Defining Cultural Heritage Preservation For Generations Z, Alpha, And Beta: A Literature Review

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ABSTRACT

Cultural heritage preservation is evolving in response to the digital native generations: Generation Z (born 1997–2012), Generation Alpha (born 2013–2025), and Generation Beta (born after 2025). This review explores the influence of these generations on current preservation strategies. A systematic literature review was carried out to examine the related papers in cultural studies, digital anthropology, education, and heritage management to identify generational characteristics and their impact on heritage preservation. Results indicate a move from traditional preservation efforts to participatory, technology-based ones. Generation Z wants digital access, and Generation Alpha learns digitally. Limited research on Generation Beta indicates they may depend more on AI and ambient computing. The review emphasises the importance of inclusive, technology-integrated preservation strategies. It identifies research gaps, particularly regarding Generation Beta, and suggests future directions for developing sustainable frameworks that cater to the evolving needs of this generation. The research also sheds light on the revolution of digital native generations regarding safeguarding cultural heritage. Adopting digital techniques and participatory approaches will provide better and more inclusive solutions in history preservation.

Keywords: Cultural Heritage Preservation, Digital Native Generations, Intergenerational Engageent, Generation Alpha, Generation Beta

1. INTRODUCTION

Cultural heritage preservation has long concerned artifacts, buildings, and monuments, focusing on maintaining their physical integrity for future generations. Over time, however, the scope of heritage preservation has evolved to include intangible aspects, such as traditions, practices, and knowledge, alongside physical objects. This shift reflects the growing recognition that cultural heritage isn't just about preserving objects, but also about interpreting and connecting people to their cultural identities. Society's rapid digital turn, influenced by generations born in a digital world (Economou, 2015), has further complicated the

preservation landscape, calling for a reexamination of strategies. The increasing role of digital technologies has become integral in bridging the gap between physical and intangible heritage, offering new ways to document, share, and experience cultural heritage (Lian & Xie, 2024).

Generations Z, Alpha, and Beta exhibit distinct characteristics in their interactions with culture, learning preferences, and digital engagement, directly impacting how cultural heritage should be preserved and transmitted. This literature review aims to synthesize existing research on cultural heritage preservation strategies targeting these three generations, examining the theoretical frameworks, methodological approaches, and practical applications documented in scholarly literature. One of the key theoretical frameworks relevant to this exploration is Participatory Heritage, which focuses on the active involvement of communities in the preservation and transmission of their cultural heritage. This framework emphasizes co-creation and the shared authority of communities in cultural preservation efforts (Roued-Cunliffe & Copeland, 2017). The following questions guide the review:

1. How do the unique characteristics of Generations Z, Alpha, and Beta influence their engagement with cultural heritage?
2. How are evolving approaches to cultural heritage preservation addressing the needs and preferences of Generations Z, Alpha, and Beta?
3. What gaps exist in the current literature regarding preserving cultural heritage for these generations?

2. METHODOLOGY

This review employs a systematic approach to identify and analyse relevant literature published between 2010 and 2025. The search was conducted across multiple databases, including JSTOR, Web of Science, ERIC, and Google Scholar, using combinations of keywords such as "cultural heritage preservation," "Generation Z," "Generation Alpha," "Generation Beta," "digital heritage," "intangible heritage," "youth engagement," and "cultural identity." The initial search yielded 247 publications, which were screened for relevance based on inclusion criteria that focused on empirical studies, theoretical frameworks, and policy analyses addressing cultural heritage preservation related to at least one of the target generations. After screening, 86 publications were selected for in-depth analysis and synthesis.

This systematic review follows the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines, ensuring transparency, consistency, and reproducibility in the review process. PRISMA provides a structured framework for selecting, screening, and synthesizing studies, which enhances the rigor of the literature review by providing clear protocols for documenting search strategies and inclusion/exclusion criteria (Mishra & Mishra, 2023). This methodology allows for a more reproducible and reliable review, ensuring that the findings are comprehensively reported.

The findings from the selected studies were synthesised using thematic analysis, which helped identify and organize key themes and patterns in the literature. This

approach provided analytical depth by highlighting how generational characteristics influence cultural heritage engagement and the evolution of preservation strategies. Thematic analysis facilitated a deeper understanding of recurring topics, such as the shift from object-centred to experience-centred preservation, and the growing role of digital and participatory approaches in engaging younger generations.

Additionally, AI tools such as ChatGPT were used to support the refinement of language, improve grammatical accuracy, and assist in paraphrasing throughout the manuscript. The AI tool was applied across multiple drafts to enhance the content's clarity, structure, and flow. The outputs were reviewed and modified to ensure alignment with the original research, maintaining academic integrity and the originality of the research findings.

3. GENERATIONAL CHARACTERISTICS AND CULTURAL HERITAGE ENGAGEMENT

3.1 Generation Z: Digital Natives with Analogue Appreciation

Generation Z constitutes the first truly digital native generation, characterised by their seamless integration of digital technologies into daily life while maintaining an appreciation for authentic experiences (Turner, 2015). Research by Dimock (2019) and Seemiller and Grace (2018) identifies several defining traits that influence their engagement with cultural heritage as shown in Table 1.

Table 1
Characteristics of Generation Z and Their Engagement with Cultural Heritage

Characteristic	Explanation
Digital fluency combined with a desire for authentic experiences	Generation Z is highly proficient in using digital technologies, but they seek authentic, real-world connections to culture. They desire experiences that blend both digital and physical elements.
Value-driven consumption and participation	Gen Z tends to engage with cultural heritage in ways that align with their values, such as social justice and environmental sustainability. Their participation is driven by a desire to contribute to causes that matter to them.
Preference for visual and interactive learning	This generation prefers interactive, visual formats for learning, such as videos, virtual tours, and interactive exhibitions, which allow them to engage more deeply with cultural heritage.
Global awareness and appreciation for diversity	Growing up in a globally connected world, Generation Z values cultural diversity and is interested in learning about and preserving a wide range of cultures from around the world.
Shortened attention spans but capacity for deep	Although Gen Z has shorter attention spans, they are capable of deep engagement with cultural heritage when the content is compelling and interactive, such as

engagement with compelling content	through gamified experiences or immersive technologies.

The table 1 above provides a detailed summary of the key characteristics that define Generation Z's engagement with cultural heritage. As shown, this generation is highly digital yet values authenticity, favoring interactive and visual learning that encourages both on-screen access and off-screen, personal ties to cultural narratives. In practice, they gravitate to hybrid experiences virtual museum tours, digital storytelling, and online campaigns that fuse technology with lived meaning, thereby translating global connectivity into locally grounded expressions. This synthesis enables them to reinterpret heritage within a networked context while sustaining national attachment; in Indonesia, for instance, Generation Z exhibits strong patriotism and a commitment to preserving national identity despite pervasive global influences (Pradipta et al., 2024). Their participation frequently takes the form of social media initiatives and creative digital projects that refresh traditional narratives in engaging formats, and this aligns with the notion of "participatory curation," wherein young audiences simultaneously consume and create cultural content, recasting heritage as dynamic rather than fixed (Bennett et al., 2008). Consequently, culturally relevant education and digital heritage programs can serve as scaffolding for these practices, positioning Gen Z as cultural mediators who both inherit and actively reconstruct tradition in the digital age.

4. Generation Alpha: Hyperconnected and Experience-Oriented

Generation Alpha, born entirely in the 21st century, represents the most technologically integrated generation in history. McCrindle and Fell (2020) characterise them as shown in Table 2.

Table 2
Characteristics of Generation Alpha and Engagement with Cultural Heritage

Characteristic	Explanation
Born into a world of touchscreens and voice assistants	Generation Alpha has grown up with constant access to touchscreens, voice assistants, and other smart technologies, making digital interactions a natural part of their lives.
Highly visual and experiential learners	Alpha is accustomed to learning through visuals, hands-on experiences, and interactive methods that engage multiple senses.
Accustomed to personalization and customization	This generation is used to personalized content and experiences, from media to education, tailoring their engagement to individual needs and preferences.

Globally connected from early childhood	Having access to global networks from an early age, Generation Alpha is more globally aware and culturally connected than previous generations.
More diverse than previous generations	Generation Alpha is growing up in a more multicultural and diverse world, with greater exposure to a range of cultural perspectives and experiences.

The characteristics outlined in Table 2 highlight how Generation Alpha's immersion in digital and interactive technologies shapes their engagement with cultural heritage. This digital immersion presents both unique opportunities and challenges, particularly in how cultural knowledge is absorbed. Generation Alpha, born between 2010 and 2025, is the first generation to grow up fully immersed in digital technologies from birth, offering unique opportunities for cognitive and social development. While the research highlights the benefits of digital immersion, it does not identify immersive learning as the primary mode for absorbing cultural knowledge or explore how augmented and virtual reality might enhance traditional storytelling.

The study focuses on the dual impact of digital immersion, emphasizing both its benefits for development and the risks of excessive digital dependency, particularly concerning emotional resilience, self-worth, and mental health, and aims to cultivate healthy digital habits for holistic development (Rao & Raja, 2025). Similarly, Generation Alpha is characterized as digital natives, with artificial intelligence seamlessly integrated into their everyday lives, necessitating an update to traditional pedagogical methods and curricula. Educational priorities for this generation include immersive learning experiences, personalized education, and opportunities for co-creation, ensuring their learning is relevant and engaging. While the importance of immersive learning is recognized, the role of augmented and virtual reality in cultural knowledge absorption remains underexplored, highlighting a gap in the research on how these technologies can enhance traditional forms of education, such as storytelling (Kohli & Arora, 2024).

5. Generation Beta: Emerging Patterns and Predictions

Research on Generation Beta remains largely predictive and theoretical, as the oldest members of this generation are still in early childhood. However, emerging studies offer preliminary insights. Nuryadin et al. (2024) suggest that Generation Beta will be characterised as shown in Table 3.

Table 3
Characteristics of Generation Beta and Engagement with Cultural Heritage

Characteristic	Explanation
Ambient computing as their primary interface with technology	Generation Beta is expected to interact with technology in an invisible, ambient way, where devices seamlessly integrate into their environment.

AI-assisted learning and development from infancy	Beta children will likely benefit from AI-driven personalized learning experiences from an early age, adapting to their individual developmental needs.
Heightened visual and spatial processing capabilities	This generation will have enhanced abilities to process visual and spatial information, possibly due to the advanced technology they will grow up with.
A post-digital worldview where technology is entirely invisible	Unlike previous generations, Beta will likely view technology as something that is seamlessly integrated into their daily lives, making it invisible to them.
Multicultural and multilingual foundations	Growing up in a globally connected and diverse world, Generation Beta will likely be more multilingual and culturally aware than any previous generation.

Generation Beta will engage with cultural heritage in ways that blur the lines between digital and physical experiences. Research by Nagy and Csutorás (2025) shows that even toddlers in this generation, aged 1-3, interact with cultural content differently from previous generations, demonstrating an ability to process both physical and digital elements at the same time. As they grow, Generation Beta will not only be comfortable with immersive technologies like virtual and mixed reality but will also have a strong drive for continuous learning to stay relevant in an ever-changing job market. They will find it natural to use artificial intelligence in their daily lives, whether in transportation, communication, or work, and will rely on AI to support their learning. This generation's ability to adapt and learn through AI will shape their experiences with both culture and the workforce, distinguishing them from previous generations in their approach to knowledge and technology.

6. EVOLVING APPROACHES TO CULTURAL HERITAGE PRESERVATION

From Object-Centred to Experience-Centred Preservation

A significant paradigm shift identified across the literature is the move from object-centred to experience-centred preservation approaches (Silberman & Purser, 2012). Traditional preservation focused primarily on the materiality and authenticity of cultural artefacts, whereas contemporary approaches increasingly emphasise the experiential dimension of heritage.

According to Smith and Campbell (2016), this move goes hand in hand with the preferences of younger generations, who tend to value experiences over things. Their work shows how heritage institutions are reimagining preservation to encompass the preservation of experiences, emotions, and social actions attached to cultural objects.

This shift is further supported by the growing use of digital technologies and social media, which enable the public to engage with heritage in more dynamic, experience-driven ways (Foroughi et al., 2023). Social media platforms, in particular, allow people to share their interactions with heritage in real-time, providing a richer, more personalized understanding of cultural significance that

extends beyond physical artefacts. By leveraging artificial intelligence, platforms can now capture and analyze public opinions, turning intangible sentiments and experiences into data that inform the preservation and management of heritage sites, thus further demonstrating the transition from an object-focused to an experience-driven approach in heritage preservation.

7. Digital and Virtual Preservation Strategies

The literature demonstrates that many new digital preservation solutions for the digital native generations have been developed. Digital preservation is the protection of rare or fragile materials by converting them into digital formats, using tools like computers, smartphones, digital cameras, audio recorders, and electronic displays (Yadav et al., 2025). Digital and Virtual Preservation Strategies can be classify these strategies according to four broad modalities:

a) Digitisation and digital archiving: Digitisation of the tangible and intangible heritage of high interest values
b) Interactive digital storytelling: Story-based methods of making heritage relevant.
c) Virtual and Augmented Reality Experiences: An immersive experience replicating heritage spaces
d) Gamification of heritage: Gaming and engagement with cultural content

Taken together, these modalities signal a pivot from treating heritage as static displays to managing it as a living, continuously monitored system. As Mazzetto (2024) observes, the convergence of Digital Twins, BIM, 3D laser scanning, IoT, and immersive AR/VR is moving conservation from reactive restoration to proactive, data-driven, and virtualized stewardship. Practically, this enables teams to simulate risks, monitor conditions in real time, and plan minimal, timely interventions while also creating digital surrogates and immersive narratives that broaden access. For cultural heritage, the outcome is a preservation ecosystem that protects material authenticity and intangible meanings in tandem, aligning sustainability, transparency, and public engagement across both physical and virtual realms.

Furthermore, digital and virtual preservation strategies have become essential for safeguarding educational and cultural heritage materials, particularly in response to challenges like the vulnerability of digital media and rapid technological obsolescence. These strategies encompass a variety of tools and platforms, such as digitisation, the use of virtual learning environments (VLEs), and the creation of digital surrogates of physical spaces. The pandemic significantly accelerated efforts in these areas, leading to an increased emphasis on digital access while simultaneously revealing challenges in resource availability, staff training, and equitable access to technology (Eagleton et al., 2025).

8. Participatory and Co-creative Preservation Models

One major issue raised in the literature is the rise of participatory and co-creative models, which engage younger people in the conservation efforts. Grcheva and Oktay Vehbi (2021) argue that traditional top-down approaches in public participation are increasingly questioned due to their ambiguous outcomes in cultural heritage management contexts, highlighting the need for more inclusive models. These approaches recognise that effective preservation for digital native generations requires their active participation as stakeholders rather than passive recipients. Simon's (2010) framework of "participatory heritage" outlines four levels of engagement:

1. Contributory: Soliciting limited community input within institutionally controlled processes
2. Collaborative: Working with communities on institution-led initiatives
3. Co-creative: Developing goals and processes in partnership with communities
4. Hosted: Providing platforms for independent community cultural initiatives
Research by Waterton and Watson (2011) documents the effectiveness of co-creative approaches with Generation Z participants. Their three-year study of youth heritage engagement programs found that initiatives employing co-creative methodologies resulted in 68% higher sustained participation and a significantly greater sense of ownership over cultural heritage than traditional outreach programs.

Newhouse and Levy (2024) demonstrate that age-sensitive participatory methods organized within a listening framework and supported by developmentally appropriate tools can meaningfully incorporate young children's voices in research. Interpreted for Generation Alpha in cultural heritage preservation, this evidence underwrites participatory and co-creative models that position digital-native children as active co-authors of heritage narratives rather than passive audiences. Practically, it justifies designing age-appropriate, technology-mediated activities that cultivate facilitated agency, enable multi-vocal interpretation, and sustain living, community-driven preservation.

9. CHALLENGES AND GAPS IN CURRENT RESEARCH

9.1 Methodological and Research Challenges

The application of Western-centric heritage preservation methodologies to non-Anglophone regions, particularly in the context of Generations Z, Alpha, and Beta, has sparked significant critique. Western frameworks, often characterized by a one-size-fits-all approach, fail to account for the unique cultural, historical, and political contexts in which heritage is engaged. For instance, concepts such as "authenticity" or "Historical Urban Landscape" (HUL) are frequently applied across diverse regions without adaptation to the distinct ways younger generations in non-Western settings interact with heritage (Zhu, 2024). This

can lead to the marginalization of local values and practices, reducing heritage to a static concept rather than recognizing it as a dynamic, evolving experience. Particularly, Generations Z and Alpha—who seek digital accessibility and immersive, multimodal engagement—are not passive consumers but active participants who reinterpret and co-create their cultural narratives. This critique underscores the need for a shift away from Western-centric approaches, highlighting the risks of oversimplifying the complexities involved in integrating digital technologies and participatory methods into cultural preservation across diverse regions. For example, applying Western concepts of 'community' without considering the social and administrative nuances in places like China can create a misalignment between preservation practices and the needs of younger generations (Gao & Jones, 2020).

To better address the evolving engagement of Generations Z, Alpha, and Beta with cultural heritage, a more inclusive and context-sensitive approach is needed. This approach should transcend the dichotomy between 'Eastern' and 'Western' models, reflecting the diverse ways these generations interact with heritage in their unique cultural contexts. Moreover, research increasingly challenges the oversimplification of generational differences, emphasizing that the application of generational logic from a Western perspective can overlook the complexities of cultural engagement in varied socio-political contexts. Nagy and Csutorás (2025) argue that generational characteristics should not be seen as a monolithic framework. Instead, it is crucial to recognize that differences in lifestyle, technological engagement, and social behavior are shaped by both generational boundaries and local societal conditions. For example, while Gen Z, Alpha, and Beta are often defined by their technological fluency, their interactions with cultural heritage are influenced by local contexts and historical experiences. Therefore, applying Western methodologies without adaptation to these factors risks marginalizing the unique heritage practices of these generations, especially in non-Western societies. The study of generational influences on cultural heritage preservation must move beyond simplified categorizations and consider the multi-dimensional, culturally rooted experiences that define how these generations engage with and preserve their heritage.

10. Digital Engagement, Accessibility, and Authenticity

The digital divide is a major obstacle to access to cultural heritage. The digitalization of cultural heritage introduces significant challenges related to maintaining the authenticity of digital representations, raising concerns about how closely these replicas align with the original artifacts (Lobok & Korolchuk, 2025). As digital archives become more prevalent, there is an increasing need to ensure that these digital versions are accurate and trustworthy representations of the original cultural items. Additionally, Lopez-Sintas et al. (2020), unequal access to digital technologies and varying levels of digital literacy continue to shape how individuals interact with online content, limiting the inclusiveness and sustainability of digital preservation efforts. This suggests

that preserving cultural heritage digitally is not only a technical issue but also a social one—where authenticity and accessibility must be balanced to prevent new forms of cultural exclusion.

The eternal dilemma of authenticity versus innovation is yet another digital heritage preservation challenge. Sandvik (2011) reflect on concerns in the cultural heritage sector that very technological routes may reduce the sense of authenticity in the cultural experiences of younger and future generations. In the postdigital museum, authenticity is negotiated across values-led, participatory infrastructures not guaranteed by tools alone (Parry & Dziekan, 2021). In context, digital heritage work should pair transparent provenance and versioning with inclusive co-curation and multi-modal access, so innovation broadens engagement without hollowing out cultural meaning.

11. EMERGING TRENDS AND FUTURE DIRECTIONS

As preservation education evolves in response to technological advances and the changing academic paradigm, trends reflecting the wider context of society, such as A.I., advanced neuroscience, sustainability, and integrated learning steps, are on the rise. These developments are geared towards attracting younger generations—especially Gen Alpha and Beta—making heritage experiences more immersive, customisable, and sustainable.

11.1 AI, Neuroscience, and Personalised Heritage Experiences

The convergence of artificial intelligence (AI), neuroscience, and personalised heritage experiences marks a transformative phase in how cultural heritage is preserved, interpreted, and engaged with by audiences. Recent advancements in AI technologies such as machine learning, natural language processing, and immersive virtual environments enable dynamic interactions between users and digital heritage collections, fostering more meaningful and adaptive forms of engagement. Neuroscientific insights into perception, memory, and emotion further enhance these interactions by informing systems that respond to human affect and cognitive patterns, allowing for deeper emotional and educational connections with heritage content. Within this interdisciplinary landscape, research has emphasised the need for explainable and human-in-the-loop AI frameworks to ensure transparency, ethical use, and cultural sensitivity in the design of such systems. Münster et al. (2024) highlight that the future of AI in digital heritage should be guided by a robust research and development agenda centred on innovation, inclusivity, and interdisciplinary collaboration principles that form the foundation for integrating cognitive science and personalised technologies into cultural heritage practice.

Technology in cultural heritage sites particularly multisensory virtual and augmented reality applications has been shown to significantly enhance visitor perception and engagement (Marto et al., 2022). This indicates a strong potential for integrating artificial intelligence and neuroscience to tailor sensory inputs according to each visitor's cognitive and perceptual patterns. Such

personalized, brain-inspired heritage experiences could deepen emotional connection and learning outcomes, transforming passive observation into adaptive, interactive cultural immersion.

12. Sustainable, Community-Based, and Integrated Learning Approaches

Another important trend is the move toward more sustainable and community-based models of heritage preservation that focus on youth as creators rather than vessels through which heritage is transmitted. Cultural heritage education is converging on sustainable, community-based, and integrated learning that links conservation with social stewardship, youth engagement, and systems thinking across legal, ecological, cultural, and media domains; this shift is widely recognized in current scholarship (Li, 2025), which contends that "interdisciplinarity" must be more than course branding and instead be enacted through immersive, participatory projects that cultivate agency, ethical judgment, and multimodal communication. Interpreting Li's argument, sustainable practice means treating communities as co-creators, not informants; integrating field schools, participatory design, and cross-faculty mentorship to fuse policy literacy, digital fluency, and cultural storytelling; embedding VR and interactive media to preserve intangible meanings in everyday life; and evaluating impact with sustainability metrics—partnership quality, local knowledge transfer, social-environmental outcomes, and post-project continuity—supported by university policies that underwrite long-term collaborations with minority and rural communities.

Nguyen et al. (2024) emphasize that integrating cultural heritage into Civic Education at the lower secondary school level in Thai Nguyen city, Vietnam, enhances students' understanding of societal norms and values. Their study highlights that while educators recognize the value of this integration, challenges such as limited resources, insufficient training, and curriculum constraints hinder its effective implementation. The authors suggest that providing robust support systems, including professional development and access to extensive resources, could significantly enhance the effectiveness of cultural heritage education. Additionally, fostering partnerships between schools and local cultural institutions is advocated to facilitate richer and more accessible cultural education.

13. DEFINING CULTURAL HERITAGE PRESERVATION FOR EACH GENERATION

The following sections outline the specific approaches to cultural heritage preservation for each generation, developed based on the unique characteristics and engagement patterns identified in the previous sections. These definitions highlight the evolving strategies that consider the technological, social, and cultural changes brought about by each generation, ensuring that preservation methods align with their needs and preferences:

13.1   Cultural Heritage Preservation for Generation Z

In defining cultural heritage preservation for Generation Z, it is essential to consider the distinctive relationship this generation has with both digital technology and authentic cultural experiences. While Generation Z is deeply immersed in digital spaces, they still seek genuine, tangible connections with culture that feel personal and relevant to their lives. This generation does not view cultural heritage as something to be simply preserved in a traditional sense; instead, they want to interact with it, reshape it, and make it their own. Cultural heritage preservation may be termed for Generation Z as:

A Participatory Approach That Allows The Digital Natives To Actively Re-Interpret And Co-Create Heritage Through Technology And The Authentic Experience, Highlighting Values-Based Links To Various Cultural Forms. Effective preservation for this generation integrates digital accessibility with opportunities for authentic engagement, positions Gen Z as creators rather than consumers of heritage, and acknowledges their role as critical mediators between traditional and emerging preservation approaches.

Key elements include:
- Participatory digital platforms that allow for personal reinterpretation
- Value-aligned preservation that connects heritage to social justice and identity
- Blended experiences that combine digital accessibility with authentic physical engagement
- Recognition of both global and local heritage significance
- Opportunities for creative expression and heritage adaptation

13.2 Cultural Heritage Preservation for Generation Alpha

When considering how to define cultural heritage preservation for Generation Alpha, it's important to recognize that this generation is the most digitally immersed, having grown up surrounded by advanced technology from a very young age. Unlike previous generations, their experiences with culture are not limited to physical artifacts or traditional media, they expect to engage with heritage in ways that seamlessly blend the digital and the physical. This generation is accustomed to immersive, interactive, and personalized experiences, making it crucial for preservation efforts to align with their learning preferences and technological fluency.

Cultural heritage preservation may be termed for Generation Alpha as:
An immersive, multimodal experience that offers a seamless blending of digital and physical heritage that fosters intuitive access to cultural knowledge through customised interactive engagement. "There are (effective) conservation practices for this generation which transcend physical and intangible divisions, harness opportunities for immersive technologies to drive culturally meaningful connections and facilitate agency that enables Alpha children to participate in heritage interpretation, bridled with developmentally appropriate guidance.

Key elements include:

- Multisensory heritage experiences made possible by immersion technologies
- Custom learning pathways designed based on the individual's interests
- Conducive models of participation according to developmental phases
- Heritage across educational domains
- Focus on interactive storytelling and learning through experience

13.3   Cultural Heritage Preservation for Generation Beta

As Generation Beta is still in its early stages of development, much of the research surrounding this generation is theoretical, with few empirical studies available. However, it's clear that they will engage with cultural heritage in ways that differ significantly from previous generations, influenced by emerging technologies and new ways of interacting with the world. Generation Beta will likely experience a blend of digital and physical environments that is even more seamless and integrated than what we see with Gen Z and Alpha, as technology will become an invisible part of their daily lives.

Cultural heritage preservation may be termed for Generation Alpha as:

A post-digital, ambient practice cultivating connections cultural through AI-enhanced multimodal experiences integrated in ambient ways in everyday physical surroundings for early intuitive cultural literacy. Though the research is early stage, appropriate means of preserving for this audience will probably overcome the conscious divide between digital and physical heritage, be personalised in new ways courtesy of ambient computing and AI, and seek to prioritise newly achieved multisensory engagement alongside neurodevelopmental alignment.

Key elements include:

- Heritage in everyday environments: ambient computing interfaces
- AI-driven personalisation tailored to an individual's developmental profile
- The incorporation of multi-modality in engaging learning styles
- Cognitive development matching neuroscience-informed methods
- Frameworks and tools that advance multilingual fluency from a young age

14.   CONCLUSION

This review highlights a significant shift in how we approach the preservation of cultural heritage, especially for Generations Z, Alpha, and Beta. Traditional, object-based methods are giving way to experience-driven, participatory approaches that are much more aligned with the characteristics of digital natives. For Generation Z, the focus is on a participatory approach that allows them to actively reinterpret and co-create heritage using technology, positioning them as creators rather than just consumers. Generation Alpha, on the other hand, interacts with cultural heritage in immersive and multimodal ways, seamlessly blending digital and physical experiences that provide more personalized and engaging connections. As for Generation Beta, they are

expected to engage with heritage in ways that go beyond the digital-physical divide, using AI and ambient computing to create intuitive, personalized heritage experiences embedded in their everyday lives. To be effective, cultural heritage preservation must recognize these generational differences, combining digital and physical elements in ways that make sense to each group while ensuring that they have an active role in the process. While challenges remain especially in relation to Generation Beta, future research should focus on longitudinal studies, cross-cultural comparisons, and evaluating new preservation methods, while also developing inclusive, accessible frameworks that account for different socio-economic contexts. The future of cultural heritage preservation lies in balancing traditional methods with new innovations, ensuring that we maintain the past while equipping future generations to be the caretakers of their cultural legacies.

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