

Cultural Resonance: Enhancing Heritage Identity of Spaces with Digital Engagement

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Abstract. Heritage buildings serve as vital markers of cultural identity, historical continuity, and collective memory within the urban landscape. Yet in the context of accelerating urban development, many of these sites suffer from declining relevance, physical neglect, and weakening emotional connections with contemporary communities. This study explores the potential of digital placemaking as an innovative approach to revitalize the cultural significance and public engagement of heritage buildings. By integrating digital technologies with architectural space, digital placemaking reimagines these structures as interactive, inclusive, and emotionally resonant environments that bridge past and present. Employing a qualitative research methodology, this study draws from literature reviews, site analysis, community narratives, and design conceptualization to formulate a framework that supports the transformation of underutilized heritage sites into dynamic public spaces. The research highlights the importance of memory, identity, and cultural resonance as central components of revitalization efforts, proposing a layered approach that merges physical preservation with meaningful digital engagement. The outcomes of this study offer theoretical contributions to the fields of architectural design and heritage conservation, emphasizing the need for interdisciplinary, adaptive, and community-sensitive methods. This approach ensures that heritage buildings remain relevant, accessible, and culturally valuable in contemporary urban life.

Keywords: digital placemaking, heritage revitalization, cultural identity

1. Introduction

Heritage buildings serve as vital cultural landmarks that embody collective memory, identity, and historical narratives, fostering a sense of belonging and pride while enhancing the unique character of urban landscapes (Nasser, 2003). However, rapid modernization often leads to neglect, underutilization, and a disconnection from contemporary communities, threatening their relevance and value (Jones, 2017; Usmaedi et al., 2024). Digital placemaking offers an innovative solution by integrating digital tools with physical spaces to transform heritage sites into dynamic, interactive environments that bridge tradition and innovation, enabling meaningful community engagement through shared memories, storytelling, and participatory experiences (Maciej, 2024; Hespanhol, 2018; Xue & Carvalho De Almeida, 2011). This research adopts a context-specific, community-centered approach that merges cultural authenticity with technological adaptability, emphasizing narrative-based engagement, participatory design, and locally embedded memory over purely material conservation or high-tech applications (Holak & Havlena, 1998; Galli, 2013). By developing a balanced framework that integrates spatial design with community narratives, it provides a sustainable and inclusive model for revitalizing underutilized heritage buildings, safeguarding cultural memory in urban areas where it risks being forgotten (Bilandzic, 2013; Maciej, 2024).

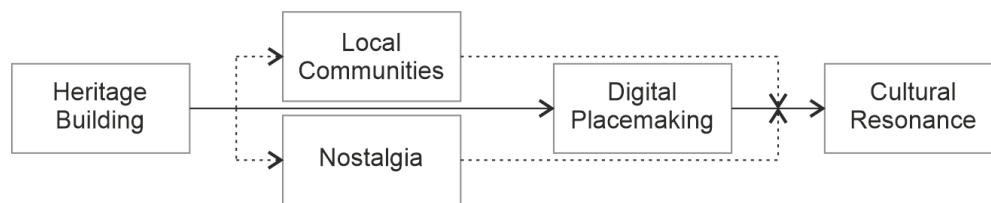


Figure 1.1. Theoretical Framework for This Research

This research aims to revitalize heritage buildings by leveraging digital placemaking strategies that integrate historical narratives with modern technological innovations. Heritage sites often hold deep cultural and historical significance, yet without meaningful engagement, they risk becoming obsolete in the face of rapid urban development (Nasser, 2003; Maciej, 2024). This study addresses the challenge of preserving heritage identity by proposing a design approach that makes these buildings more dynamic, participatory, and emotionally resonant for contemporary audiences. Through the use of digital storytelling, interactive displays, and curated media experiences, historical narratives can be brought to life, enabling visitors to connect with the past in immersive and meaningful ways. These interventions not only emphasize architectural and historical value but also reposition heritage buildings as active centers for education, cultural exchange, and community interaction. The integration of digital tools ensures that these spaces maintain their cultural essence while adapting to future societal needs (Holak & Havlena, 1998).

Engaging local communities is critical in ensuring the success and authenticity of any heritage revitalization effort. This objective emphasizes the importance of participatory design processes, where community members are directly involved in shaping the interventions (Usmaedi et al., 2024; Jacobs, 2018). By incorporating local narratives, memories, and cultural values, the design process ensures that the revitalized space reflects the identity and aspirations of the community it serves. Participatory workshops, interviews, and collaborative brainstorming sessions allow residents to share their insights and propose creative ideas for reimagining the space. This approach fosters a sense of ownership and emotional connection to the site, making it more likely that the community will actively use and sustain the space (Hindelang, Radwan, & Grandjean, n.d.). Furthermore, engaging the community strengthens social cohesion, as the heritage building becomes a shared symbol of collective identity and pride.

The primary research question addressed in this study is: How can digital placemaking strengthen the cultural resonance and relevance of heritage buildings while fostering deeper connections between communities and these spaces?

This question seeks to explore how digital tools and participatory processes can be effectively utilized to transform heritage buildings into dynamic, meaningful spaces that serve both cultural preservation and contemporary urban needs. By addressing this issue, the research aims to offer practical insights and strategies for reimagining heritage sites as vital components of modern urban life (Galli, 2013; Fernandez de Osso Fuentes et al., 2023).

2. Methods

The materials used in this research are carefully selected to support both the understanding of the heritage site's significance and the formulation of effective digital placemaking strategies. These materials are organized into four complementary categories, each contributing a distinct layer of insight into the design process.

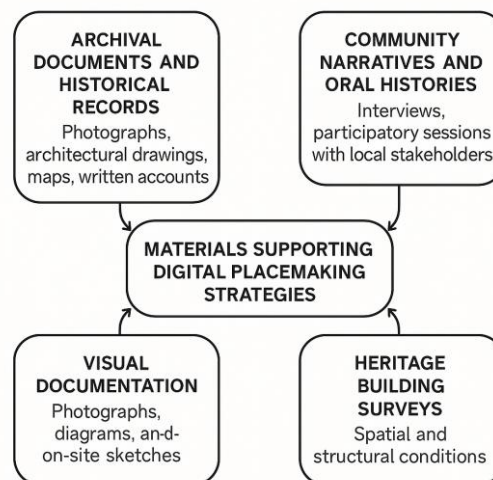


Figure 2.1. First Category of the Research

The first category consists of archival documents and historical records, including photographs, architectural drawings, maps, and written accounts. These provide essential information about the original purpose, physical structure, and historical transformation of the site (Bilandzic, 2013; Galli, 2013). This foundational material helps identify key elements that should be preserved and informs the heritage narrative to be reactivated through digital interventions.

The second category includes community narratives and oral histories, gathered through interviews and participatory sessions with local stakeholders, cultural practitioners, and residents (Jones, 2017). These narratives capture the emotional, cultural, and symbolic associations that the community holds with the site. For example, memories related to the open-air cinema tradition of Bioskop Kelud, known locally as Misbar Dulek, reflect local social patterns and cultural identity. This material plays a central role in ensuring that the revitalization process remains grounded in collective memory and cultural relevance (Xue & Carvalho De Almeida, 2011).

By structuring the materials in this way, the research positions itself at the intersection of historical analysis, community-based design, and digital innovation. The integration of these materials enables a design process that is not only historically accurate but also socially meaningful and contextually adaptive.

Additionally, visual documentation, including photographs, diagrams, and on-site sketches, is used to analyze the current spatial and structural conditions of the heritage building. This material is vital for identifying physical challenges, such as structural deterioration or underutilized spaces, that need to be addressed during the design process (Hindelang et al., n.d.). Visual documentation also provides a medium for assessing the site's aesthetic and functional potential, highlighting areas where digital tools can be integrated to enhance the visitor experience. For example, empty courtyards or inactive facades may serve as prime locations for digital storytelling or interactive media installations (Bilandzic, 2013).

Lastly, technological references and resources form a foundational material for this research. These include studies and specifications on digital tools, such as interactive kiosks, storytelling platforms, and projection mapping technologies, which can be adapted for the site (Gonsalves, 2023). This material ensures that the proposed digital interventions are feasible and aligned with the technical capabilities available in the region.

By combining historical records, community narratives, visual documentation, and technological resources, this research ensures a comprehensive and contextually grounded

approach to heritage revitalization through digital placemaking. These materials are not only complementary in nature but are also strategically aligned with the study's aim of exploring how cultural resonance can be enriched through interactive media, digital storytelling, and participatory design. Archival and visual data inform the spatial and historical narrative of the heritage site, community narratives provide the emotional and cultural content for digital storytelling, and technological references ensure that selected digital tools are appropriate and accessible. This integration of materials directly supports the methodological flow of the research, ensuring that each step site analysis, community engagement, and design development is rooted in the cultural identity of the place while addressing contemporary urban challenges. As such, the research design provides the necessary depth and clarity to develop culturally resonant, inclusive, and technologically adaptive interventions for heritage buildings.

3. Discussion

3.1. Process

The literature review forms the foundation of this research, providing a comprehensive understanding of the key concepts, theories, and case studies related to digital placemaking and heritage preservation. By exploring existing academic works, frameworks, and practical examples, the literature review identifies gaps in current knowledge and highlights innovative strategies for integrating digital tools into heritage sites (Maciej, 2024).

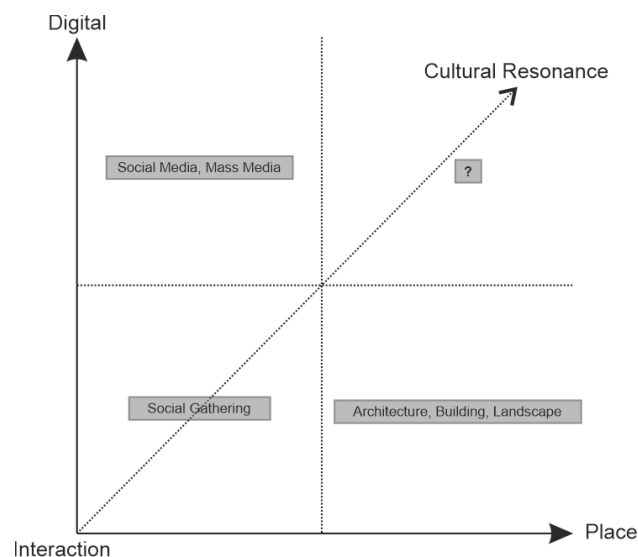


Figure 3.1. Cultural Resonance's Interaction

Placemaking is a community-centered process that transforms public spaces into meaningful places that foster social interaction, cultural identity, and community engagement. Traditional placemaking focuses on physical interventions, emphasizing spatial design, landscaping, and infrastructure improvements. However, the emergence of digital placemaking expands this concept by integrating technology to enhance user engagement and connectivity. Digital placemaking incorporates tools such as interactive media, storytelling platforms, and social media to create immersive environments that connect physical spaces with digital narratives. According to Gonsalves (2023), digital placemaking enables users to actively engage with a space, enriching their experience while fostering deeper connections with its cultural and historical significance.

Heritage preservation traditionally prioritizes the conservation of physical structures, emphasizing architectural integrity and historical accuracy. However, this approach often neglects the experiential and emotional dimensions of heritage sites, limiting their appeal to contemporary audiences. Digital tools offer an innovative solution by bringing historical narratives to life and making heritage accessible to a wider audience. For example, Bilandzic

(2013) highlights the potential of interactive storytelling and digital projections to create a dual-layered experience that preserves the authenticity of physical structures while adding dynamic, engaging elements. This approach redefines heritage preservation as a process that integrates memory, identity, and community engagement.

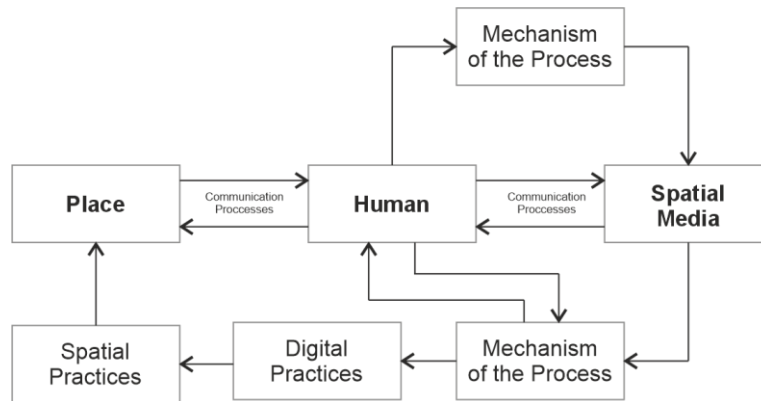


Figure 3.2. Conceptual Framework of Digital Placemaking (Maciej, 2024)

Nostalgia plays a pivotal role in shaping emotional connections to heritage sites. As an emotion rooted in memory, nostalgia fosters a sense of belonging and cultural identity, making it a valuable tool for designing meaningful spaces. Xue and Carvalho De Almeida (2011) classify nostalgia into four categories—personal, interpersonal, cultural, and virtual—each offering unique insights into how individuals and communities interact with heritage. In the context of digital placemaking, nostalgia can be harnessed through storytelling, visual narratives, and participatory design processes that evoke collective memories. For example, integrating elements such as historical photographs, oral histories, and cultural symbols into digital tools can create an emotional bridge between the past and the present, making heritage sites more relatable and engaging.

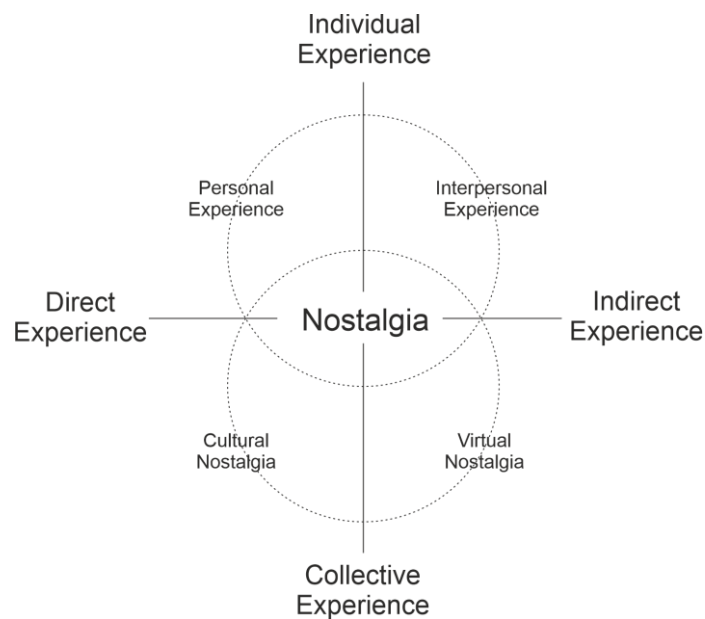


Figure 3.3. Types of Nostalgia Placemaking (Xue and Almeida, 2011)

The success of placemaking efforts often hinges on community involvement. Participatory design processes ensure that the voices of local communities are reflected in the interventions,

fostering a sense of ownership and authenticity. Studies by Maciej (2024) demonstrate that participatory approaches not only enhance cultural relevance but also create more inclusive spaces that address the needs and aspirations of diverse stakeholders. In the context of digital placemaking, participatory design can involve workshops, interviews, and collaborative brainstorming sessions where community members contribute ideas for integrating digital tools into heritage sites. This approach ensures that the interventions resonate with local narratives and cultural values, strengthening the emotional bond between the community and the site.

While digital placemaking offers numerous benefits, it also presents challenges such as technological accessibility, data privacy, and maintaining the authenticity of heritage sites. Fernandez de Osso Fuentes et al. (2023) emphasize the importance of designing digital tools that are user-friendly and inclusive, ensuring that all demographics can engage with the interventions. Additionally, the integration of digital elements must respect the historical integrity of the site, avoiding the risk of overshadowing its physical and cultural essence. However, these challenges also present opportunities for innovation. For instance, adaptive technologies such as modular digital installations can evolve with time, ensuring long-term relevance and sustainability.

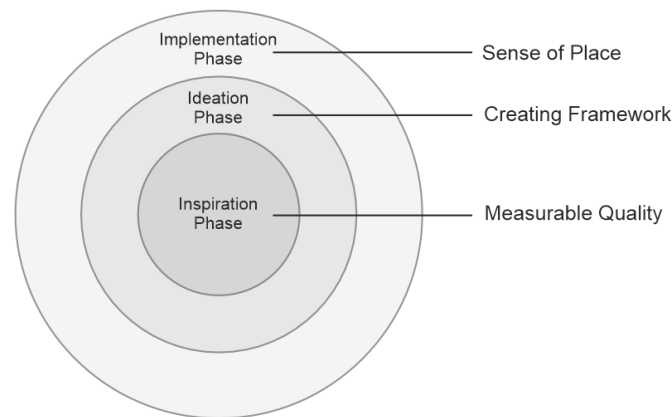


Figure 3.4. Exploration Process of Placemaking
(Wheeler, Weber, Windlinger, Haugen, & Lindkvist, 2023)

This research is built upon a theoretical foundation that positions digital placemaking as a bridge between heritage preservation and contemporary urban needs. Drawing from concepts such as nostalgia, participatory design, and technological innovation, the study aims to develop a framework that revitalizes heritage buildings as dynamic and inclusive public spaces. A detailed site analysis was conducted to understand the spatial, historical, and cultural characteristics of the site, supported by archival records and visual documentation (Nasser, 2003). Semi-structured interviews with heritage experts, local authorities, and community members revealed important emotional and cultural connections to the site (Jones, 2017), highlighting the value of integrating community memory into digital engagement strategies.

The final stage of the research synthesizes insights from the literature, site analysis, and qualitative data, including interviews with Respondent A, Respondent B, Respondent C, and members of *The Komunitas Pecinta Film Jadul*. Four key themes emerged: collective memory, identity of place, community aspirations, and perceptions of digital intervention. These informed the development of a conceptual framework that combines digital storytelling, interactive media, and participatory design. Iterative feedback ensured cultural relevance and local alignment. The resulting framework offers a sustainable and context-sensitive model for revitalizing heritage buildings, positioning them as adaptive and socially embedded spaces within the evolving discourse of urban design.

3.2. Result

The research findings provide valuable insights into the challenges and opportunities of integrating digital placemaking into heritage revitalization, focusing on community engagement, nostalgia, and the strategic use of digital tools. These results highlight the potential for transforming underutilized heritage spaces into vibrant cultural hubs while maintaining their historical authenticity.

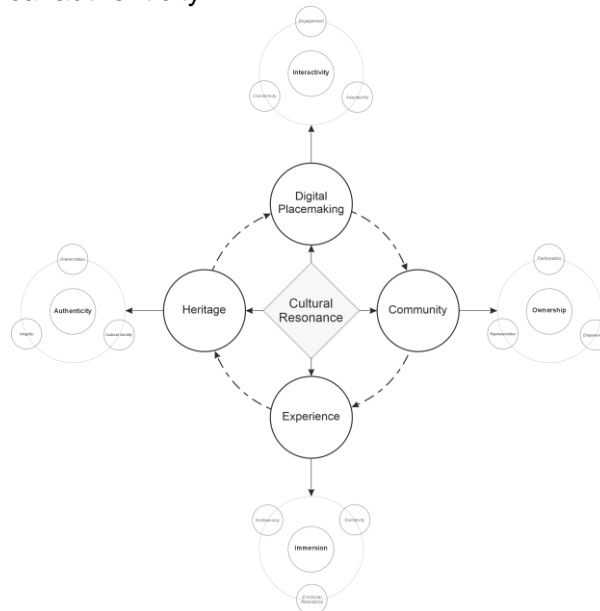


Figure 3.5. Integration of Cultural Resonance

One of the most significant findings is the evident disconnection between local communities and heritage buildings. Interviews revealed that heritage sites are often perceived as outdated relics with limited relevance to contemporary life (Hindelang, Radwan, & Grandjean, n.d.). Factors such as urban modernization, lack of active programming, and the absence of accessible narratives have contributed to this disengagement. Many community members expressed a lack of emotional attachment to these spaces, viewing them as static and disconnected from their daily lives. This highlights the need for innovative strategies, such as digital placemaking, to reestablish the cultural and emotional significance of heritage sites (Bilandzic, 2013).

The research identifies nostalgia as a powerful emotional tool for bridging the gap between heritage sites and modern audiences. Community narratives collected through interviews and workshops underscored the strong emotional ties that people associate with heritage sites, particularly memories of shared experiences and cultural practices. These memories evoke a collective sense of belonging, demonstrating the potential of nostalgia to reengage communities with their heritage (Holak & Havlena, 1998; Xue & Carvalho De Almeida, 2011). Digital storytelling and interactive media can effectively tap into this nostalgia by preserving and showcasing these shared memories, fostering deeper connections between people and the site (Maciej, 2024).

The site analysis revealed significant opportunities for activating underutilized spaces within the heritage building. These areas can be transformed into interactive storytelling hubs or community gathering spaces using minimal physical alterations (John, 1998). Furthermore, visual documentation highlighted structural elements, such as walls and facades, that can serve as platforms for digital projections or historical narratives. This strategic use of space not only enhances user interaction but also preserves the site's architectural integrity (Galli, 2013).

Participatory design sessions demonstrated the critical role of community involvement in ensuring the success of digital placemaking interventions. Local stakeholders contributed valuable insights, suggesting ways to incorporate cultural traditions and local languages into digital tools. This collaborative approach fosters a sense of ownership, ensuring that the interventions resonate with the community and are actively embraced by its members (Usmaedi et al., 2024).

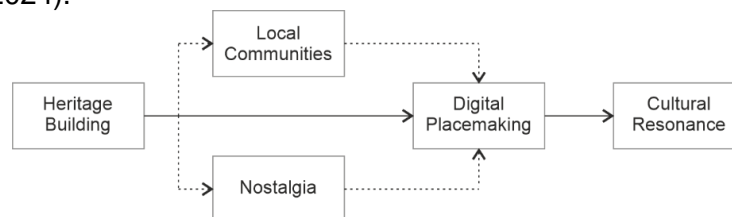


Figure 3.6. Unblocked Result of Cultural Resonance

The findings of this research affirm the importance of aligning digital placemaking strategies with three core objectives: digital storytelling, interactive media, and participatory design. Community interviews revealed strong emotional ties to heritage sites, highlighting the value of narrative-driven tools like digital archives and oral histories in reconnecting people with place. Interactive media, such as projection mapping and mobile interfaces, was found effective in activating underutilized spaces, as long as it remains accessible and context-sensitive. Participatory design proved essential for cultural relevance and sustainability, with local stakeholders eager to contribute ideas and content. The emphasis on inclusivity, particularly for older or digitally limited users, reinforces the need for hybrid approaches that blend intuitive technology with physical alternatives.

The findings of this study culminate in the proposal of a dual-layered placemaking framework that integrates both physical and digital interventions to produce culturally resonant and engaging heritage spaces. Unlike traditional heritage preservation methods, which often prioritize material conservation and passive historic display, this framework repositions heritage sites as interactive, participatory, and emotionally engaging environments. Drawing on qualitative insights from community narratives and stakeholder interviews, the framework emphasizes that digital tools should not replace physical heritage, but rather function as complementary layers that enrich spatial experience and cultural meaning. For instance, digital storytelling platforms may be used to project historical narratives onto architectural surfaces or offer interactive, site-specific content via mobile applications tools that help users re-engage with the site's history in immersive and personalized ways. This approach builds on contemporary placemaking theory (Maciej, 2024; Hespanhol, 2018) while advancing it by introducing localized emotional memory as a design driver. Thus, through a qualitative, community-centered methodology, this research contributes an innovative perspective that reconceptualizes heritage buildings not just as static remnants of the past, but as living, multi-layered spaces shaped by both memory and modern interaction.

The research also reframes heritage buildings as active hubs for community engagement rather than static relics. By integrating cultural events, interactive installations, and storytelling sessions, these spaces can transform into vibrant centers for learning, interaction, and cultural exchange. This reimagining of heritage sites aligns with urban revitalization goals, making them essential components of modern city life.

Future research could expand this approach by exploring its application to different types of heritage spaces, such as rural cultural landmarks or industrial heritage sites. Additionally, while this study focused on digital tools like storytelling and interactive media, future studies could explore more advanced technologies such as AI or blockchain, addressing challenges like data privacy and technological inclusivity.

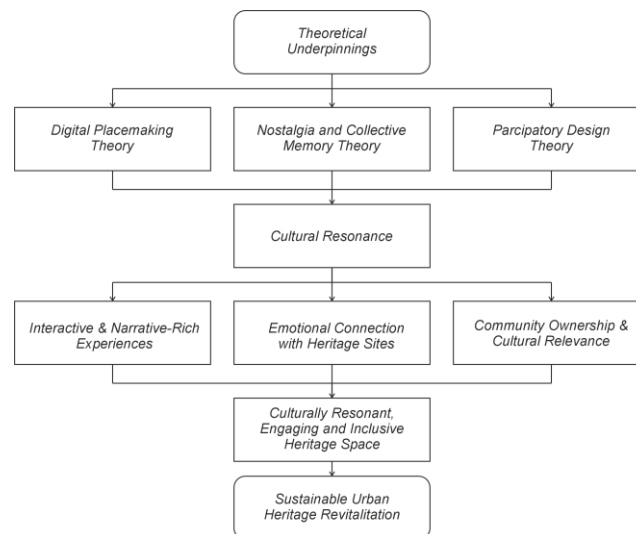


Figure 3.7. Theoretical Framework of Cultural Resonance

4. Conclusion

This study examined how digital placemaking through digital storytelling, interactive media, and participatory design can enhance the cultural resonance and strengthen the identity of heritage buildings. The findings confirm that integrating physical preservation with contextually relevant digital engagement transforms heritage sites from static historical artifacts into dynamic, inclusive, and emotionally resonant public spaces. By grounding digital interventions in community narratives, collective memory, and locally embedded cultural values, heritage buildings can maintain their historical authenticity while adapting to the expectations of contemporary urban life.

The proposed placemaking framework merges tangible architectural conservation with intangible cultural memory, ensuring that heritage identity is preserved, amplified, and made accessible through interactive, participatory experiences. This approach revitalizes underutilized heritage spaces and positions them as active hubs for education, cultural exchange, and social cohesion.

From a theoretical perspective, the study advances urban design and heritage conservation discourse by shifting the preservation paradigm toward adaptive, experiential space-making that prioritizes cultural identity and emotional engagement. Practically, it offers a replicable model that balances preservation with innovation, supporting the creation of culturally sustainable cities where heritage remains relevant in rapidly modernizing contexts.

Future research should test the framework across diverse heritage typologies including urban, rural, industrial, and religious contexts to assess scalability and cultural adaptability. Longitudinal studies are needed to evaluate its long-term impact on collective memory, cultural continuity, and place attachment. Additionally, exploring the integration of emerging technologies such as augmented reality, AI-driven content, or blockchain heritage archives can further strengthen digital engagement while safeguarding authenticity. Ultimately, by aligning preservation efforts with participatory, narrative-driven, and technologically adaptive strategies, heritage buildings can continue to serve as enduring symbols of cultural resonance for present and future generations.

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