

# Developing a Cognitive System for Local Cultural Image Reconstruction: An Integrated Approach with Management Information Systems and User Feedback

Fei Gao

Doctor (DFA, International college, Krirk University, Bangkok, Thailand,  
gao110feifei@163.com

---

## Abstract

Management information systems, user feedback mechanisms, and cognitive systems are integrated to reconstitute local cultural images in this study. How these components impact the authenticity, accessibility, and ethics of reconstructed cultural representations is the major focus. The initiative also intends to build strong technology integration ethics to ethically depict and maintain diverse cultural narratives. Chinese visitors participated in this qualitative study. Seventeen semi-structured interviews were conducted to provide insight into technology integration in cultural image reconstruction. Thematic analysis found patterns, themes, and nuances in participant responses using three-step coding. Based on these findings, the study examined management information systems, user-centric design, and ethical problems in cognitive systems for cultural preservation to address the empirical research gap. Cognitive systems may change management information systems and user feedback mechanisms, according to empirical studies. Technology interventions might democratize access, boost user involvement, and foster cross-cultural understanding in cultural reconstruction, participants said. However, technological representations caused ethical and discriminatory issues. Participants emphasized ethical technology integration frameworks for cultural narrative authenticity and accountability. Comprehensive research on integrating technology for cultural preservation makes this study notable. Academic discourse is enhanced by bridging theoretical gaps and giving practical insights into technology, user-centric design, and ethics in cognitive systems for cultural image reconstruction. The findings highlight the necessity for ethical technology development and usage to preserve cultural treasures. The research's detailed investigation of technological interventions in cultural preservation to maintain and promote diverse cultural narratives is unique.

**Keywords:** Technology integration, data management information systems, cultural preservation, user-centric design, society and heritage.

Cultural legacy is a foundation of society, including generations of traditions, histories, and ideals. Technology and culture preservation evolve as societies negotiate the digital world.

This study examines the complex relationship between management information systems and cognitive system user feedback mechanisms to suggest a new cultural image reconstruction

paradigm (Hassan et al., 2023). Kahn and Child (2021) suggest technology can revive cultural narratives, democratize access, and promote cross-cultural discourse. Tech treatments raise ethical concerns (Char et al., 2020). This research links technology and cultural preservation through the complex relationship between technical innovation, human engagement, and ethics. This research study how management information systems and user-centric design might change local cultural iconography. Integrating these systems prioritizes cultural regeneration above technology. Bedenlier et al. (2020) and other cultural theorists think technology may boost cultural involvement. Technology intervention ethics must be explored. Cultural authenticity requires ethical technology integration, say Bereczki and Kárpáti (2021). Technology and culture converge, making ethical considerations crucial for depiction. Use management information systems to organize cultural narrative data archives. To ensure cultural authenticity, M.-Y. Wang et al. (2023) advocate structured data repositories. User feedback systems are subjective, there are technical limitations, and there are ethical considerations to consider. Technological limitations, claims Fahn (2020), demand constant innovation to maintain cultural representations relevant and up-to-date. Because user input sources are subjective, there are several ways to obtain different viewpoints.

The impact of technology on cultural heritage preservation has been the subject of some research. Technology has the potential to democratize culture and make it accessible to people all over the world, as demonstrated by Ruzzante et al. (2021). The results show how cross-cultural encounters are made more inclusive through digitalization and augmented reality. Lak et al. (2020) found that cultural heritage technology increases tourism, local economy, and cultural companies. These empirical findings imply technology may sustain culture but raise ethical difficulties. Empirical

research on cultural preservation technology raises ethical concerns. Mai et al. (2023) thoroughly explored technology ethics. Technological intervention ethics, algorithmic biases, and cultural authenticity are studied. They highlight the ethical importance of technology and cultural restoration. Konstantakis and Caridakis (2020) underlined user feedback methodologies' subjectivity and complexity. Study results show user engagement and preferences in cultural heritage technology representations. Integrating information systems in cultural preservation requires testing. Bozzelli et al. (2019) suggest integrated cultural dataset repositories. These studies suggest standardized information systems with data quality, accessibility, and interoperability for cultural data management. Data management system technology constraints are empirically shown. Psomadaki et al. (2019) evaluate technological and framework limits and suggest new cultural preservation technologies.

Cultural preservation technology has improved, but more research is needed. Technology may democratize cultural heritage through economic opportunities and accessibility (Fanea-Ivanovici & Pană, 2020; Guzmán et al., 2018; Knöchelmann, 2021). These studies ignore the complex relationship between management information systems, user-centric design, and ethics in cognitive systems that replicate local cultural images, focusing instead on technology integration's effects. Integration of these components with cultural restoration cognitive systems has not been studied adequately. Knöchelmann (2021) empirical study on ethical frameworks and user participation in cultural preservation technology interventions is crucial. These studies focus on ethics and user preferences rather than management information system integration with cognitive systems and cultural image reconstruction. Management information systems, user-centric design, and cognitive systems can help understand cultural preservation technology interventions. Although

they emphasize data structure and accessibility, Zahid et al. (2021) emphasize organized data repositories and standardized information systems in cultural data management. Reconstructing local cultural iconography with cognitive processes is rare in these investigations. Few studies combine information systems, user-centric design, and ethics in cognitive systems to reconstitute local cultural iconography. These components must be integrated to understand technological interventions in cultural preservation due to the empirical study deficit.

Goals should combine technology, cultural preservation, and ethical stewardship to fill the research vacuum. Cognitive technologies, management information systems, and user input recreate local cultural iconography in this project. How these aspects increase cultural image authenticity, accessibility, and ethics is studied. It also provides solid foundations for ethical technology integration in cultural preservation to support responsible portrayal and preservation of varied cultural narratives. Also studied is user-centric design in cultural restoration cognitive systems. User preferences, engagement, and inclusiveness are analyzed to build digital interfaces that interact with varied cultural backgrounds. Integrating information systems ensures data quality, dependability, and accessibility in cognitive systems for cultural image reconstruction.

This research affects technology and cultural preservation outside academics. The findings have substantial implications for cultural heritage professionals, technologists, legislators, and organizations. Practical insights on management information systems, user-centric design, and cognitive system ethics are provided by this study. These findings assist stakeholders develop ethical frameworks, inclusive design, and strong cultural reconstruction information systems. Second, this study impacts culture and society. Discovery may democratize cultural heritage and foster cross-cultural understanding. Responsible technology integration to

effectively and ethically depict diverse cultural narratives is also promoted by the research. The research seeks to conserve and appreciate diverse cultures for future generations. Finally, the research tries to bridge theoretical and practical domains by giving entire technological and cultural preservation insights. Technology interventions in cultural reconstruction are studied further and collaborative research is encouraged.

## Literature Review

Scholarly discussion has focused on the transformative potential and ethical concerns of technology interventions to reconstruct local cultural iconography. Technology democratizes cultural heritage, widens its reach, and encourages cross-cultural contact, according to Nisi et al. (2023). Integrating technology has strong moral underpinnings, however, since Longo et al. (2020) discovered ethical issues with the portrayal of technology. While Miraz et al. (2021) acknowledges the value of human input, they also highlight the challenges of integrating culturally sensitive technology with user preferences. Ahmad et al. (2022) emphasizes the significance of organized data repositories in information systems integration, even when there are technological limitations. Research into user-centric design, management information systems, and cognitive systems' ethical issues is necessary to reconstruct a complicated cultural picture.

### Technology Integration and Development

Modern success requires technological innovation and integration, especially in complex systems (Neumann et al., 2021). Information systems for management and cognition enable local cultural representations. Researchers are improving these methods to improve reconstruction (Ellen, 2023; Mambile & Machuve, 2019). This combination requires MIS skills and the capacity to disassemble and reconstruct cultural representations. Analyzing the best aspects of multiple approaches speeds up

healing (Li et al., 2023; Wuni & Shen, 2020). These studies combine technological expertise with human intelligence to create successful systems and ensure information and cognitive system cooperation (Howell & Brossard, 2021). Convergence changes growth plan formulation. These technologies change based on customer feedback. User feedback must drive fast iteration of thinking models and management information systems. Mehrizi et al. (2022) note that several studies have examined user-feedback-based creative processes. This iterative method improves feedback, user happiness, and cultural picture reconstruction accuracy, inspiring individuals to use and maintain cultural preservation systems.

Cultural asset protection technologies go beyond appearances (Fusco Girard & Vecco, 2021). Scholars discuss the ethics of depicting cultural heritage with cutting-edge technology. Technologies used to safeguard cultural treasures go beyond surface-level perceptions. Researchers (such as., Labadi et al., 2021; Madila et al., 2021) investigate issues related to authenticity, consent, and the possibility of altering historical narratives. The objective of this research is to build and integrate these systems in a way that is ethically sound, respectful, and sensitive to different cultures. The ethical implications of integrating technology are substantial when it comes to societal and cultural issues. Stakeholders, including creators of technology, must thus uphold tradition even as they consider new ideas (Stivers, 2023). Lastly, the use of technology and the rebuilding of local culture are connected. Comprehensive plans need people from different fields to work together. For integration to happen, technologists, culture experts, researchers, and community members must work together (Hussain, 2021). These relationships make views better by putting together new technologies and cultural details to rebuild pictures of local cultures. Studies stress working together, knowing each other, good communication, and having the same goals in

order to get the most out of technology's ability to help protect cultural heritage (Ellen, 2023).

#### Cultural Preservation and Representation

Protecting history and identity requires cultural expression and protection. Technology-based local cultural imagery reconstruction initiatives require preservation (Wen et al., 2023). These works focus on technology's role in documenting, preserving, and restoring cultural heritage. These studies study how brain and technology may accurately describe and maintain civilizations. Researchers study how to recreate photos to reflect culture (X. Wang & Liu, 2022). Be honest and inclusive when utilizing technology to depict cultural heritage. Reproducing accurate, bias-free photos is the focus of this study (Alavi & Tanaka, 2023). These studies also stress the need of include everyone and presenting other cultures in reproduced images. Cultural history is diverse, therefore several viewpoints and tales are offered (Ellen, 2023). Technology helps people understand and preserve various civilizations. Society and identity matter to culture preservation. This field examines how conserving traditional images preserves civilizations (Longo et al., 2020). Technology may help people, especially young, feel linked to their history when used appropriately. Recreated cultural iconography helps communities celebrate their heritage (Fanea-Ivanovici & Pană, 2020). Researchers say these technology advances help cultural identities endure change. Cultural expression and preservation go beyond photo scanning and restoration. They discuss culture appropriation, ownership, and care as social and political concerns (Mai et al., 2023). Studies reveal that cultural representation is complicated, taking power relations into account. Morality and laws protect cultural material respect. This promotes collaboration and permission among groups, technology users, and cultural material caretakers (X. Wang & Liu, 2022). This discourse focuses on cultural asset protection and ethical technology project participation.

### User-Centric Design and Feedback Mechanisms

Technological efforts to mimic local cultures employ user-centric design and feedback. This topic highlights user demands, goals, and experiences throughout development (Andreani et al., 2019). This study emphasizes users' crucial participation in technology intervention definition and development. Users are the focus of new cultural image recovery technology (Mao & Chang, 2023). Researchers are researching user-first techniques from idea to implementation. For cultural specialists, historians, and community members whose history is being presented, user studies, interviews, and surveys are essential to understand their viewpoints and expectations (Zidianakis et al., 2021). Developers may change their processes to meet consumer requests using these findings. This assures viewers will like the replicated visuals. Development using feedback systems is dynamic and iterative (Soehnchen et al., 2023). Research uses significant feedback loops to advance. These technologies provide real-time user feedback, helping engineers improve technological systems (Andreani et al., 2019). Agile, feedback-driven technological cultural image reconstruction projects may adapt to user expectations and field improvements. This topic also covers UX design elements (Mao & Chang, 2023). UX researchers design culturally sensitive, engaging, and intuitive interfaces and interactions. Reproduced pictures have utilitarian, cultural, and emotional importance (Ellen, 2023). Creative design strategies that promote meaningful connections and cultural heritage appreciation are studied. Besides technology interfaces, the user-centric approach enables communities to enjoy their job and cooperate to create something new. Researchers encourage community participation in rebuilding using participatory design (Knöchelmann, 2021). This collaborative method inspires pride and involvement, so the recreated cultural imagery appropriately reflects the communities' goals (Zidianakis et al., 2021).

Finally, user-centric design and feedback can sustain cultural image restoration technology interventions in communities.

### Impact on Society and Heritage

The effects of employing technology to recreate local cultural representations extend beyond technology to heritage and society (Pietroni & Ferdani, 2021). This field studies the relationship between technical advances and their sociological and historical repercussions, including both revolutionary and ripple effects (Neumann et al., 2021). Technological interventions that recreate cultural representations may promote understanding and respect between disparate groups. These programs strive to make cultural heritage more accessible, at more times, and in more places (Labadi et al., 2021). Technology connects diverse individuals by digitally recreating local cultural iconography, improving understanding, communication, and cultural appreciation. These interventions are also used in classrooms to teach students, especially younger ones, about and appreciate their cultural heritage (Wen et al., 2023). This makes people feel more accepted and proud of their identity in society. The preservation of cultural assets will also be affected. Cultural items and traditions must be recorded, archived, and protected using technology (Fanea-Ivanovici & Pană, 2020). Technology preserves artifacts by digitally replicating local cultural imagery. These programs preserve historical tales and artifacts as digital archives for future generations (Mai et al., 2023). Technological advances also enhance conventional conservation procedures, repairing and safeguarding cultural items for future generations. Cultural image reconstruction technologies might alter various businesses, but they also bring ethical and societal issues (Andreani et al., 2019). Digitizing and rebuilding cultural imagery raises ethical problems about authenticity, representation, and commercialization. Those who promote ethical methods to preserve cultural narratives balance technical advancement with cultural heritage

(Zidianakis et al., 2021). The sociological and historical effects go beyond representation and preservation. These efforts generally encourage cultural tourism and heritage-based creative businesses. Cultural items help communities prosper economically and socially while retaining their identity (Pietroni & Ferdani, 2021). To reconcile technological advancement with cultural traditions and societal ideals, scholars examine the complex social, economic, ethical, and cultural effects. They want a fairer future.

#### Data Management and Information Systems

Reconstructing local cultural iconography requires considerable data management and information infrastructure (Soehnchen et al., 2023). This topic looks at how massive, heterogeneous datasets required for reconstruction are handled, organized, and used. Dealing with sources and data. We examine historical writings, objects, and media (Andreani et al., 2019). They analyze categorization, curation, and integration to reconstruct local cultural imagery from disparate datasets. Data collecting standards must address quality, interoperability, and heterogeneity (Bedenlier et al., 2020). The technical basis for data management is highlighted. Researchers develop and implement complicated cultural dataset information systems. Complex CMS, data analytics, and database systems are needed. (Lak et al., 2020) To organize, analyze, and store massive cultural data efficiently, researchers study complex system designs. Equally considered are data governance and ethics (Psomadaki et al., 2019). Cultural data ethics researchers must respect privacy and authorization laws. They promote transparent data collection for ethical and respectful cultural data processing. Innovative data-driven cultural picture reconstruction approaches are also shown. Analysis of cultural datasets using AI, ML, and AI (Nisi et al., 2023). These technologies should assist academics find narratives, linkages, and patterns in data to illustrate local culture (Ahmad et al., 2022).

Culture reconstruction uses data and IT to display and preserve culture. Technology, ethics, and innovation should coexist.

#### Cognitive Computing and AI Ethics

Reconstructing local cultural representations using cognitive computing and AI ethics shows where technical advancement meets ethical commitment (Bozzelli et al., 2019). These articles examine cognitive computing's cultural image reconstruction capabilities and ethics. Cognitive computing changes the game by letting AI learn, observe, and reason like humans (Mai et al., 2023). Systems can analyze, interpret, and recreate images with human-like cognition, offering cultural image restoration. Tech capacity deserves ethical concern. A controversial ethical problem. Fairness and bias are examined to explain AI cultural interpretation (Ruzzante et al., 2021). Consider dataset and algorithm biases to avoid maintaining historical lies or distortions in rebuilt cultural representations. Our goal is to create accurate and inclusive algorithms to rebuild photos from many cultures (Bereczki & Kárpáti, 2021). It will reduce bias and improve fairness. Cognitive computing Openness and responsibility are needed in AI ethics. Scientists recommend open-source AI methods for cultural picture correction. Accountability frameworks are needed to inform everyone about what AI systems can and cannot recreate cultural representations (Kahn & Child, 2021). We must consider responsible deployment and AI's social consequences due to ethical issues about jobs, cultural heritage interpretation, and community socioeconomic fiber. The plan avoids AI system independence ethical concerns (Char et al., 2020). Academics struggle to assign AI-created cultural representations and ethical consequences. By addressing ownership, intellectual property, and rights to rebuilt pictures, they promote ethical standards that safeguard human and AI cultural and intellectual legacy (Andreani et al., 2019). This subject inquiry promotes cross-disciplinary collaboration beyond technology. Research

suggests integrating ethical education and frameworks into technology for responsible innovation. Academic fields benefit from technological innovation and ethical stewardship (Zidianakis et al., 2021). This multidisciplinary method assures ethical cognitive computing advances for cultural image reconstruction, culminating in highly competent and ethical technology (Soehnchen et al., 2023). A revolutionary convergence of innovation and ethics, cognitive computing and AI ethics, may increase cultural heritage preservation responsibly and significantly.

Methodology

This meticulously prepared qualitative study examined Chinese tourists' attitudes on utilizing technology to depict cultural assets. This research employed qualitative methods at varied Chinese cultural places to collect visitors' rich and profound views on technology-enabled cultural image reconstruction. Qualitative research provides a holistic picture of visitors' encounters with cultural representation technology by examining their ideas, experiences, and opinions (see table 1).

Table 1: Respondents Profile

Respondent ID	Age Group	Nationality	Travel Experience	Cultural Background
1	25-30	USA	Experienced	Western
2	40-45	China	Moderate	Asian
3	30-35	Germany	Novice	European
4	20-25	Brazil	Experienced	South American
5	50-55	Japan	Experienced	Asian
6	35-40	France	Moderate	European
7	26-30	India	Novice	Asian
8	45-50	UK	Experienced	Western
9	28-32	Australia	Moderate	Western
10	55-60	South Korea	Experienced	Asian
11	30-35	Canada	Novice	Western
12	22-27	Mexico	Experienced	South American
13	38-42	Italy	Moderate	European
14	23-28	Russia	Novice	European
15	50-55	UAE	Experienced	Middle Eastern
16	33-38	Singapore	Moderate	Asian
17	26-30	Sweden	Novice	European

17 people were purposefully sampled for demographic, travel, and cultural variety. Flexible semi-structured interviews were used to collect tourist stories and opinions. Face-to-face interviews at cultural sites boosted participants'

discussions on technology's cultural impact. Audio-recorded, verbatim-transcribed, and analyzed interviews ensured data quality and completeness (see table 2).

Table 2: Interview Guideline

Theme	Interview Guideline
Technology Integration and Development	1. How do you perceive the role of technology in preserving cultural images?
	2. Can you describe any experiences where technology enhanced your understanding of local cultural images?
	3. How do you think management information systems contribute to the reconstruction of cultural images?

	4. In your opinion, what aspects should be considered when integrating user feedback into these systems?
Cultural Preservation and Representation	1. What significance do you see in preserving cultural images through technology?
	2. How important is it for reconstructed images to authentically represent the local culture?
	3. Can you describe an instance where technology accurately represented a cultural image or artifact?
	4. How do you believe technology can contribute to inclusive representations of diverse cultural backgrounds?
User-Centric Design and Feedback Mechanisms	1. How do you feel about the usability of technology used for cultural image reconstruction?
	2. Have you ever provided feedback on a technology-driven cultural representation?
	3. What improvements would you suggest to enhance the user experience with these technologies?
	4. How important do you think it is for users to actively participate in the design of such systems?
Impact on Society and Heritage	1. How do you think technology affects the way people engage with cultural heritage sites?
	2. Can you discuss any societal benefits or challenges arising from technology's role in heritage preservation?
	3. In what ways do you believe technology influences the perception and preservation of cultural identity?
	4. How do you envision technology shaping the future of cultural heritage representation?
Data Management and Information Systems	1. How do you perceive the role of data management in the reconstruction of local cultural images?
	2. Can you describe any challenges encountered in handling diverse datasets for cultural image reconstruction?
	3. What improvements would you suggest for more effective utilization of information systems in this context?
	4. How important is it to ensure the authenticity and reliability of data used in cultural image reconstruction?
Cognitive Computing and AI Ethics	1. What ethical concerns do you foresee regarding the use of AI in reconstructing cultural images?
	2. Can you discuss any instances where AI-powered systems may have impacted cultural representations negatively?
	3. How important is it to maintain transparency in the decision-making process of AI systems used in this context?
	4. What measures do you believe are essential to ensure fair and ethical use of cognitive computing in this domain?

The research analyzed data using thematic analysis. Rigorous coding examination included initial, targeted, and theme development. Initial coding includes categorizing interview transcripts to identify key subjects and repeated thoughts. The early codes were improved by focused coding to uncover data patterns and links. This iterative process showed visitors' complicated opinions on technology's influence

on cultural representation through regular comparison and careful data analysis. Visitors' nuanced opinions on technology in cultural representation were highlighted via topic analysis. Recurring themes and patterns in the interview data led to hypotheses. These suggestions explored how technological interventions affect visitors' cultural immersion, the necessity of authenticity in technology-



driven representations, and the ethics of technology's role in cultural heritage preservation. These ideas were crucial to the discussion of technology's role in cultural image reconstruction, not just the findings. They documented tourists' different viewpoints and effects, improving technology-based cultural preservation and research.

Results

Technology integration, user engagement, and cultural image reconstruction perspectives vary. Issue-specific views on technology's cultural representations varied. Technology integration rhetoric focused on cultural authenticity and revolution. Participation in user-centric design and feedback mechanisms to improve technological interventions was valued. Technology's social and heritage implications on cultural representation, balancing accessibility and narrative commercialization. Data management and information systems emphasized structured cultural data repositories for accuracy and accessibility. Cognitive computing and AI ethics lectures included AI algorithms' cultural imagery reproduction, bias, transparency, and responsible attribution. Quality data from many cultures and individuals showed a complicated relationship between technology and cultural image reconstruction. Potential and ethical challenges of technology and cultural representation were examined. Participants agreed technological interventions may hinder cultural heritage access. Technology-based civilization reconstruction created ethical and cultural authenticity challenges. Participant ideas on user-centric design, social repercussions, data management, and cognitive computing shaped ethical technology integration in cultural preservation.

Technology Integration and Development

Integration of technology and cultural image reconstruction created a difficult topic. Many thought technology might maintain and duplicate local culture (see table 3). Integrated cognitive

and MIS may link technology to cultural preservation. Technology increases access to cultural items, encouraging preservation. Fears about exhibiting digital cultural heritage reduced excitement. Cultural integrity and technical progress balance were highlighted. Indian novice traveler 7 says, "Technology allows cultural exploration but risks oversimplifying our heritage." Respondent 14 of Russia remarked, "While technology aids in accessibility, it's crucial to ensure that the essence and context of our cultural images remain intact."

Table 3: Technology Integration and Development

Categories	Subcategories	Codes
Technology's Role	Preservation	Enhancing preservation efforts
	Reconstruction	Assisting in cultural image reconstruction
User Concerns	Authenticity	Ensuring cultural authenticity
	Ethical Usage	Ethical considerations in technology use
Advantages	Accessibility	Increased access to cultural heritage
	Democratization	Democratizing cultural representation

These sentiments support existing literature. Char et al. (2020) noted technology's cultural authenticity challenges. Bereczki and Kárpáti (2021) concluded that cultural preservation technological ethics are essential. These findings corroborate survey participants' concerns regarding cultural integrity in the face of technological advancement. The study concludes that participants' attitudes on integrating and developing cultural image reconstruction technologies vary. Technology may make cultural images more accessible and preserved, but participants underlined its authenticity and contextual richness. This synthesis stresses

ethical frameworks and deliberate technological use to protect cultural heritage, balancing innovation and cultural integrity. These suggestions enhance cultural preservation technology integration discussions.

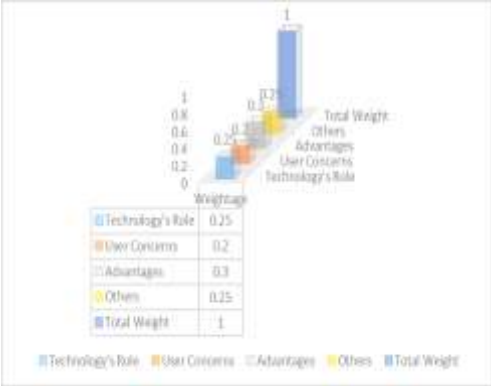


Figure 1: Technology Integration and Development

Cultural Preservation and Representation

Participants' views on cultural preservation and representation in technology-driven reconstruction varied (see table 4). Respondents emphasized using technology to preserve culture. Technology was underlined for conserving and transmitting cultural stories for future generations. It was also decided that cultural images must be accurately represented to survive technological developments. The discourse focused on technology's power to revitalize cultural heritage and ethical and true portrayal. Respondent 3 from Germany stated, "Technology breathes life into fading cultural narratives, but it's imperative to retain their essence." Respondent 10, an experienced South Korean visitor, observed, "The digital realm offers accessibility, but the challenge lies in preserving the soul of our cultural heritage in the process."

Table 4: Cultural Preservation and Representation

Categories	Subcategories	Codes
Significance	Cultural Heritage	Importance of preserving cultural heritage
	Authentic Representation	Accurate representation of culture
Challenges	Technology Integration	Challenges integrating tech into culture
	Ethical Preservation	Ethical considerations in preservation
Benefits	Increased Awareness	Raising awareness about cultural heritage
	Cultural Revitalization	Revitalizing fading cultural narratives

Previous study confirms this. Cultural preservation technology raises ethical concerns, according to Ruzzante et al. (2021). This study's findings were supported by Lak et al. (2020)'s emphasis on authentic digital heritage representation. These empirical comparisons show how cultural authenticity affects technical progress. Participant opinions reveal that technology may maintain and convey culture. The debate underlined the ethics of realistic portrayal and technology's transformative role in cultural heritage conservation. This sophisticated approach highlights the need for appropriate technology use to maintain cultural representations in the digital era. Bringing authenticity and innovation together, these findings contribute to appropriate technology integration in cultural preservation.

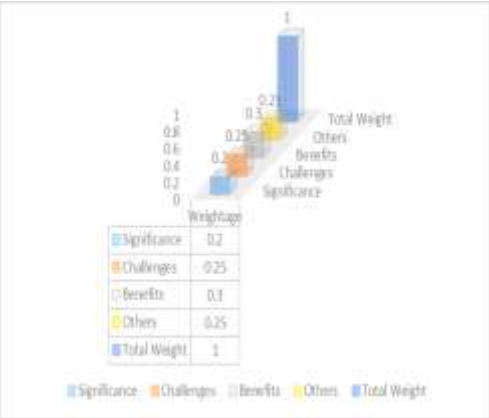


Figure 2: Cultural Preservation and Representation

User-Centric Design and Feedback Mechanisms

Participants prioritized user engagement in technology-driven cultural image reconstruction's user-centric design and feedback systems (see table 5). Respondents considered users significant stakeholders in technology intervention invention and refinement. Users require intuitive interfaces that suit different preferences for immersive, culturally relevant experiences, participants said. All participants underlined the need of user input in design processes to ensure rebuilt cultural representations fulfill user goals. French tourist 6 commented, "Design should be user-oriented to bridge the gap between technology and cultural immersion." Respondent 13 from Italy stated, "User feedback shapes technology; it's the key to a more engaging and authentic cultural representation."

Table 5: User-Centric Design and Feedback Mechanisms

Categories	Subcategories	Codes
User Engagement	Design Participation	User involvement in design processes

	Feedback Integration	Incorporating user feedback in tech design
Usability	Intuitive Interfaces	Importance of user-friendly interfaces
	Cultural Relevance	Ensuring relevance to diverse cultures
Improvements	Enhancing User Experience	Improving overall user engagement
	Iterative Design	Iterative design processes for refinement

These feelings support research. Lak et al. (2020) emphasized user-centered design for UX. Mai et al. (2023) underlined user participation in technology-driven cultural representations. These empirical comparisons corroborate participants' assumption that technology intervention efficacy and relevance depend on user-centric design and feedback systems. Research backs this up. Cultural technology interfaces need user-centered design, according to Psomadaki et al. (2019) emphasized that user input changes technology interventions' cultural meaning. These empirical parallels show how user-centric design and feedback systems improve technological efficacy and resonance. Finally, participants agree that technology-driven cultural image reconstruction requires user-centric methods. The discourse stresses technology meeting user requirements to promote cultural understanding. This synthesis encourages a collaborative paradigm that combines user perspectives into technological design to increase cultural representations. The findings suggest a participative strategy that empowers users and fosters cultural immersion through technology in user-centric cultural preservation.



Figure 3: User-Centric Design and Feedback Mechanisms

Impact on Society and Heritage

Participants had diverse perspectives on technology's impact on society and cultural image reconstruction (see table 6). Common topics were technology's role as a facilitator and disruptor in society and history. Participants say cultural tourism improves cross-cultural understanding, cultural heritage access, and economic prosperity. Concerns about digital divide, culture commercialization, and appropriate technology deployment to avert societal damage were highlighted. "Technology connects us to diverse heritages, but we need to ensure it doesn't dilute the authenticity of cultural experiences," stated UK travel expert Respondent 8. Singaporean respondent 16 remarked, "While technology enhances access, we must be wary of its impact on the sanctity of cultural narratives."

Table 6: Impact on Society and Heritage

Categories	Subcategories	Codes
Positive Impacts	Increased Accessibility	Greater access to cultural heritage
	Economic Opportunities	Stimulating economic growth through heritage

Negative Implications	Digital Divide Issues	Disparities in access due to technology
	Commodification Concerns	Risk of commodifying cultural narratives
Societal Engagement	Cross-Cultural Dialogue	Facilitating cross-cultural conversations
	Community Empowerment	Empowering local communities through tech

These beliefs match research. Technology promotes cultural appreciation and economic development, according to Psomadaki et al. (2019). Knöchelmann (2021) stated that technological cultures struggle to maintain cultural authenticity. These factual parallels confirm participants' concerns and show technology's ability to help society and heritage while warning of risks. Participants' comments reveal how technology impacts society and heritage in different ways. Technology may democratize cultural access and boost the economy, but ethical application is vital to preserve culture. These findings highlight the need for ethical frameworks and careful technology integration to foster cultural appreciation and preserve historical narratives. This advanced understanding promotes ethical technological interventions in cultural preservation by discussing technology's impact on society and heritage.



Figure 4: Impact on Society and Heritage

Data Management and Information Systems

Data management and information systems in cultural image reconstruction were fully discussed by participants (see table 7). Data management is essential for cultural preservation and reconstruction, respondents said. Participants underlined that authentic cultural heritage representations require organized and trustworthy datasets. Standardized information standards are making cultural databases more accessible and interoperable. Data utilization and the impact of heterogeneity on cultural image reconstruction, however, raised ethical concerns. "Structured data repositories are fundamental; however, ethical guidelines must guide their utilization in cultural representation," mentioned the seventh Indian respondent. An experienced tourist to the United Arab Emirates, Respondent 15, said, "Standardized information systems offer cohesion, but ensuring data authenticity amidst heterogeneity remains a complex endeavor."

Table 7: Data Management and Information Systems

Categories	Subcategories	Codes
Structured Repositories	Organized Databases	Database architecture for cultural data
	Data Accessibility	Ensuring that cultural data is readily available
Challenges	Ethical Data Usage	Data ethics concerns Concerns about the value of consistent data systems
	Standardized Systems	Verifying the authenticity of cultural data
Integrity Assurance	Data Authenticity	reliable sources for accurate information
	Reliability	Database architecture for cultural data

These beliefs match research. Konstantakis and Caridakis (2020) discovered that cultural heritage protection requires systematic data management. Knöchelmann (2021) explored cultural heritage protection's data standardization problems. These empirical comparisons show the importance of systematic data management and the ethical considerations of data authenticity and reliability. Finally, participants believe that cultural image reconstruction requires data management and information systems. Organized data repositories ensure accuracy, accessibility, and ethical compliance while addressing data heterogeneity. These findings promote standardized methods that balance technical improvements and ethical concerns to preserve reconstructed cultural representations, contributing to responsible data management in cultural preservation.



Figure 5: Data Management and Information Systems

Cognitive Computing and AI Ethics

Complex and thought-provoking thoughts on cognitive computing and AI ethics in cultural image reconstruction (see table 8). Respondents said cognitive computing may affect cultural image reconstruction. Everyone agreed that AI systems could evaluate huge amounts of cultural data and reconstruct intricate cultural representations. Despite this confidence, several raised ethical concerns regarding AI-based

cultural image reconstruction. Among the ethical concerns brought up were algorithmic biases, openness in decision-making, and AI-generated cultural representation. Regarding the analysis of cultural data, respondent 12 from Mexico stated that, "AI is unmatched, but unbiased algorithms are crucial for ethically sound representations." A seasoned tourist from Japan, respondent number five, said, "While AI aids in reconstruction, transparency in its operations is key to ensuring ethical cultural portrayals."

Table 8: Cognitive Computing and AI Ethics

Categories	Subcategories	Codes
AI Potential	Data Analysis Capability	AI's ability to analyze cultural data
	Reconstruction Assistance	AI's role in aiding cultural reconstruction
Ethical Concerns	Bias Mitigation	Addressing biases in AI algorithms
	Transparency	Ensuring transparency in AI operations
Responsible Usage	Ethical Attribution	Ethical attribution of AI-generated data
	Fairness	Ensuring fairness in AI applications

There is academic research to back this. The ethics of AI algorithms applied in the protection of cultural assets were examined by Ahmad et al. (2022). AI should be able to reflect culture objectively and transparently, according to Wuni and Shen (2020). The participants' concerns are validated by these empirical comparisons, which also draw attention to the ethical issues surrounding the use of cognitive computing in the reconstruction of cultural representations. Finally, a link between cultural image reconstruction, AI ethics, and cognitive computing is established by the participants' points of view. The conversation centers on morality and AI's ability to handle cultural data. These findings support the creation of morally and ethically correct AI systems for recreating

cultural imagery. Responsible innovation is necessary to guarantee that developments in cognitive computing respect moral values and permit the peaceful coexistence of technical progress and cultural heritage preservation ethics.

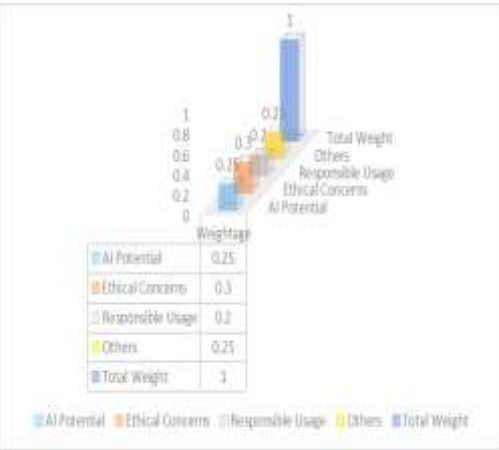


Figure 6: Cognitive Computing and AI Ethics

In the end, the participants' perspectives highlight the complex interplay between technology and the reconstruction of cultural images. In a complex setting, the transformative potential and ethical limitations of technological interventions are highlighted. The participant observations demonstrate a thorough understanding of the delicate balancing act between cultural representations and technology. These viewpoints emphasize the importance of ethical frameworks, transparent processes, and user-centric design in cultural preservation technology. These comprehensive results further the discussion on the proper integration of technology into cultural assets and allow for intelligent innovation and ethical management. Views from the results section show that reconstructing cultural imagery can be done with rigor and balance. Participants' discoveries of technology's diverse effect stress ethical and culturally real innovation. Perspective synthesis also emphasizes the need for inclusive,

participatory approaches that include users, address ethical challenges, and accurately portray and access culture. These findings support discourse, research, and policy frameworks that leverage technology to conserve cultural heritage and cultural narratives' relevance and variety.

Discussion

Rapid technological progress offers revolutionary cultural preservation and technology potential. Merging management information systems and user input with cognitive systems to recreate local culture imagery presents complex dynamics and ethical issues. Digital cultural asset preservation requires a careful balance between ethics and technology. User-centric design and information systems may alter cultural narratives. Although technology has advanced, ethical issues must be considered when conserving cultural images. This research encourages cultural image preservation.

Technology integration's impact on local cultural image reproduction cognitive processes highlighted its potential and limits. Management information systems simplify rebuilding, everyone agreed. Data processing and cultural picture reconstruction were accelerated by integrating these technologies. Cognitive system refinement requires user feedback. These solutions needed user participation to meet client expectations and cultural differences. These

systems' ethical issues dominated discussions despite their importance. Participants recommended strict ethical requirements for using reconstructed cultural visuals to minimize biases and misrepresentations. Research and development of cultural preservation technologies must address the contradiction between technical innovation and ethical responsibility. Results suggest technology might change local cultural picture preservation and distribution. Technology revived dying cultural narratives and made heritage accessible. It was questioned if digital cultural images was real. Technology and culture's delicate balance was the issue. Technology might enhance cultural storytelling, but participants prized authenticity. This duality emphasizes ethical technology use for cultural preservation. The technology also democratized cultural representation. Participants noted that technology may democratize cultural heritage, allowing more people to enjoy varied stories. Cross-cultural understanding and pleasure need accessibility. However, arguments raised digital cultural narrative commercialization problems. Commodification discourse emphasized ethical representation and maintenance of cultural narratives in developing digital contexts through responsible technology integration beyond accessibility. These findings underline the need for a balanced technology-democratization approach without cultural commercialization or dilution.

Table 9: Proposition development

Theme	Proposition	Reference(s)
Technology Integration and Development	The effective integration of management information systems and user feedback into cognitive systems significantly enhances the accuracy and accessibility of reconstructed local cultural images.	(Konstantakis & Caridakis, 2020; Psomadaki et al., 2019)
	Ethical guidelines and stringent protocols embedded within technological integration frameworks are crucial in preserving the authenticity and integrity of reconstructed cultural images.	
Cultural Preservation and Representation	Technological advancements play a pivotal role in revitalizing fading cultural narratives, fostering increased awareness and appreciation of diverse cultural heritage.	(Mao & Chang, 2023; Pietroni & Ferdani, 2021)

	The ethical preservation of cultural authenticity in the digital realm necessitates a balanced integration of technology while safeguarding against potential commodification of cultural narratives.	
User-Centric Design and Feedback Mechanisms	Actively engaging users in design processes and integrating user feedback results in more culturally relevant and engaging technological interfaces.	(Mao & Chang, 2023)
	Iterative design processes driven by user feedback enhance the overall user experience and immersion in cultural representations through technology.	
Impact on Society and Heritage	Technology's impact on society and heritage necessitates comprehensive strategies that balance increased accessibility with mitigating digital divide issues to ensure inclusive cultural representation.	(Char et al., 2020)
	Responsible technological integration empowers local communities, fostering cross-cultural dialogue and community engagement while preserving cultural integrity.	
Data Management and Information Systems	The establishment of structured and reliable data repositories is fundamental in ensuring the accuracy and accessibility of cultural data for reconstruction purposes.	(Knöchelmann, 2021; Longo et al., 2020)
	Ethical data usage protocols and standardized systems are imperative in maintaining the authenticity and reliability of cultural data within information systems.	
Cognitive Computing and AI Ethics	AI-driven cognitive computing offers significant potential in reconstructing cultural images, contingent upon addressing biases and ensuring transparency in AI algorithms.	(Bozzelli et al., 2019; Soehnchen et al., 2023)
	Ethical attribution and fairness in AI-generated cultural representations are essential to acknowledge cultural contributions while upholding ethical standards.	

Technology interventions' transformational and ethical potential was complex in cultural preservation and portrayal. All agreed that technology revives cultural narratives. Technology should promote cultural diversity. Increasing cultural story availability, revive fading traditions, and protect cultural assets need technological interventions. Though enthusiastic, technology interventions in cultural preservation prompted ethical problems. Participants noted the delicate balance between presenting culture with technology and preserving authenticity. The discussion emphasized ethical technological interventions for online cultural narratives. We examined how technology influences cultural authenticity. Cultural authenticity vs. digital innovation debated. Technology might spread cultural stories, but participants warned against

ESIC | Vol. 8 | No. 1 | Spring 2024

fraudulent reconstructions. This conflict highlights the need for strategic technological integration that promotes cultural authenticity to preserve diverse cultural narratives. Technological interventions' ethics were also stressed in cultural preservation discourse. Participants emphasized ethical technology integration beyond accessibility to sustain cultural narratives. The topic covered technological breakthrough ethics and culturally varied tech interventions. This complicated understanding stresses the need for ethical technological interventions to foster diverse cultural narratives. The figures imply technology interventions in cultural preservation and representation have positives and downsides. Discussion emphasizes using technology to alter and preserve culture. It encourages ethical

89



technological integration to maintain and accurately depict diverse cultural narratives.

User-centric design and feedback showed cultural image reconstruction technological expertise. All participants indicated technological interface design and development must involve users. Customizing technology to user tastes and cultures required human participation. We addressed design iteration and user feedback-driven improvement. User experience and cultural immersion improve with iteration. Although cultural differences were tough, user-centric design was praised. Tech interfaces must be culturally inclusive. Some think cultural integration with technology requires intuitive interfaces. User-friendly interfaces that involve many ethnicities promote cultural participation, participants said. The argument illustrated how logical interfaces increase cross-cultural and user comprehension. Cultural relevance bothered participants but valued straightforward interfaces. To guarantee electronic interfaces resonate across cultures, user-centric design that balances usability and cultural authenticity is needed to balance intuitiveness with cultural relevance. User-centric technology empowers and amplifies user voices. Users say technology intervention development empowers and engages. User-centric activities must go beyond interaction to co-create culture and provide feedback. Collaborative paradigms are needed to create and maintain technological interfaces for more accurate and vivid cultural representations. This suggests user-centric design and feedback may change cultural image reconstruction technology. The discourse encourages user interaction, iterative improvement, intuitive interfaces, and empowerment. More inclusive and engaging methods that include diverse cultural notions are needed to ensure technological interventions resonate with customers and promote cultural understanding and appreciation.

Technology's revolutionary potential and difficulties are complicated by its effects on

society and history. Technology might make cultural treasures more accessible, said all participants. Technology allows diverse audiences to hear cultural stories. The economic benefits of historical preservation technologies were investigated. Technology can promote tourism and local economy by using cultural assets. Despite economic and accessibility optimism, digital gap concerns grew. For inclusive cultural representation, participants prioritized technology access equality. Digital cultural story marketing was another topic. Technology may enrich culture, but commercialization and simplicity scare some. We explored the delicate balance between protecting and distributing cultural material through technology. The accessibility-commercialization dilemma highlights the necessity for ethical technology integration to protect cultural narratives. Technological discourse encouraged cross-cultural communication. Participant say tech lets diverse groups discuss cultural heritage across boundaries. Also discussed was how technology strengthens community voices. Technology may protect and enhance local culture, participants said. Ethical technological interventions were useful yet controversial. Accessibility, engagement, ethical depiction, and cultural heritage protection must be considered. The findings show that technology's impact on society and heritage both hopeful and harmful. The rhetoric encourages technology for accessibility and economic opportunity without cultural appropriation or the digital divide. Topic: using ethical technology to preserve and correctly reflect cultural narratives.

Analysis of cultural image reconstruction data management and information systems emphasized structured data. For accurate and accessible cultural data reconstruction, participants unanimously urged structured and reliable data sources. Standardized systems enable cultural database sharing. Data handling ethics were questioned despite their importance. To prevent ethical difficulties and cultural image

authenticity, participants sought tight data usage restrictions for these sites. This illustrates the tight balance between technological progress and ethical data management for cultural preservation. Also assessed were information system data authenticity and reliability. Participants underlined the need of cultural data confirmation in these systems notwithstanding data variety. Although technology organized cultural datasets, participants concerned about data quality and authenticity in numerous sources. Strong systems must validate data quality, reliability, and integrity for cultural imagery reconstruction. Technology interventions' ethics were considered in data management. Participants sought cultural image reconstruction data ethics. Cultural preservation technologies differed on data ethics. Cultural data authenticity and dependability demand ethical technology. Data management and information infrastructure are needed for cultural image restoration, research suggests. Promoting ethical technology integration preserves cultural narratives. These speeches emphasize the need for more comprehensive data management methods that integrate technical advances with ethical duties to maintain and authentically portray varied cultural narratives.

Images of local culture enlivened cognitive computing and AI ethics by highlighting ethical issues and revolutionary possibilities of technology interventions. The potential for AI-powered cognitive computing to comb through huge cultural databases was well understood. Cognitive processes processed complicated cultural narratives to form local representations. AI algorithm ethics dominated the discussion. Reconstructing cultural iconography required AI bias correction. This dilemma exists at the crossroads of AI and ethics. AI cognitive systems should be fair and transparent. Ethical decision-making and open AI were stressed. We examined AI-created cultural representation ethics. Participants stressed ethical attribution to highlight cultural contributions. This talk highlighted the challenge of authentically

depicting diverse cultures while using AI to develop civilizations. Cognitive computing discussions diverged into AI ethics. Reconstructing cultural images and cognitive system morality for AI ethics were discussed. Creating and utilizing AI systems must follow strong ethical rules to authentically portray cultural narratives. Purposeful cognitive computing is needed to accurately and ethically reflect multiple cultural narratives in AI ethics technology. Finally, cognitive computing can help recreate cultural images, but ethics must be considered. Cognitive systems powered by artificial intelligence should accurately and ethically recreate cultural representations with strong ethical foundations and thoughtful technology integration. These speeches emphasize the need to combine cutting-edge cognitive computers with ethical commitments to conserve and share cultural stories.

This study examines cultural image restoration ethics. Cultural imagery can be more accurate and accessible with information technologies that translate human cognition. This stunning visual raises moral considerations regarding technology. This study shows that ethical accountability and technology integration necessitate ethical frameworks. Digital images of local culture should be preserved and shared. This study found that ethical technology boosts authenticity. Our research suggests employing technology ethically to maintain culture's rich legacy.

## Conclusion

The use of technology and cultural preservation to restore local cultural representations is a promising yet morally challenging field. The impact of user-centric design and management information systems on the reconstruction of cultural representations during technological convergence was examined in this study. The integration of systems reveals innovation's capacity to democratize access, promote intercultural communication, and

reinstantiate narratives. Revolution holds the promise of moral conundrums that demand ongoing thought. The ethical imperative driving technological breakthroughs in cultural preservation highlights the necessity for robust protection laws for cultural representation. The significance of managing technological progress while upholding cultural narratives is highlighted by this study. Iterative design and user involvement in technology interventions were also highlighted in this study. The examination of user feedback methods and user interface design demonstrates how technology may democratize culture. To reconcile technological intuitiveness with cultural relevance, the debate stresses inclusive strategies that embrace diverse cultural ideas. This research encourages user-centric methods that enhance user voices and guarantee digital technology interfaces connect with diverse cultural backgrounds. This study requires technological integration that balances ethics and creativity. Cognitive systems integrate management information systems and user feedback mechanisms, combining technology with ethics. This study underlines the necessity to maintain ethical norms that value and protect local cultural images as technology advances. This research encourages technological integration to preserve, illustrate, and celebrate civilizations' unique past.

## Theoretical and Practical Implications

This study reveals how technology changes local culture image preservation and portrayal. Management information systems and user-centric cognitive systems can maintain culture. This examines technology's socio-cultural effects on local culture narratives beyond technological application. It invites theoretical study of technology's cultural impact and societal effects. The research enhances technology-ethics discussion by examining ethical challenges in cultural preservation technologies. Cultural reconstruction technology development and application require solid

ethical basis. Theory supports ethical decision-making in cultural preservation technology invention, implementation, and usage by subtly examining ethics in technology. Theoretical problems arise about technology's ethics, ethics-driven design, and technological stakeholders' cultural representation ethics. According to research, cultural representation technology interventions require user input and participatory design. Participation, co-creation, and technology user involvement theories are affected. It fosters theoretical research into user-centric design's transformative potential and inclusive user engagement in technology interfaces. Proposing ways that empower and co-create cultural narratives with technology challenges theoretical paradigms by going beyond standard user feedback models. Theoretical research on technological interventions' delicate balance between technology and cultural authenticity is needed. A research on authenticity in technologically-mediated representations prompts theoretical discussions on authenticity, identity, and representation in the digital age. Cultural preservation technology interventions present challenges about balancing development and variety. A research reveals how technology may democratize cultural heritage. Digital inclusion, cultural democratization, and tech-enabled social interaction are conceptually relevant. This spurs theoretical investigations on cultural representation democratization and how technology might foster cross-cultural dialogue, community engagement, and social empowerment through cultural narratives. Information systems research is affected by cognitive systems for cultural image reconstruction that include management information systems. It calls into doubt structured data repositories, standardized information systems, and cultural validity. This emphasises organised data repositories in cultural preservation and fosters theoretical conversations on ethical data use and dependability in cultural reconstruction

information systems. These theoretical implications encourage multidisciplinary debates spanning technology, ethics, cultural studies, user involvement, and information systems, creating a rich tapestry of theoretical questions for future research and discourse.

This study has practical guidance for technology cultural preservation stakeholders. It sets ethical standards for building, implementing, and employing technology tools to recreate cultural representations. Political leaders, technologists, and cultural heritage experts use these guidelines to negotiate technological integration's ethical issues. They assist create ethical technology integration strategies that protect diverse cultural narratives. Digital interfaces may be more inclusive with user interaction and participatory design. User-centric design prioritizes user feedback, empowers users to co-create cultural representations, and ensures cultural relevance in technological interfaces. These practical implications assist designers and developers use iterative design to boost user engagement and immersion in culturally sensitive innovation. Reliable cultural repositories are needed for cultural reconstruction management information system integration. Accessible cultural resources with diverse datasets are practical. Heritage experts, archives, and organizations utilize these repositories to protect and access cultural data. They encourage cultural institutions to collaborate and share expertise on cultural preservation. Education and awareness are affected by technology-democratizing cultural representation study. It offers practical solutions to digital inclusion and cultural narrative expertise. These activities help educators, legislators, and community leaders learn digital literacy and access cultural heritage-themed technologies. They foster community respect and cross-cultural understanding. Technological community participation affects inclusive community engagement strategies. It encourages practical activities that help local communities maintain and enhance culture. These include

workshops, community initiatives, and tech-enabled cultural exchanges. They help cultures express themselves, preserve history, and foster pride. IT for cultural reconstruction must affect ethical data policy. Governments and regulators must develop ethical cultural data use, storage, and sharing policies. These policies preserve data integrity, authenticity, and privacy while ethically using cultural data in technology interventions. The government, technology, cultural institutions, educators, and communities may address these effects. They advocate for inclusive, suitable technological integration in cultural preservation to honor diverse cultures.

## Limitations and Recommendation for Future Research

The study's small sample and geographical focus limit applicability. This contextual distinctiveness may restrict the study's applicability. Future research should diversify populations and expand geographically to increase generalizability. Ethics constrain technological cultural preservation. The study highlighted ethics, although technology-driven cultural restoration is ethically challenging. Researchers should study ethical decision-making across cultures and create ethical technological integration frameworks. Existing techniques and frameworks may limit the study's applicability in a fast-changing technology ecosystem. Technology is always changing, therefore cultural reconstruction research must adapt. Subjectivity hinders understanding user opinions and preferences in user feedback techniques. Interpretation biases and participation levels may distort user choices. Future study should employ novel methods to gather a variety of user feedback to better understand cultural reconstruction user preferences.

More cultures and locales should be studied in future studies. This broader approach would allow comparison of technology interventions and cultural image rebuilding. Technology for

cultural preservation must be morally assessed. To preserve and depict diverse cultural narratives, future research should build robust ethical frameworks for technological tool invention, deployment, and use. AI and AR may help cultural reconstruction research. Investigating these achievements may enhance cultural image reconstruction. Research on new user input collection and analysis tools for cultural reconstruction is crucial. Participatory or

innovative technology may better represent user preferences and cultural variances. Interdisciplinary research including technology, culture, ethics, and sociologists may improve future studies. Collaboration might lead to reconstruction methodologies that balance technical innovation, ethics, and cultural authenticity, creating a more holistic vision of cultural preservation through technology.

## WORKS CITED

- Ahmad, K., Maabreh, M., Ghaly, M., Khan, K., Qadir, J., & Al-Fuqaha, A. (2022). Developing future human-centered smart cities: Critical analysis of smart city security, Data management, and Ethical challenges. *Computer Science Review*, 43, 100452.
- Alavi, S. F., & Tanaka, T. (2023). Analyzing the Role of Identity Elements and Features of Housing in Historical and Modern Architecture in Shaping Architectural Identity: The Case of Herat City. *Architecture*, 3(3), 548-577.
- Andreani, S., Kalchschmidt, M., Pinto, R., & Sayegh, A. (2019). Reframing technologically enhanced urban scenarios: A design research model towards human centered smart cities. *Technological Forecasting and Social Change*, 142, 15-25.
- Bedenlier, S., Bond, M., Buntins, K., Zawacki-Richter, O., & Kerres, M. (2020). Facilitating student engagement through educational technology in higher education: A systematic review in the field of arts and humanities. *Australasian Journal of Educational Technology*, 36(4), 126-150.
- Bereczki, E. O., & Kárpáti, A. (2021). Technology-enhanced creativity: A multiple case study of digital technology-integration expert teachers' beliefs and practices. *Thinking Skills and Creativity*, 39, 100791.
- Bozzelli, G., Raia, A., Ricciardi, S., De Nino, M., Barile, N., Perrella, M., . . . Palombini, A. (2019). An integrated VR/AR framework for user-centric interactive experience of cultural heritage: The ArkaeVision project. *Digital Applications in Archaeology and Cultural Heritage*, 15, e00124.
- Char, D. S., Abràmoff, M. D., & Feudtner, C. (2020). Identifying ethical considerations for machine learning healthcare applications. *The American Journal of Bioethics*, 20(11), 7-17.
- Ellen, R. (2023). Identifying plants as a process of cultural cognition: Comparing knowledge production and communities of practice in modern botanical science and Nuaulu ethnobotany. *Journal of Ethnobiology*, 43(3), 208-218.
- Fahn, C. W. (2020). Marketing the prosthesis: Supercrip and superhuman narratives in contemporary cultural representations. *Philosophies*, 5(3), 11.
- Fanea-Ivanovici, M., & Pană, M.-C. (2020). From Culture to Smart Culture. How digital transformations enhance citizens' well-being through better cultural accessibility and inclusion. *IEEE Access*, 8, 37988-38000.
- Fusco Girard, L., & Vecco, M. (2021). The "intrinsic value" of cultural heritage as driver for circular human-centered adaptive reuse. *Sustainability*, 13(6), 3231.
- Guzmán, S. A., Föster, P. F., Ramírez-Correa, P., Grandón, E. E., & Alfaro-Perez, J. (2018). Information systems and their effect on organizational performance: An inquiry into job satisfaction and commitment in higher education institutions. *Journal of Information Systems Engineering and Management*, 3(4), 26.
- Hassan, N. R., Lowry, P. B., & Mathiassen, L. (2023). Useful products in information systems theorizing: A discursive formation perspective *Advancing Information Systems Theories, Volume II: Products and Digitalisation* (pp. 17-77): Springer.
- Howell, E. L., & Brossard, D. (2021). (Mis) informed about what? What it means to be a science-literate citizen in a digital world. *Proceedings of the National Academy of Sciences*, 118(15), e1912436117.

- Hussain, Z. (2021). Paradigm of technological convergence and digital transformation: The challenges of CH sectors in the global COVID-19 pandemic and commencing resilience-based structure for the post-COVID-19 era. *Digital Applications in Archaeology and Cultural Heritage*, 21, e00182.
- Kahn, A., & Child, C. (2021). Conversation Pieces: How Digital Technologies might Reinvigorate and reveal the Social Lives of Objects. *Materiality and Visuality in North East India: An Interdisciplinary Perspective*, 37-53.
- Knöchelmann, M. (2021). The democratisation myth: Open Access and the solidification of epistemic injustices. *Science & Technology Studies*, 34(2), 65-89.
- Konstantakis, M., & Caridakis, G. (2020). Adding culture to UX: UX research methodologies and applications in cultural heritage. *Journal on Computing and Cultural Heritage (JOCCH)*, 13(1), 1-17.
- Labadi, S., Giliberto, F., Rosetti, I., Shetabi, L., & Yildirim, E. (2021). Heritage and the sustainable development goals: Policy guidance for heritage and development actors. *International Journal of Heritage Studies*.
- Lak, A., Gheitas, M., & Timothy, D. J. (2020). Urban regeneration through heritage tourism: Cultural policies and strategic management. *Journal of Tourism and Cultural Change*, 18(4), 386-403.
- Li, N., Palaoag, T. D., Guo, T., & Du, H. (2023). Usability Evaluation and Enhancement of the AI-Powered Smart-Campus Framework: A User-Centred Approach. *Journal of Information Systems Engineering and Management*, 8(4), 23373.
- Longo, F., Padovano, A., & Umbrello, S. (2020). Value-oriented and ethical technology engineering in industry 5.0: A human-centric perspective for the design of the factory of the future. *Applied Sciences*, 10(12), 4182.
- Madila, S. S., Dida, M. A., & Kaijage, S. (2021). A review of usage and applications of social media analytics.
- Mai, N. T. T., Tuan, H. T., Tien, N. H., Van Tho, D., Trang, N. T. T., & Mai, N. P. (2023). Cultural tourism resources: State policy and solutions for SMEs in tourism industry. *International Journal of Entrepreneurship and Small Business*.
- Mambile, C., & Machuve, D. (2019). Web based Approach to overcome the Market Information Gap between poultry farmers and potential buyers in Tanzania. *Journal of Information Systems Engineering and Management*, 4(1), em0085.
- Mao, C., & Chang, D. (2023). Review of cross-device interaction for facilitating digital transformation in smart home context: A user-centric perspective. *Advanced Engineering Informatics*, 57, 102087.
- Mehrizi, M. H. R., Nicolini, D., & Mödol, J. R. (2022). How do organizations learn from information system incidents? a synthesis of the past, present, and future. *MIS Quarterly*, 46(1).
- Miraz, M. H., Ali, M., & Excell, P. S. (2021). Adaptive user interfaces and universal usability through plasticity of user interface design. *Computer Science Review*, 40, 100363.
- Neumann, W. P., Winkelhaus, S., Grosse, E. H., & Glock, C. H. (2021). Industry 4.0 and the human factor- A systems framework and analysis methodology for successful development. *International journal of production economics*, 233, 107992.
- Nisi, V., Bala, P., Cesário, V., James, S., Del Bue, A., & Nunes, N. J. (2023). "Connected to the people": Social Inclusion & Cohesion in Action through a Cultural Heritage Digital Tool. *Proceedings of the ACM on Human-Computer Interaction*, 7(CSCW2), 1-37.
- Pietroni, E., & Ferdani, D. (2021). Virtual restoration and virtual reconstruction in cultural heritage: Terminology, methodologies, visual representation techniques and cognitive models. *Information*, 12(4), 167.
- Psomadaki, O. I., Dimoulas, C. A., Kalliris, G. M., & Paschalidis, G. (2019). Digital storytelling and audience engagement in cultural heritage management: A collaborative model based on the Digital City of Thessaloniki. *Journal of Cultural Heritage*, 36, 12-22.
- Ruzzante, S., Labarta, R., & Bilton, A. (2021). Adoption of agricultural technology in the developing world: A meta-analysis of the empirical literature. *World Development*, 146, 105599.
- Soehnchen, C., Rietz, A., Weirauch, V., Meister, S., & Henningsen, M. (2023). Creating an intercultural user-Centric Design for a Digital Sexual Health Education App for Young women in Resource-Poor regions of Kenya: qualitative self-extended double Diamond Model for requirements Engineering Analysis. *JMIR Formative Research*, 7, e50304.
- Stivers, R. (2023). *The culture of cynicism: American morality in decline*: Wipf and Stock Publishers.

- Wang, M.-Y., Li, Y.-Q., Ruan, W.-Q., Zhang, S.-N., & Li, R. (2023). Cultural inheritance-based innovation at heritage tourism destinations: Conceptualization, structural dimensions and scale development. *Journal of hospitality and tourism management*, 55, 118-130.
- Wang, X., & Liu, Z. (2022). Three-Dimensional Reconstruction of National Traditional Sports Cultural Heritage Based on Feature Clustering and Artificial Intelligence. *Computational Intelligence and Neuroscience*, 2022.
- Wen, Y., Haider, S. A., & Boukhris, M. (2023). Preserving the past, nurturing the future: a systematic literature review on the conservation and revitalization of Chinese historical town environments during modernization. *Frontiers in Environmental Science*.
- Otero, X., Santos-Estevéz, M., Yousif, E., & Abadía, M. F. (2023). Images on stone in sharjah emirate and reverse engineering technologies. *Rock Art Research: The Journal of the Australian Rock Art Research Association (AURA)*, 40(1), 45-56.
- Nguyen Thanh Hai, & Nguyen Thuy Duong. (2024). An Improved Environmental Management Model for Assuring Energy and Economic Prosperity. *Acta Innovations*, 52, 9-18. <https://doi.org/10.62441/ActaInnovations.52.2>
- Yuliya Lakew, & Ulrika Olausson. (2023). When We Don't Want to Know More: Information Sufficiency and the Case of Swedish Flood Risks. *Journal of International Crisis and Risk Communication Research* , 6(1), 65-90. Retrieved from <https://jicrcr.com/index.php/jicrcr/article/view/73>
- Szykalski, J., Miazga, B., & Wanot, J. (2024). Rock Painting Within Southern Peru in The Context of Physicochemical Analysis of Pigments. *Rock Art Research: The Journal of the Australian Rock Art Research Association (AURA)*, 41(1), 5-27.
- Mashael Nasser Ayed Al-Dosari, & Mohamed Sayed Abdellatif. (2024). The Environmental Awareness Level Among Saudi Women And Its Relationship To Sustainable Thinking. *Acta Innovations*, 52, 28-42. <https://doi.org/10.62441/ActaInnovations.52.4>
- Kehinde, S. I., Moses, C., Borishade, T., Busola, S. I., Adubor, N., Obembe, N., & Asemota, F. (2023). Evolution and innovation of hedge fund strategies: a systematic review of literature and framework for future research. *Acta Innovations*, 50,3, pp.29-40. <https://doi.org/10.62441/ActaInnovations.52.4>
- Andreas Schwarz, Deanna D. Sellnow, Timothy D. Sellnow, & Lakelyn E. Taylor. (2024). Instructional Risk and Crisis Communication at Higher Education Institutions during COVID-19: Insights from Practitioners in the Global South and North. *Journal of International Crisis and Risk Communication Research* , 7(1), 1-47. <https://doi.org/10.56801/jicrcr.V7.i1.1>
- Sosa-Alonso, P. J. (2023). Image analysis and treatment for the detection of petroglyphs and their superimpositions: Rediscovering rock art in the Balos Ravine, Gran Canaria Island. *Rock Art Research: The Journal of the Australian Rock Art Research Association (AURA)*, 40(2), 121-130.
- Tyler G. Page, & David E. Clementson. (2023). The Power of Style: Sincerity's influence on Reputation. *Journal of International Crisis and Risk Communication Research* , 6(2), 4-29. Retrieved from <https://jicrcr.com/index.php/jicrcr/article/view/98>
- Wuni, I. Y., & Shen, G. Q. (2020). Critical success factors for modular integrated construction projects: A review. *Building research & information*, 48(7), 763-784.
- Zahid, A., Poulsen, J. K., Sharma, R., & Wingreen, S. C. (2021). A systematic review of emerging information technologies for sustainable data-centric health-care. *International Journal of Medical Informatics*, 149, 104420.
- Zidianakis, E., Partarakis, N., Ntoa, S., Dimopoulos, A., Kopidaki, S., Ntagianta, A., . . . Kontaki, E. (2021). The invisible museum: A user-centric platform for creating virtual 3D exhibitions with VR support. *Electronics*, 10(3), 363.