

FROM GEOSITE TO METAVERSE: BUILDING AND COMMUNICATING THE DUJIANGYAN CULTURAL TOURISM IP IMAGE IN CHINA

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Citation: Tao, X. (2026). From geosite to metaverse: Building and communicating the dujiangyan cultural tourism ip image in China. *Geojournal of Tourism and Geosites*, 64(1), 582–590. <https://doi.org/10.30892/gtg.64150-1701>

Abstract: This study explores how Dujiangyan, acknowledged as both a UNESCO World Heritage Site and a cultural geosite that integrates geological heritage with historical and cultural values, constructs and communicates its tourism IP image, emphasizing the transformative role of digital technologies and the metaverse in contemporary heritage branding. Adopting a qualitative exploratory design, the study conducted 15 semi-structured interviews with key stakeholders, including government officials, tourism operators, cultural practitioners, and visitors. Data were analyzed using Braun & Clarke’s six-step thematic analysis, ensuring credibility through triangulation, member checking, and thick description. The results highlight three interconnected themes. First, cultural roots and authenticity remain central to Dujiangyan’s identity, though tensions exist between heritage preservation and commercialization. Second, tourism IP construction draws heavily on local narratives, symbols, and stories, yet reflects differing stakeholder perspectives on branding strategies. Third, digital transformation through VR, AR, and metaverse platforms offers immersive storytelling opportunities while raising challenges of authenticity and inclusivity. Collaborative communication emerged as critical to balancing heritage values with innovative promotion. This study contributes to cultural tourism IP and digital heritage branding literature by positioning Dujiangyan as an emerging case of “geosite to metaverse” transformation. It offers theoretical insights into heritage identity negotiation and practical guidance for policymakers, tourism managers, and digital developers.

Keywords: Dujiangyan, cultural tourism IP, heritage branding, metaverse, authenticity, digital transformation, stakeholder collaboration

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INTRODUCTION

Dujiangyan in the Sichuan Province, China, has a famous ancient system of irrigation which was created during the Qin Dynasty (256 BCE) and is still used today. Dujiangyan is hailed as a world heritage site by UNESCO in the year 2000 and is not only remembered as a master-piece of engineering skill but also as a perfect marriage between human skill and nature (Huang et al., 2024). It represents sustainability, resilience, cultural continuity as one of the oldest ecological water management systems in the world. The site has over the years matured to create a strong cultural tourism destination, receiving millions of visitors every year who find it fascinating due to its combination of natural beauty, historical value, and cultural stories (Zhu et al., 2024). Over the past years, the city has been working on crafting cultural tourism plans that will make Dujiangyan not only a heritage site, but also a cultural experience. Its popularity has been boosted with festivals, cultural shows, creative tourism products, and educational programs making it a major destination in cultural tourism within Western China (Qi & Wei, 2025). Nevertheless, as the global tourism markets are growing more competitive, Dujiangyan is confronted with the challenge of branding itself with new and inventive branding strategies (Li et al., 2025). This background explains why it is important to frame Dujiangyan as a cultural tourism Intellectual Property (IP), which can help it retain its heritage identity and attract new generations of tourists who are willing to experience interactive and digitally enhanced experiences (Umel et al., 2024).

Cultural tourism IP has become an effective destination branding tool in the age of experience-based tourism. The cultural IP is a transformation of heritage, traditions, and cultural icons into recognizable and marketable identities and can be promoted in alternative media platforms (Zheng et al., 2023). By the creation of a superb cultural IP, destinations are able to build emotional bond, build brand loyalty and differentiate themselves (Shibin, 2023). In heritage destinations like Dujiangyan, the development of an IP is not just a marketing tool, but also a conservation and regeneration of intangible cultural heritage using narrative, visual identity, and the experience (Wang, 2023). This is to ensure that the cultural importance is preserved as well as to the current consumer trends which is also appealing. In addition, cultural tourism IP enables the destinations to extend their value chain through the assistance of creative industries, such as cultural products, themes, and digital platforms (Yong & Jian, 2024). Examples include China, which has managed to generate cultural IP on places like the Forbidden City, which now doubles as a cultural brand and a heritage site as well as generates revenues through

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exhibitions, digital experience, and merchandise (Dong et al., 2023). According to these experiences, Dujiangyan can use its materials of heritage as a special cultural tourism IP so as not only to promote the sense of local pride but the world too.

The blistering growth of digital media, virtual reality (VR), augmented reality (AR), and the metaverse have changed the ways of communication and consumption of cultural heritage (Ezzatian et al., 2025). The traditional methods of interpretation of heritage, such as guided tours or a museum display, are becoming more and more supplemented with immersive technology that allows tourists to experience cultural sites in a different way (Sepe et al., 2025). The metaverse, in particular, enables the possibilities of transforming heritage spaces into participatory active spaces, in which cultural stories can be shared without being constrained by the geographical and time-related contexts (Li et al., 2024). In the context of heritage destinations, this change is linked to a move towards participation rather than passive consumption in that visitors play a part in creating the cultural meaning, which the heritage site generates.

Although cultural tourism branding and the digitalization of heritage communication has increasingly gained academic attention, few studies have investigated how conventional heritage sites like Dujiangyan can be re-imagined in digital ecosystems such as the metaverse (Alsuwaidi & Almazrooei, 2025). The majority of current studies focus either on heritage conservation in physical terms (Li et al., 2025) or the issue of marketing cultural IP in urban tourism (Jia et al., 2025). Nonetheless, the overlap of heritage conservation, cultural IP development, and communication using the metaverse has not been fully investigated. This establishes an urgent knowledge gap on how the destinations with a rich history and cultural background can use the digital technologies to rebrand their image globally. Moreover, although heritage tourism is commonly related to visitor experience, less research is done on how cultural IP can be strategically branded to form the long-term cultural identity and destination competitiveness (Wang, 2023). In the case of Dujiangyan, few empirical studies have been conducted on how this can be transferred to digital form without reducing the authenticity of the geosite and cultural heritage site as a whole. The aim of this study is to investigate how Dujiangyan can transition from a geosite to a metaverse-driven cultural tourism IP, focusing on strategies for building and communicating its cultural identity in both physical and digital contexts. The specific objectives are to:

- Explore the historical and cultural significance of Dujiangyan as a UNESCO World Heritage city and its role in cultural tourism.
- Analyze the potential of cultural tourism IP in enhancing Dujiangyan's destination branding.
- Examine the role of digital media, VR, and metaverse technologies in reshaping heritage communication.
- Identify strategies for integrating traditional cultural assets with digital innovations to construct a sustainable tourism IP image for Dujiangyan.

LITERATURE REVIEW

Cultural Tourism and Heritage Building

There has been a growing recognition of cultural tourism as an important source of destination competitiveness, especially in destinations with heritage character where the symbolic and experiential strength of culture has become the foundation of tourism development (Zheng et al., 2023). Place branding and destination image theories emphasize the idea that destinations are not simply physical locations but instead social representations defined by discourses, symbols and experiences (Ezzatian et al., 2025). In this respect, heritage branding can be defined as the use of cultural resources including tangible (monuments and landscapes) and intangible (rituals and traditions) to create a consistent and unique image that attracts target audiences (Srdanović et al., 2024). According to destination image theory, the perceptions formed by marketing communications, media, and personal experience of the tourist, highly affect the decision-making and the loyalty of tourists (Dar & Ojha, 2023). In the case of cultural tourism, identity construction plays a significant role as in this case it is a balance between authenticity and creative interpretation whereby heritage is preserved and at the same time rendered dynamic to the modern audience (Dong et al., 2023). The success of heritage sites in establishing a highly effective cultural tourism identity, like Kyoto in Japan or the Forbidden City in China, can serve as an example of how cultural branding can be based on cultural authenticity, thus leading to the development of emotional engagement and recurrence visitation, as well as cultural pride (Yanyao & Xiaodong, 2023). So, cultural tourism and heritage branding theories define the background on which the cultural meaning of Dujiangyan may be defined in terms of strategic branding measures that combine heritage conservation with creative story-telling (Jiang, 2024).

IP Image in Tourism

Intellectual Property (IP) is the term applied to tourism and it can be referred to as the alteration of cultural and heritage resources into recognisable, commercial symbols and experiences that offer a distinctive destination identifiability (Lu et al., 2024). IP, however, does not solely pertain to legal protection in tourism research but is also related to developing cultural brands that capture the spirit of the identity of a particular destination (Yong & Jian, 2024). The creation of a tourism IP would entail building a unique and versatile image, where the destinations would be able to communicate on various platforms and consumer groups (Jia et al., 2025). Case studies demonstrate how tourism IPs have been effectively developed in connection with heritage sites: as an example, digital storytelling, design of creative products, and online exhibitions have promoted the Forbidden City to a powerful cultural IP in tourism (Yanyao & Xiaodong, 2023), and digital tourism and film, along with cultural diplomacy contribute to the formation of the global IP image of Angkor Wat in Cambodia (Shibin, 2023). Similarly, other cities such as Barcelona have used cultural festivals and art identities to establish an established IP identity that does not only increase tourism attraction but civic pride as well (Wenjing et al., 2024). Such examples suggest that the process of heritage authenticity coupled with market innovation is a strategic way in which tourism IP is produced, such that cultural heritage may be more accessible to a broader audience on a wide range of platforms such as merchandise, digital media, and

immersive experience (Lv et al., 2025). In Dujiangyan, this implies that this location must not just be promoted as a geosite but simply as a cultural IP, which could be acted out in both the material and virtual picture space, particularly the about-to-emerging metaverse, where heritage could be broadcast in an interactive and global manner (Li et al., 2023).

Technology and Heritage

The cultural heritage conservation, experience, and dissemination have been transformed radically by the digitalization, and technologies such as virtual reality (VR), augmented reality (AR), and immersive digital spaces can enable more dynamic and participatory experiences (Li et al., 2023). VR technologies recreate the historical environments and allow the visitor to experience the reconstruction of the past experience, while AR overlays the digital information on the physical locations, complementing the visitor knowledge, but does not alter the physical heritage fabric (Deng, 2023).

The capabilities have also been extended by introducing the metaverse to create common interactive spaces in which the heritage can be redesigned and be experienced beyond geographical boundaries (Zheng, 2024). This technological twist is the paradigm shift of the passive receiver: it is the audience that is active in communication about heritage, and it is involved in it forming culture meaning in the digital exchange (Tan et al., 2025). Moreover, the work of digital heritage does not just benefit visitors experience, but also contributes to learning, access and worldwide connectivity particularly in the post-COVID-19 period where virtual tourism has assumed dominance (Wei & Xin, 2024).

Nevertheless, it still has concerns related to the conflict of authenticity and innovation since excessive commercialization or digital abstraction may result in the lack of connection to the heritage as a part of the cultural context (Baker et al., 2023).

This way, despite the fact that the potential of digitalization in enhancing communication of cultural heritage is huge, the process must be integrated in heritage branding strategies carefully to ensure preservation of cultural integrity.

Geosites and Metaverse Convergence

Geosites (natural and cultural landscapes of geological and ecological interest) have been slowly entering the realm of digital heritage and the metaverse, with cities trying to gain more visibility and cultural appeal within the global tourist market (Tan et al., 2025). The geosites and the metaverse also present an opportunity of the introduction of these landscapes as not only geographical places but (already) layered cultural experiences proposed on the planet (Srdanović et al., 2024). In heritage cities, this intersection can offer the re-invention of geological and cultural narratives in the immersive space of storytelling that can be scientifically interpreted and culturally symbolized as with the examples of projects where UNESCO geoparks are digitized in 3D and VR (Sepe et al., 2025). It has its own geosite identity, like Dujiangyan, where its metaverse inscription would enable one to simulate the ancient irrigation system there and have a better understanding of not only the engineering genius of that location but also of its cultural philosophy (Barbosa, 2025).

However, it is not without its challenges such as the technology infrastructure, digital literacy, authenticity, and possible over-commercialization of it endangering to dilute the culture (Shim et al., 2025). Moreover, the question of ownership, intellectual property, and fair access, i.e., to the communities that possess a direct connection with the heritage itself, is also brought up by the regulation of digital heritage on the metaverse (Srdanović et al., 2024). Another opportunity and a threat which has been brought about by these tensions and is another reason as to why strategic and culturally sensitive methods must be used in consideration of why heritage cities like Dujiangyan should be undertaking the process of exporting an image of their geosite into a digital environment is the duality of the metaverse, which is also a factor that is important in highlighting the need to adopt strategic and culturally sensitive methods in approaching the process of exporting the image of their geosite into a digital environment. The gap between IP branding and metaverse communication can only be bridged when the metaverse is perceived as an experience branding ecosystem (Dong et al., 2025). In cultural tourism, IP branding changes heritage symbols into affective identities; the metaverse increases this phenomenon through immersive experiences of the narrative, which strengthens the attachment to the place (Hu et al., 2024). Therefore, metaverse communication serves in the amplification of cultural IP in experience, which is a translation of symbolic heritage into interactive, sensorial, and participatory experience (Zhan & Khiatthong, 2024). This intersection contributes to a new theoretical assertion, namely, that digital immersion is one of the modern processes of cultural branding, in which authenticity is shared, not just shown (Refaat & Hassan, 2025). Therefore, the move towards geosite-to-metaverse is not merely a technological, the semiotic redefinition of heritage meaning-making, communication, and consumption.

METHODOLOGY

Research Design

The research design of this study was a qualitative exploratory research design that is particularly most appropriate in studying new and scantily studied phenomena such as the development of the cultural heritage sites to digital and metaverse-based cultural tourism IPs. Completely contrasted to the quantitative strategy, when the researchers test the provided hypotheses, the qualitative ones can facilitate the profound exploration of the viewpoints, senses, and encounters of the study participants (Cresswell, 2013). The rationale behind the choice of an exploratory orientation is that the metaverse application of geosites remains a comparatively fresh concept in the academic literature and practice and requires an open-ended approach to uncover the latent themes, techniques, and issues.

Data Collection

Data were collected using semi-structured interviews and this provided flexibility and depth of information on different stakeholders. This method provided the participants an opportunity to share their views openly and the researcher an opportunity to explore deeper into the areas of concern regarding cultural tourism, heritage branding and digital communication.

Table 1. Profile of Respondents

Respondent ID	Stakeholder Group	Gender	Age	Role/Background	Interview Duration
R1	Government Official	Male	45	Tourism Department Officer	65 mins
R2	Government Official	Female	39	Cultural Heritage Protection Division	58 mins
R3	Tourism Operator	Male	41	Local Tour Company Manager	52 mins
R4	Tourism Operator	Female	36	Boutique Hotel Owner	47 mins
R5	Tourism Operator	Male	50	Souvenir Shop Owner	54 mins
R6	Cultural Practitioner	Female	34	Local Artist (Traditional Painting)	49 mins
R7	Cultural Practitioner	Male	55	Heritage Guide	61 mins
R8	Cultural Practitioner	Female	43	Folk Performance Organizer	50 mins
R9	Visitor (Domestic)	Male	28	University Student	46 mins
R10	Visitor (Domestic)	Female	31	Office Worker (Chengdu)	44 mins
R11	Visitor (Domestic)	Male	38	Family Tourist	42 mins
R12	Visitor (International)	Female	29	Tourist from France	40 mins
R13	Visitor (International)	Male	33	Tourist from Singapore	39 mins
R14	Visitor (International)	Female	46	Tourist from USA	43 mins
R15	Visitor (International)	Male	52	Tourist from Germany	45 mins

The sample used was divided into four groups namely: (1) local government officials in tourism and cultural heritage departments, these are people directly involved in policy formulation and strategic planning; (2) tourism operators and business owners who are directly involved in destination promotion and service delivery; (3) cultural practitioners such as artists, guides and cultural experts who interpret and convey cultural narratives; and (4) visitors, either domestically or internationally, who are the ultimate consumers of the cultural tourism product. Purposive and snowball sampling methods were used to recruit a sample of 15 participants (Table 1 and Figure 1).

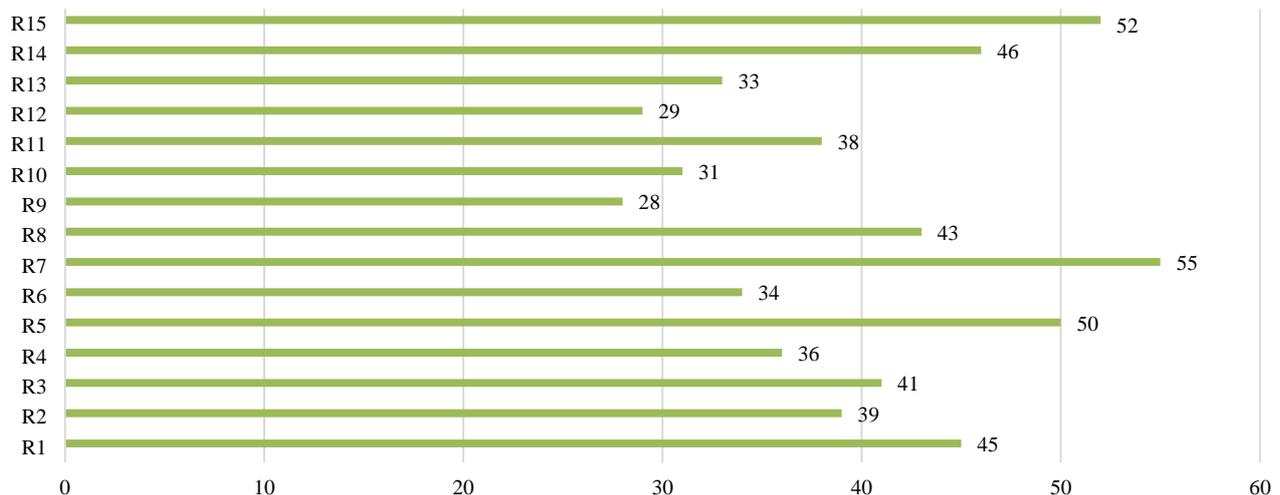


Figure 1. Graphical Representation of the demographic profile of respondents

Snowball and purposive sampling methods served to gather people with a direct bearing on the focus of the research, whereas snowball sampling aided to acquire other stakeholders in the local cultural and tourism ecosystem (Noy, 2008). The interviews were done in person and in cases where there was a need, online platforms were used as supplementary methods due to the availability of respondents. The interviews were conducted in 45 to 60 minutes, were recorded on audio tape with permission and later transcribed to be analyzed. Table 2 shows the interview guidelines of the study.

Table 2. Interview Guidelines

Theme	Sample Guiding Questions
Cultural Roots & Authenticity	How would you describe Dujiangyan’s cultural identity? What aspects of authenticity do you feel are most important to preserve? Do you think tourism has affected the authenticity of Dujiangyan’s heritage?
Tourism IP Construction	What symbols, narratives, or stories best represent Dujiangyan? How do you think Dujiangyan’s image is communicated to tourists? What role do you see for branding in promoting Dujiangyan’s heritage?
Digital Transformation	Have you experienced or observed the use of digital tools (VR, AR, online platforms) in promoting Dujiangyan? What opportunities or challenges do you see in using the metaverse for cultural tourism?
Communication & Engagement	How do you think tourists engage with Dujiangyan’s cultural identity? What role does social media or digital storytelling play in shaping perceptions of the city?
Stakeholder Collaboration	How do government, businesses, and local communities work together in promoting tourism? What tensions or conflicts do you see in balancing heritage preservation with commercialization?
Future Perspectives	How do you envision Dujiangyan’s cultural tourism developing in the next 5–10 years? What role do you think digital technologies will play in this future?

Data Analysis

The information obtained during the semi-structured interviews was processed with the help of the thematic analysis, which is a six-step technique described by (Braun & Clarke, 2006). This approach had been adopted due to its flexibility as well as the capability to identify, analyze and interpret meaning patterns in a qualitative data. The data familiarization was conducted at the beginning of the analysis during which transcripts of interviews were read several times to obtain the general perception of the perspectives of the participants. Primary codes were then produced that gave major statements and ideas concerning cultural heritage communication, destination branding and digital transformation. These codes were further subdivided into broader categories, which the defining of the most important themes was based upon. Themes were reviewed and became such that they were considered to be sufficient to represent the data and aligned with the purpose of the study in particularly in terms of IP building and communication in cultural tourism environments. NVivo software was also embraced to assist in organizing and coding the information to enable us to carry out a systematic and transparent analytic process. Lastly, the thematic analysis provided much insight on the opportunities, challenges and plans of advancing Dujiangyan cultural tourism IP on a physical and online platform.

Ethical Considerations

Ethical considerations were followed in the study, as human beings were engaged in the study. Informed consent was given by all participants without any level of coercion to participate in the study so as to guarantee that they were fully aware of the research aims, their rights, and their voluntary nature of participation. Assessment of anonymity was made easier by giving the participants assurance of confidentiality and removing personal identifiers in transcripts and findings. The data were stored in password files that were not accessible to anybody but the researcher. Based on the ethical principles of qualitative research, their subjects did not have to take the research through to the end since they received freedom to withdraw out of the research without any consequences (Cresswell, 2013). These were steps that ensured the research was done based on the ethical principles of respect, integrity and responsibility.

RESULTS

Roots and Authenticity of Culture

The cultural richness and historical interest of Dujiangyan was brought up as a main part of the identity of this place by the participants all the time. The irrigation system was not merely a spectacular technical miracle that government officials and cultural practitioners spoke about, but a living example of Chinese ideas about harmony with the nature. One heritage professional stated, it is not just an engineering project but it is a lifestyle-how people learnt to live with water and not to combat it. This was also the sentiment among those who visited the site and noted that they were drawn to the site because of the authenticity and connection with ancient wisdom. The heritage of Dujiangyan was not merely a physical location to most, but was considered a cultural narrative, hence a distinction that is contrasted with the other tourist destinations. However, authenticity and commercialisation were strained. There have been local commentaries by some of their artists that when we turn our tales into souvenirs, we sometimes lose the feeling in the manufacture. Similarly, one of the visitors said that he enjoys the shows and products, but it is more of a theme park than a heritage site. These divergent views present one major issue and that is the necessity to create equilibrium between the economic needs and the responsibility to maintain the culture.

Tourism IP Construction

The construction of Dujiangyan cultural tourism IP has become a form of cooperation and competition related to narratives and symbols and local stories. This irrigation system was turned into an expression of the governmental officials who aligned the system as a symbol of resilience and innovation to project the qualities into destination branding. The story that one tourism officer is trying to sell about Dujiangyan is that there is no ancient relic about it but a living example of sustainability and Chinese ingenuity. As tourism operators put it, "visual icons such as water, dragons and local folklore are becoming the cornerstone of branding efforts in the marketing campaigns and cultural products as they are very attractive". They were considered to be effective tools of converting the heritage of Dujiangyan into a branded IP. The views of the stakeholders on the most appropriate way to communicate and propagate this IP varied.

Owners of businesses focused on the power of digital storytelling and social media interaction and said, "Unless we place Dujiangyan on platforms such as TikTok or the metaverse, the youth will not associate with it". Meanwhile, cultural practitioners urged it was time to tell stories in greater detail that were based on reality, and one heritage guide was insistent, the irrigation system is not merely history, but philosophy. Unless the branding includes more than beautiful pictures and goes to the depth of what Dujiangyan represents, then we will be missing out on it. These results highlight the idea that although there are extensive support instances among stakeholders to develop a cultural tourism IP, there are divergent ideas on how to build heritage values and the need to meet the requirements of the modern branding.

Digital Transformation and Metaverse Integration

Digitalization and immersive technologies with the opportunities they provide to contribute to the rich cultural storytelling about Dujiangyan were widely recognized by the participants. Tourism authorities stressed that VR and AR might be used to simplify the complicated engineering behind the irrigation system by making it accessible to a younger generation. Most visitors as one of the authorities identified can not clearly see how the water mechanism works by merely viewing it. Thanks to VR, they would have an opportunity to view the ancient engineers at work and actually understand witness of Dujiangyan. The same way, some of the visitors were interested in online shows and indicated that immersing oneself in experiences would prove to be more interesting in terms of learning about the site. A domestic tourist said that he

would feel like he was in the story, not an onlooker, should he be able to walk through the history of Dujiangyan in the metaverse. These responses indicate the way in which the metaverse can be viewed as a way of strengthening emotional connections through being involved in storytelling. At the same time, the participants acknowledged that it is rather difficult to transfer tangible heritage to the digital platform. Cultural practitioners emerged to say that the site could be presented as either being a simple or a distortion through its virtual representations. The one of the heritage guides said, we make exaggeration or beautify it, it is not hard in the online world, but what would be left of the real Dujiangyan? The real-world challenges mentioned by the owners of the business, such as high costs, digital literacy, and disproportionality to access the technology, may diminish the inclusivity of metaverse-based programs, as well. Physical location, said a foreigner, is somehow aura and authenticity unattainable on the Internet. These problems show the tension between the necessity to introduce the digital innovation and to preserve the cultural essence of Dujiangyan as the World Heritage site.

Communication and Interaction

The stakeholders concurred that the success of communication of IP image of Dujiangyan is pegged on the manner in which the narratives are conveyed to the audiences via various media. Tourism operators stressed the growing role of social media in reaching domestic tourists, particularly younger audiences. As one operator explained, “Platforms like Douyin [TikTok] and WeChat are now more important than brochures or guidebooks. We must create short, impactful stories to capture attention.” Visitors also reported discovering Dujiangyan through digital campaigns, suggesting that online visibility plays a key role in shaping first impressions. In this way, social media functions as both a branding and engagement tool, bridging the gap between traditional heritage and contemporary tourism expectations. Beyond social media, VR, AR, and experimental metaverse platforms were highlighted as emerging tools for interactive engagement. Business owners suggested that hybrid experiences could enrich visitor journeys by combining physical exploration with digital storytelling.

One cultural practitioner emphasized, “If visitors can experience the story of Li Bing [the engineer behind Dujiangyan] in a virtual format before or after the trip, they will carry the story with them longer.” Nevertheless, not every participant perceived digital engagement in a positive way. Others were worried that the excessive use of digital content may conceal the face-to-face experience with cultural informants or the experience of being at the physical location itself. Technology is not supposed to displace the human interaction with heritage, as a government official warned, but rather to augment it.

Collaboration and Tensions Among the Stakeholders

The results showed that collaboration among the stakeholders is a necessary and difficult process in the construction of the cultural tourism IP of Dujiangyan. The roles of government officials, tourism businesses, and local communities in the formulation of the branding strategies in the site are of critical importance and the participants recognized that successful IP development needed joint vision and resources. According to a tourism officer, *“the image of Dujiangyan IP cannot be formed by one particular actor. It has to be a collaborative initiative among government, operators and the community”*. Some of the business owners cited having worked closely with cultural practitioners when designing tourism products and events, and visitors indicated the importance of having authentic voices of locals guiding their experiences.

However, the atmosphere became strained over the question of commercialization and local representation. Cultural practitioners and local people showed the concern that their concerns were shunned by government and commercial interests and local voices were neglected. One artist pointed out that there are times when we see our narrations happening to be stolen and marketed to tourists without even considering our contribution. This dynamic was also evident to the visitors, one international tourist commented; *“I sensed that branding was perfect, yet I would have preferred to hear the many people themselves speak. The issue of over-commercialization was also observed with some members fearing that too much emphasis on money would be at the expense of cultural authenticity”*. The trick, as one heritage professional opined, *“would be to hit a balance, where there is commercialization to keep tourism afloat, but without overdoing it to the point where Dujiangyan is reduced to just another soulless victim.”*

DISCUSSION

This study results confirm that the identity of cultural tourism in Dujiangyan has strong roots in authenticity of its heritage but is at the same time challenged by the forces of commercialization. This is in line with the general literature on the heritage branding, which emphasizes the fragility of maintaining authenticity and customizing the cultural stories to be made visible in the market (Li & Ito, 2023). The fact that the respondents are worried about the loss of cultural meaning in the commodification of heritage is a manifestation of the theoretical arguments in destination branding that places authenticity as a central component of generating emotional attachment and visitor loyalty in the long term (Hu et al., 2024). Simultaneously the research also provides that commercialization in itself is not necessarily harmful but, instead, needs to be controlled within the framework of cultural IP, which should place heritage as both a symbolic and economic product (Lu et al., 2024). So, in this way the identity of Dujiangyan is constructed at the crossroads of authenticity and innovation, which is in line with the theories of cultural tourism identity that point out the dynamic and negotiated character of heritage branding.

The case of the development of the cultural tourism IP of Dujiangyan exemplifies how narratives, symbols and local stories can be good branding materials yet on the other side causes tensions among the stakeholders. According to the participants, the branding strategies rely on the strong motives water, dragons, and character of Li Bing, which is consistent with the previous research pointed to the fact that destination IPs have a tendency to be constructed around familiar cultural symbols (Wei & Dan, 2025). These factors enhance the uniqueness of the city and normative capital of Dujiangyan. Nevertheless, the variation in the views among state, company, and local professionals reflects the results of other previous studies on stakeholder cooperation wherein tensions frequently appear in issues of ownership of the heritage narrative and

their commercialization (Wenjing et al., 2024). This means that, development of cultural tourism IP is not merely a technical marketing effort but a social process based on power dynamics, competing priorities and cultural negotiations. The research therefore supports the place branding theories which conceptualize destination image as a disputable area in the presence of various actors trying to create meaning and identity. Participants stated that digital technologies, especially VR, AR, and the metaverse, are a revolutionary change in the field of heritage communication and offered chances to tell stories immersively and reach a wide audience worldwide. These results align with the existing research on the topic of digital heritage, where immersive technologies are believed to transform an audience into more participants instead of observers (Jia et al., 2025).

The fact that participants were excited about the possibility of experiencing the metaverse directly implies that the metaverse has the potential to restructure the perception of heritage, and younger and even international consumers are exposed to it and might contemplate visiting Dujiangyan otherwise. In the meantime, the threat of authenticity loss and lack of technological compatibility are also main parts of the arguments about the threats of over-digitalization, where virtual images can overshadow or distort the meaning of heritage values (Zheng et al., 2023). By doing so, even though the metaverse offers other forms of communication, it also demands a careful balance to be implemented, lest heritage turns out to be baseless on the basis of cultural integrity. This evidences a more significant theoretical tension between technological innovation and heritage preservation, and to which Dujiangyan will have to compromise in order to proceed with its branding (Figure 2).

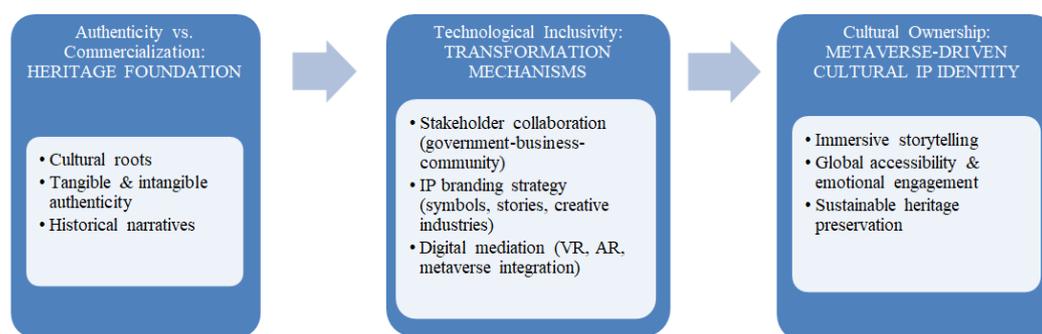


Figure 2. Geosite-to-Metaverse Transformation Framework for Cultural Tourism IP

CONCLUSION

This study has discussed how Dujiangyan, a UNESCO world heritage site and cultural geosite is building and promoting its tourism IP image in the digital transformation period. The findings revealed that the cultural heritage of the city has continued to be a central part of its character and heritage discourse, symbols and local stories are the principal pillars of city branding. In the meantime, the conflict between the authenticity and commercialization represents the problems of heritage as the cultural and economic resource. In the discussion of different positions of the stakeholders, the study brings out that tourism IP of Dujiangyan is not a fixed identity, but a bargaining and dynamic process that is shaped by the government, business, practitioners, and visitors. One of the main agents of this change was the digital transformation that offered the possibility of making the engagement more immersive with the help of VR, AR, and metaverse platforms. Such technologies can help extend the borders of Dujiangyan to the audience across the world and change the experience and perception of heritage. However, the work also emphasizes the importance of authenticity and protection of inclusiveness in such a way that online counterfeits are supplementary or even subservient of the values of the real heritage. It thus requires that the concerned parties be able to interact with one another in order to create equilibrium, co-align branding, as well as the possibility to incorporate the innovation without being deprived of the cultural perception. At the end, the paper concludes that the metaverse is revolutionary in its cultural heritage promotion potential as it provides a space where geosites like Dujiangyan can balance culture and modernity. In the case of a strategic development, Dujiangyan can serve as the prototype of other heritage cities to generate cultural tourism IPs which would honor historical authenticity and simultaneously embrace digital futures. This balance makes Dujiangyan a source of both cultural pride and a future destination that will be relevant in an environment which is changing radically in the tourism sector.

Practical Implications

In the practical sense, the findings may be valuable data to the policy makers, tourism managers and online developers. It is suggested that the local governments and tourism authorities must use participatory branding approaches that integrate the voices of the communities, as well as investing in immersive technologies such as VR and AR, to make the attraction more desirable to visitors. Tourism operators and businesses can use the cultural IP of Dujiangyan to develop new experiences as storytelling that are both original and authentic. Meanwhile, cultural practitioners should engage digital developers to simultaneously develop metaverse space that can respect heritage integrity and offer engaging and immersive experiences to global audiences.

Theoretical Implications

The present paper contributes to the current body of existing literature on the subject of cultural tourism IP and digital heritage branding by demonstrating how a classic UNESCO heritage site such as Dujiangyan can be redefined within the environment of the metaverse. The integration of the place branding, destination image, and cultural tourism identity theories with new knowledge in the area of digital heritage communication will enable the study to add to the existing body of knowledge the information about the construction and contestation of cultural IPs in the physical and

digital space. It insists on the significance of stakeholder relationships, narrative authenticity and technological mediation to constructing heritage branding and, therefore, offers conceptual connection between the old heritage tourism theoretical conceptions and the new framework of the digital change.

Cultural Implications

On the cultural level, it is relevant that the study has put emphasis on the necessity to find a middle ground between the preservation of the past and the implementation of new forms of communication in the digital era. Even though immersive technologies have a bright future of expanding the cultural extent and experience, they must not be applied at the expense of the authenticity and symbolism of the traditions of Dujiangyan. To avoid over-commercialization and improve the continuity of the pride in culture, preservation guardians can preserve the digital versions, which are in the cultural framework and the local narratives. This will secure the identity of Dujiangyan but will drag it into the path of an international leader of how heritage cities can enter the metaverse in a responsible manner without losing their cultural character.

Limitations and Future Directions

Although this research provides valuable information on the development and presentation of the cultural tourism IP of Dujiangyan both in the physical and virtual space, the research does not lack some limitations. To start with, the sample size of 15 participants is small and is only adequate to an exploratory to the qualitative design, restricting the range of perspectives expressed. The voices represented, such as the government, business operators, cultural practitioners, and visitors, encompass many of the views of the stakeholders, but they do not represent the variety of experience and opinion in the wider community. The study might be followed up with a larger group of participants in the future, consisting of more diverse parties, like teachers, guests of the international heritage, and younger generations who are more digital natives. Second, the paper studied a single area, Dujiangyan, which limits extrapolating the study. Although Dujiangyan offers a rich case being a dual site of both UNESCO World Heritage Site and cultural geosite, other heritage cities might have various challenges and opportunities to develop tourism IPs and adopt the idea of metaverse integration. It could be compared with the analysis of other Chinese websites such as the Terracotta Army or the Mogao Caves or other global websites such as Angkor Wat and Machu Picchu and could be used to better understand the effect of cultural contexts on the heritage branding in the digital space. And finally, the study provides an opportune illustration of the transition of Dujiangyan to digital tourism, but does not identify the implications of such programs on a longitudinal basis. As the metaverse and immersive technologies are developing rapidly, longitudinal research will be critical to track the degree of adaptation heritage sites undergo, how the level of interaction with visitors evolves over time, and whether any digital strategies would allow internalizing the feeling of authenticity and innovation. This research may also investigate the sustainability of the metaverse tourism paradigms and their consequences to local communities and their cultures and world heritage.

Author Contributions: Conceptualization, X.T.; methodology, X.T.; software, X.T.; validation, X.T.; formal analysis, X.T.; investigation, X.T.; data curation, X.T.; writing - original draft preparation, X.T.; writing - review and editing, X.T.; visualization, X.T.; supervision, X.T.; project administration, X.T. The author has read and agreed to the published version of the manuscript.

Funding: This research was funded by a grant from the Sichuan Industrial Design Industry Research Center program, Grant NO. GYSJ2025-24.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: The data presented in this study may be obtained on request from the corresponding author.

Acknowledgements: The research undertaken was made possible by the equal scientific involvement of all the authors concerned.

Conflicts of Interest: The authors declare no conflict of interest.

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