

## Cultural Convergence of Indian Buddhist Heritage in the Digital and AI Era: Reinterpretation of Tradition and Future Cultural Policy

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### Abstract

This paper explores the convergence of India's Buddhist heritage with contemporary culture through the integration of digital and artificial intelligence (AI) technologies. It examines the global historical value of ancient Buddhist heritage and the impact of digital technology on the preservation, recreation, and reinterpretation of traditional culture. The study analyzes the modern significance of Buddhist heritage across various domains, including cultural industries, diplomacy, and educational content. Specifically, it explores the potential for culture-tech based international cooperation through case studies of digital heritage collaboration between Korea and India, offering policy recommendations for sustainable heritage preservation and creative succession. The creative intersection of tradition and technology holds significant implications for the future direction of cultural heritage, and this research emphasizes the need for cultural policy and interdisciplinary collaboration to achieve this.

**Keywords:** *Indian Buddhist Heritage, Digital Cultural Heritage, Artificial Intelligence, Cultural Convergence, Cultural Policy, India-Korea Cooperation.*

## Introduction

### Problem Statement and Research Objectives

India is the birthplace of Buddhism and one of the ancient civilizations where Buddhist art and architecture highly flourished. Buddhist heritage, which developed under the patronage of Emperor Ashoka from the 3rd century BCE, continues to preserve its religious, artistic, and philosophical depth through monumental sites such as the Great Stupa of Sanchi, the Bharhut sculptures, the Ajanta Caves. These legacies are not mere archaeological artifacts; they have acquired global historical value by functioning as the central axis for the dissemination and exchange of Buddhist culture across the Indian subcontinent, East Asia, and Southeast Asia. In particular, Buddhist heritage, by visually and spatially embodying a value system based on human suffering and liberation, community ethics, and respect for life, continues to attract attention as an insightful cultural resource in the 21st-century global society.

However, this heritage is simultaneously facing physical deterioration and identity dilution due to factors such as climate change, urbanization, commercialization of tourist sites, and religious conflicts. To address these issues and transmit the essence of this heritage to future generations, digital and artificial intelligence (AI) technologies have recently garnered significant attention. Technologies like 3D scanning, digital twins, virtual reality (VR), AI image restoration, and natural language generation not only enable the physical preservation of heritage but also facilitate interpretation, recreation, experiential learning, and interactive cultural enjoyment in digital environments. AI-based technologies, especially, are evolving beyond simple archiving to become tools for cultural convergence, capable of analyzing symbolic systems or patterns within heritage and creating new cultural content based on them. How to establish the common ground between tradition and future technology, and what new cultural and political meanings can emerge from this intersection, has become a core agenda in contemporary cultural policy and humanities discourse [1].

This research aims to examine the cultural transformation and convergence that occurs when Indian Buddhist heritage intersects with digital and AI technologies, based on this problem awareness. To this end, first, it will explore the symbolism and historical significance of representative sites such as Sanchi, Bharhut, and Ajanta [2]. Second, it will analyze how digital technologies are preserving and recreating

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these heritage sites. Third, it will examine how traditional heritage is recontextualized into modern cultural content through examples of AI-driven interpretation and creation. Fourth, it will assess the direction that this cultural convergence can provide for India's cultural policy and global cultural diplomacy. The research methodology will involve analysis of digital archive cases, and examination of relevant international projects and museum collaborations, with some comparative reflection on the possibilities of cooperation between India and South Korea.

This approach goes beyond a mere technical discussion of heritage preservation, shedding light on how cultural heritage is reconfigured within digital environments and its political and philosophical implications. Tradition stands at a turning point where it connects with the future through technology, and technology rediscovers its identity and ethical direction within tradition. This paper conceptualizes such an interface under the notion of 'cultural convergence' and seeks to explore the cultural policy implications and humanistic future of the digital reinterpretation of Indian Buddhist heritage.

### **Theoretical Framework: Digital Transformation and Cultural Convergence of Heritage**

The digital transformation of the 21st century has significantly redefined how cultural heritage is preserved, accessed, and interpreted. Cultural assets are no longer perceived as static relics but are increasingly treated as dynamic, living resources capable of reinvention through digitalization and virtualization. This conceptual shift aligns with the UNESCO framework on "digital heritage," which emphasizes that preservation today involves not only safeguarding original materials but also enabling their reproduction, documentation, and dissemination in digitally accessible formats [3]. In this context, digital heritage is not simply a technological endeavor, but also a cultural and epistemological reorientation of how societies relate to their past.

The concept of cultural convergence, as articulated by Jenkins [4] offers a valuable analytical lens for understanding the fusion of traditional cultural boundaries with emergent media ecologies. Jenkins highlights how participatory cultures and cross-platform engagement redefine the production and consumption of cultural content. Applied to Buddhist heritage, this convergence enables reinterpretation through digital media: virtual reality experiences of the Ajanta Caves, AI-generated narrations of Buddhist scriptures, or interactive museum displays that merges tactile and virtual elements. These technologies foster immersive interactions that reconfigure the sensory and narrative experience of ancient traditions, rendering them relevant to contemporary audiences.

Furthermore, the digitization of heritage introduces complex issues surrounding representation, memory, and identity. Scholars such as Assmann [5] and Nora [6] emphasize that cultural memory is mediated through modes of representation, curation, and narrative framing. The process of digitizing Indian Buddhist heritage—through AI restoration, 3D reconstructions, or interactive platforms—does not merely reproduce the past, but actively constructs new identities and collective memories. This performative aspect of digital heritage demands critical engagement with questions of authenticity, authority, and cultural agency in digital mediation.

Thus, this study conceptualizes Indian Buddhist heritage not as an inert cultural artifact but as a dynamic cultural organism, capable of transformation and reinterpretation in the digital age. Digital technologies are not merely tools of preservation but are cultural agents that enable the reinterpretation of traditional narratives and promote intercultural dialogue. In doing so, digital heritage practices provide new avenues for cultural diplomacy, educational innovation, and policy development, aligning traditional values with future-oriented global frameworks.

### **Methodology: A Case-Based and Convergent Approach to Buddhist Heritage in the Digital Age**

This study adopts a qualitative case study and cultural-tech convergence approach to examine how Indian Buddhist heritage is being reinterpreted and revitalized in the digital and AI era. Rather than viewing heritage as static relics of the past, the research conceptualizes them as living cultural assets that are dynamically reshaped through technological mediation. This integrated approach enables the analysis of both cultural aesthetics and digital practices as mutually reinforcing domains.

The research began with the literature review, aiming to contextualize major sites such as Sanchi, Ajanta, and Bharhut, and to delineate the symbolic frameworks of Buddhist visual and ritual aesthetics [7]. The objective was to ground the analysis in both historical and art-historical knowledge. Based on this foundation, the study collected and analyzed selected digital and AI-based projects—such as Google Arts & Culture's virtual galleries on Indian Buddhist heritage, UNESCO's Virtual Museum of

Buddhist Art, and AI-driven experiments like text-to-image restoration, neural voice synthesis, and interactive storytelling using LLMs [8].

These cases were subjected to comparative cultural analysis, focusing on cross-national initiatives in heritage digitization. Particular attention was paid to India's national digital heritage policy under the Ministry of Culture and MeitY (Ministry of Electronics and Information Technology), and to South Korea's digital Buddhist content platforms, including collaborative projects hosted by the National Museum of Korea and Dongguk University [9]. This comparison provided insight into how digital Buddhist heritage can serve as a medium of cultural diplomacy and soft power.

In addition, the research employed policy analysis to explore the structural and institutional frameworks surrounding digitization efforts. This included examining India's cooperation with UNESCO and its broader strategic discourse on digital cultural infrastructure [10]. The analysis explored how the digitization of heritage not only preserves cultural memory but also reframes it in the language of innovation, global identity, and educational utility.

In sum, this study combines case-centered cultural-technical analysis with policy and theoretical integration, aiming to illuminate how Indian Buddhist heritage is creatively transformed in the digital age and how such transformations open new horizons for cultural policy-making, education, and transnational collaboration.

## **Research Findings: Digital Buddhist Heritage as a Nexus of Innovation and Tradition**

The research findings highlight a significant transformation in how Indian Buddhist heritage is being preserved, interpreted, and mobilized in the digital and AI era. Through comparative case analysis and policy discourse, the study reveals that digital technologies have not only expanded the modes of access to heritage but also redefined its cultural meanings, enabling new forms of participatory engagement, cross-cultural exchange, and educational innovation [11].

First, it was observed that platforms such as Google Arts & Culture and UNESCO's Virtual Museum of Buddhist Art serve as crucial intermediaries in recontextualizing ancient Buddhist sites like Ajanta, Sanchi, and Bharhut for global audiences. High-resolution 3D scans, panoramic virtual tours, and AI-generated reconstructions allow users to experience these heritage spaces beyond their geographical constraints.

This technological mediation reshapes the sensory and narrative modalities of engagement, particularly by offering multilingual access, layered metadata, and interactive visualizations. These tools function not only as preservational techniques but as narrative agents that influence how heritage is framed and remembered.

Second, the analysis of Korean digital Buddhist platforms, such as those supported by the National Museum of Korea and the Digital Buddhism Portal at Dongguk University, shows a model of integrative collaboration between academia, cultural institutions, and technology industries. These platforms not only curate digitized manuscripts and 3D artifacts but also embed AI-based search, automated translation, and gamified educational tools [12]. This multi-sectoral approach offers insights into how India might design similar frameworks, encouraging partnerships between the Ministry of Culture, MeitY, and global tech providers.

Third, the comparative framework suggests that Indian Buddhist heritage is evolving from a site of preservation to a field of cultural production. In particular, AI-generated storytelling—drawing on Buddhist narratives, iconography, and ethical motifs—has enabled immersive experiences that recontextualize canonical figures such as the Buddha or Bodhisattvas in contemporary media formats. These include virtual exhibitions, AR-based museum experiences, and digital documentaries that engage diverse publics, including youth, diasporic communities, and international audiences.

Importantly, the findings point to a growing policy gap between technological innovation and heritage governance. While the Indian Ministry of Culture has emphasized digital preservation in its vision documents, practical implementation often lags due to fragmented institutional responsibilities, lack of interoperability among platforms, and limited public-private collaboration. In contrast, South Korea's centralized digital heritage policy, supported by a robust data infrastructure and inter-ministerial coordination, serves as a useful benchmark for India's long-term planning.

Lastly, the study affirms that Buddhist heritage is increasingly functioning as a cultural diplomatic resource. Through digital repatriation projects, shared archives, and educational exchange platforms, India's Buddhist sites and traditions are being reactivated as bridges for regional dialogue and soft power engagement, particularly in relation to East and Southeast Asia [13].

In sum, the findings suggest that Indian Buddhist heritage, when integrated with AI and digital technologies, is not only being safeguarded but actively reauthored. It emerges as a dynamic field of cultural innovation where ancient epistemologies intersect with emerging media ecologies—redefining heritage as a platform for inclusive identity formation, intercultural dialogue, and future-oriented policy design.

## Conclusion: Toward a Creative Synthesis of Tradition and Digital Futures

The present study demonstrates that Indian Buddhist heritage, when interfaced with digital and AI technologies, acquires renewed relevance not only as a preserved cultural memory but as an active and evolving platform for innovation, education, and intercultural dialogue. The cases examined—from virtual reconstructions of Ajanta to AI-enhanced storytelling and international collaborations—highlight that digital mediation is not a mere technical tool but a transformative agent in redefining how heritage is experienced, understood, and mobilized [14].

One of the most significant findings is the emergence of “dynamic heritage ecologies”—where ancient symbols and narratives are recontextualized for global publics via immersive technologies, multilingual metadata, and participatory platforms. These shifts challenge traditional notions of static preservation and call for a new paradigm of cultural stewardship, rooted in openness, interactivity, and ethical responsibility.

However, the study also identifies key challenges. The digital divide across regions, limited policy coordination, and the lack of long-term funding for cultural tech projects present obstacles to sustainable development. There is a pressing need for India to establish a centralized digital cultural policy framework that integrates ministries of culture, education, and digital affairs, with clear mechanisms for international collaboration and private sector engagement.

Furthermore, issues of digital ethics, including intellectual property, algorithmic bias, and the commodification of sacred content, must be carefully addressed. This calls for interdisciplinary governance models that involve scholars, technologists, monks, artists, and policy experts working together.

Based on these findings, the study offers several key recommendations:

1. Develop a national cultural-tech innovation fund to support AI-driven heritage projects in collaboration with universities and startups.
2. Institutionalize bilateral and multilateral platforms (e.g., India–Korea Buddhist Digital Heritage Forum) to foster joint research, exhibitions, and digital content production.
3. Implement ethical guidelines for the digitization of sacred and ritual content, ensuring cultural sensitivity and community participation.
4. Incorporate digital heritage into school and university curricula, promoting heritage literacy as part of digital citizenship.

In conclusion, the fusion of Indian Buddhist heritage with digital and AI technologies should not be viewed as a rupture from the past, but as a creative continuity—a new sutra being written in code and pixels, reimagining the dharma for the 21st century. In this vision, tradition is not merely preserved; it is translated, transformed, and transmitted—across screens, borders, and generations.

## Acknowledgments

This work was supported by Hankuk University of Foreign Studies Research Fund (of 2025).

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