support these results.

Lastly, the paper fills a gap that is in great demand because it is necessary to record and assess the current changes in heritage governance that are happening through digital means. With a transformation of the tourism ecosystem in terms of smart, resilient and technology-focused forms, scholarly research of these changes is imperative. The study hence has practical, scholarly and social applicability in that it provides an in-depth insight into how digital projects can reinforce the preservation and promotion of the cultural and architectural heritage of Uttar Pradesh.

**4. Objectives of the Study**

1. To evaluate the role of the digital interventions generated through the PRASHANT and Swadesh Darshan schemes in the preservation, documentation and subsequent protection of the Uttar Pradesh cultural and architectural heritage circuits.
2. To investigate how digital tools, including virtual tours, mobile applications, digital signage, and GIS-based mapping, can improve tourist awareness, engagement and accessibility at heritage sites.
3. To examine how much these government plans have enhanced the infrastructure of heritage tourism and enhanced visitor experiences in key cultural and architectural circuits in Uttar Pradesh.
4. To assess the stakeholder perception, such as the local communities, heritage managers, tourism officials, and visitors, as to the effect of digital interventions on preserving heritage and promoting tourism.
5. To define the most important opportunities and challenges related to the implementation of the digital technologies in heritage tourism in the state.

**5. Literature Review**

**1. Digital technologies and heritage tourism: concepts and evidence**

According to more recent syntheses, digital technologies (3D scanning, photogrammetry, augmented/virtual reality, mobile apps, QR/geo-tagging, multimedia storytelling) are now the key instruments of preserving heritage resources as well as mediating visitor experiences. Authors assess the ways these tools can be used to create high-fidelity digital

records, remote access (virtual visitation), and layer interpretive material, which can enhance engagement, accessibility and education, and decrease the pressure on fragile sites. Trade-offs are also apparent in the literature: digital mediation will never be a complete replacement of embodied experience, and adoption of technology becomes questionable in terms of costs, maintenance, and local capacity.

Empirical research of AR/VR applications highlights that visitors of younger and high-tech age are more willing to utilize immersive digital services, with older or low-connectivity categories of visitors being more willing to utilize on-site interpretation approaches, implying that a mixed approach is needed to achieve inclusivity. The scholarship also records that besides facilitating tourism, 3D documentation also assists in conservation as it gives archeological reference data to monitor and restore.

**2. Digital interventions in the Indian heritage context**

The policies and projects of digital enablement of the heritage sector in India have been accelerated over the last several years. Research and practice literature regarding Indian sites identifies promising pilot projects (mobile audio guides, QR-code narratives, AR installations, virtual museums), which are typically university-led. These projects emphasize language accessibility, information co-production with local professionals, as well as offline functionality as the important success factors in low-connectivity places. Nevertheless, there is limited rigorous impact assessment literature: a number of projects report usage or visitor satisfaction rates but few of them assess long-term conservation, local economic, or change in heritage perception rates.

**3. PRASHAD and Swadesh Darshan schemes: mandates and digital potential**

At the national policy level, the major central programs of financing and organizing tourism/heritage infrastructure projects are the PRASHAD (National Mission on Pilgrimage Rejuvenation and Spiritual Heritage Augmentation Drive) and Swadesh Darshan (theme-based tourist circuit development) schemes. The two schemes specifically cover destination management, infrastructure, interpretation and, in recent guidelines, digitally-enabled resources, including portals, signage, and marketing platforms. The guidelines of Swadesh Darshan 2.0 to be specific, demand centralized portal and destination management and marketing indicating institutional readiness to adopt digital integration. Press releases and project lists show that the two schemes have approved various projects in Uttar Pradesh (heritage circuits, Ramayana/Ramayanic and spiritual circuits and development of specific sites like Ayodhya, Chitrakoot and Kalinjar Fort). These approved investments establish tangible prospects to introduce digital interpretation, documentation and visitor-management systems into on-site upgrades as opposed to perceiving digital add-ons as secondary.

**4. Evidence from Uttar Pradesh: examples of digital practice and policy uptake**

Uttar Pradesh has state and local programs that demonstrate actual implementations in line with national programs. According to recent media and government reports, there are: multilingual audio tours (planned/rolled out in major destinations in the UP) based on the use of QR codes, mobile applications to create virtual tours designed by university teams, and infrastructure projects funded by the scheme that include specifications of visitor information system and digital portals. These illustrate how a transition towards the idea of a purely physical infrastructure is changing to that of a hybrid package, capable of providing interpretation and accessibility as well as marketing advantages when properly designed and locally supported.

Nevertheless, repetitive constraints mentioned in the literature also appear in the UP examples: reliance on central funding cycles, unpredictable local technical capacity to create or maintain content, language/localization disparity, and absence of systematic evaluation of the conservation or economic impact of digital interventions. Simply put, projects are present, yet there is still a lack of rigorous longitudinal appraisal and measures of standard outcome.

**5.Gaps in the literature and implications for the proposed study**

Two gaps in research are particularly relevant to a study about digital intervention in the context of PRASHAD/Swadesh Darshan in UP:

- **Impact evaluation gap** — Most documentation reports project outputs (apps built, QR codes deployed, portals launched) rather than outcomes (changes in visitor learning, conservation status, or community livelihoods). Measuring conservation outcomes and socio-economic spillovers remains limited.
- **Governance and sustainability gap** — There is limited analysis of long-term governance: who updates content, finances server/maintenance costs, and integrates digital outputs into formal site management plans once central funding ends. National guidelines encourage portals and marketing support, but operational models for sustainability are under-researched.

Addressing these gaps requires mixed methods (usage analytics + visitor surveys + interviews with officials and community stakeholders + technical audits of digital assets) to connect digital artefacts to conservation, visitation, and livelihood outcomes. The literature suggests a quasi-experimental or longitudinal approach will be most convincing for attributing observed changes to digital interventions embedded within PRASHAD/SDS projects.

**6. Material and Methodology**

### 6.1 Research Design

The research design used in this study is a mixed-method research design, which aims at exploring the role of the PRASHANT program and Swadesh Darshan scheme in the conservation and conservation of cultural and architectural heritage circuits in Uttar Pradesh. The design incorporates elements of descriptive, exploratory, and analytical design.

The descriptive element records the kind of digital means, interpretive technologies, and heritage-based interventions that are being presented under the two plans. The exploratory aspect aims at getting answers to how such interventions are perceived by the tourists, local stakeholders and the heritage managers. The analytical aspect judges the degree to what digital tools, including mobile guides, virtual walkthroughs, GIS mapping, and digital signage, can improve the outcome of awareness, accessibility, and heritage conservation.

There are two strands both qualitative and quantitative, which run simultaneously. The quantitative analysis is based on the survey of the tourists and the stakeholders of heritage circuits like Varanasi, Agra, Lucknow, Chitrakoot and Bundelkhand. The qualitative analysis will be based on the structured interviews and the observational records of the site visits and the review of the government project reports, guidelines and progress reports of the two schemes.

The intersection of the two streams of data can be followed in favor of the complete comprehension of digital interventions in heritage tourism.

### 6.2 Data Collection Methods

**Primary Data**

1. **Field Surveys:** The domestic and international tourists who visit some specific heritage circuits were issued with structured questionnaires. There were questions oriented to the level of awareness of digital tools, ease of use, the perception of usefulness, and the role of digital tools in the heritage experience.
2. **Key Informant Interviews:** Interviews with officials at tourism departments, managers of heritage sites, developers of digital platforms, local guides, and representatives of the community in semi-structured format were held. These interviews revealed the issues of implementation, policy directions, and digital adoption.

**Secondary Data**

1. Government documents and reports related to PRASHANT, Swadesh Darshan, and state-level tourism policies.
2. Project evaluation documents, feasibility reports, and scheme guidelines issued by national and state agencies.
3. Academic literature on digital heritage, tourism management, cultural preservation, and digital outreach mechanisms.
4. Media releases, online archives, and official portals containing scheme updates, pilot projects, and circuit-specific developments.

Secondary sources were used to contextualize field findings, trace the evolution of the two schemes, and support interpretation of primary data.

### 6.3 Inclusion and Exclusion Criteria

**Inclusion Criteria**

1. **Geographical Scope:** Heritage circuits located within Uttar Pradesh that are officially recognized under PRASHANT or Swadesh Darshan development plans.
2. **Participants:**
    - Tourists aged 18 years or above visiting selected heritage sites.
    - Officials, heritage professionals, digital platform developers, and community members directly engaged in implementing or using digital interventions.
3. **Interventions Studied:** Digital tools such as QR codes, virtual tours, mobile applications, GIS-based maps, digital kiosks, interactive screens, and online promotional material.
4. **Documents:** Government reports, guideline documents, project descriptions, annual plan statements, and progress reports relevant to the two schemes.

**Exclusion Criteria**

1. Heritage sites in Uttar Pradesh not covered by PRASHANT or Swadesh Darshan.
2. Respondents below 18 years of age due to consent-related limitations.
3. Digital interventions unrelated to heritage, such as administrative or revenue-related platforms.
4. Informal online content with unverifiable sources, user-generated blogs, or promotional material lacking official endorsement.

### 6.4 Ethical Considerations

The ethical protection was observed at all levels of the research. In the study, any survey and interviews were voluntary and the respondents were advised of the purpose of the study in advance. All the participants were informed and gave written or verbal consent.

No personal identifiable data were gathered that was not required to classify research. All the responses were confidential and were utilized solely to perform scholarly analysis. These steps were taken to ensure that site visits did not present any form of disruption and intrusion and before undertaking interviews or observations in heritage sites, permission was obtained with the relevant authorities. The research follows the rules of integrity, transparency, and respect towards the research participants making sure that the results are a true reflection of the views expressed by them without manipulation and misinterpretation.

## 7. Results and Discussion

### 7.1 Results:

**1. Overview of Data Collected**

A mixed-methods design was used, combining:

- **Survey data** from *476 tourists* across eight heritage circuits in Uttar Pradesh
- **Interviews** with *32 tourism officers, guides, and ASI officials*
- **Field observations** at key sites included under PRASHANT and Swadesh Darshan
- **Document analysis** of scheme guidelines and project completion reports

Digital interventions examined included:

- Mobile apps
- Digital kiosks
- QR-coded signage
- Virtual walkthroughs
- Smart ticketing
- GIS-based tourism mapping

**2. Quantitative Results**

**Table 1. Tourist Awareness of Government Digital Schemes**

| Scheme | Aware (%) | Not Aware (%) | Source of Awareness (Top) |
|---|---|---|---|
| PRASHANT | 58.2 | 41.8 | Digital kiosks, tour guides |
| Swadesh Darshan | 72.5 | 27.5 | Social media, state tourism portal |
| Digital Heritage Signage | 64.1 | 35.9 | On-site QR boards |

**Key Result:**

Tourist awareness is higher for Swadesh Darshan, primarily due to statewide promotional campaigns. PRASHANT being project-based and recent shows lower visibility.

**Table 2. Tourist Satisfaction with Digital Interventions (Mean Score out of 5)**

| Digital Component | Mean Score | Interpretation |
|---|---|---|
| QR-coded boards | 4.21 | Highly effective and easy to use |
| Virtual walkthroughs | 3.87 | Appreciated but limited availability |
| Interactive kiosks | 3.42 | Mixed experience; technical downtimes |
| Mobile app (UP Tourism) | 3.96 | Useful but needs more language options |
| Smart ticketing | 4.33 | Fastest-improving service |

**Key Result:**

Smart ticketing and QR boards received the highest satisfaction, indicating that simple, low-cost digital tools have greater impact than complex installations.

**Table 3. Impact of Digital Interventions on Tourist Engagement**

| Parameter | Before Digital Interventions | After Digital Interventions | % Increase |
|---|---|---|---|
| Average time spent per site | 42 mins | 57 mins | +35.7% |
| Repeat visit intention | 28% | 46% | +18% |
| Information seeking from official sources | 34% | 71% | +37% |

**Key Result:**
Digital interventions increase time expenditure and intentions to repeat visits substantially, which contributes to the thesis that digital heritage tools strengthen engagement.

**Table 4. Improvement in Preservation Outcomes (Expert Scores 1–5)**

| Preservation Parameter | Before Schemes | After Schemes | Change |
|---|---|---|---|
| Structural monitoring | 2.8 | 4.1 | +1.3 |
| Visitor flow management | 2.5 | 3.9 | +1.4 |
| Damage prevention | 3.1 | 4.0 | +0.9 |
| Archival documentation | 3.4 | 4.6 | +1.2 |

**Key Result:**
Both the plans have enhanced the use of digital records and structural oversight with the help of which the plans have been more exact in conservation planning in heritage routes such as Sarnath, Chunar Fort, Shravasti, and Braj.

## 3. Qualitative Findings

### 3.1 Perceptions of Tourism Officials

Interviews revealed four themes:

1. Digital readiness is uneven across districts.
2. PRASHANT is valued for its innovation mandate, funding experimental digital tools.
3. Swadesh Darshan provides comprehensive infrastructure upgrades, making digital adoption smoother.
4. Lack of trained digital-maintenance staff delays kiosk and signage repairs.

### 3.2 Visitor Narratives

- Foreign tourists appreciated QR-based audio guides in Varanasi, but requested multi-language support.
- Domestic tourists valued virtual reconstructions at Sarnath that "help visualize the ancient monastery layout."
- Rural visitors expressed difficulty navigating mobile apps due to low digital literacy.

### 3.3 Conservation Experts' Observations

Experts noted that:

- GIS mapping under PRASHANT has helped identify zones vulnerable to structural stress.
- Digital illumination at heritage facades improves aesthetics without harming structural integrity.
- Overcrowding during festivals still strains digital systems, indicating the need for scalable servers.

### 7.2 Discussion

#### 7.2.1 Effectiveness of Digital Interventions

The general results reveal that the most useful interventions are the cheap and simple to upkeep technologies such as the QR codes, smart ticketing, and plain online portals. These applications have a large number of users and hardly any technical expertise is needed. More complicated devices (kiosks, VR stations) demonstrate dubious outcomes due to the breakdown of devices and power outages at locations.
This is in line with the world studies that have indicated that the availability and the ease of use are more important to heritage tourism than the sophistication of the technologies.

#### 7.2.2 PRASHANT vs. Swadesh Darshan: Comparative Effectiveness

- Swadesh Darshan excels in macro-level infrastructure development, mobility pathways, and tourist amenities. Its digital components mainly support promotion and user experience.
- PRASHANT, though smaller in scale, contributes notably to:
    - digital documentation

- structural monitoring
- interactive educational tools

Together, they create a complementary ecosystem where Swadesh Darshan provides the physical foundation and PRASHANT provides the digital layer of engagement.

### 7.2.3 Impact on Preservation

Interview data and Tables 3 and 4 demonstrate that digital tools:

- extend visitor learning without stressing the monuments
- assist in crowd management through predictive analytics
- improve conservation planning through digital mapping

Thus, digital interventions support both preservation (archival and monitoring) and promotion (engagement and visibility).

## 8. Limitations of the study

The current research has shortcomings due to accessibility and the quality of secondary information on digital initiatives that were realized in the context of PRASHANT and Swadesh Darshan plans in the state of Uttar Pradesh because official reports and project documentation have different levels of detail and update frequency. On-ground assessment of all cultural circuits could not be applied consistently to all sites because field access to some heritage sites was limited by time and logistics. The responses of stakeholders particularly the local communities and the small tourism operators were gathered on a relatively small sample that might not give a complete picture of the range of experiences throughout the state. Also, the research gives much attention to the present stage of digital interventions and fails to consider the long-term effects that may arise with the technological development and shift in adoption rates. Such limitations mean that though the presented results can give valuable information related to the use of digital media to promote and preserve heritage, they should be viewed with a grain of salt and supplemented with further longitudinal and comparative research.

## 9. Future Scope

The future research on the issue of the digital interventions in heritage tourism has a great variety of perspectives. Since technology is evolving rapidly, one can think of how these new technologies such as augmented reality, virtual reality, AI-based personalization, and mobile-based heritage apps can be employed to provide even better visitor experience and interaction. The topic of future research could involve the sustainability of such interventions on the tourist behavior, the role of the local community and sustainable practices in preservation. The various states or countries that embrace similar heritage promotion programmes can also be compared and where there are variations then they can be taken advantage of to streamline the policy. The research that is planned in the future can assist in making the tourism structures and approaches stronger, inclusive, and attractive at the global level and safeguard the rich architectural and cultural heritage of Uttar Pradesh by relating cultural heritage conservation with the emerging digital opportunities.

## 10. Conclusion

The study on digital interventions in heritage tourism that include such projects as the PRASHANT and Swadesh Darshan programs shows how revolutionary technology can be in terms of the preservation and promotion of the rich cultural and architectural heritage of Uttar Pradesh. Using digital technologies such as these, these programs have made heritage sites more accessible, visible, and interpretable so that domestic and international tourists can better connect with the history of the state. Further, the schemes enhanced sustainable tourism through raising awareness, encouraging responsible tourist activities, and uplifting the economic livelihood of the local communities. The paper notes that the effectiveness of such interventions is not only in the technological adoption but also in planning, interaction with stakeholders and the constant assessment of the results of heritage conservation. Finally, the findings also demonstrate the necessity to balance preservation of the cultural heritage with the current needs of modern tourism in order to keep Uttar Pradesh heritage circuits inspiring, educative, and attractive to visitors and preserve their historical and architectural values to the future generations.

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