



*Research article*

## **Revitalization of cultural heritage in the digital era: A case study in Taiwan**

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**Abstract:** Cultural heritage organizations worldwide face daunting challenges, grappling with workforce shortages and financial constraints that often result in service closures, postponements, or cancellations. In response to these difficulties, we delved into the evolving interaction between cultural heritage sites and society, especially considering the profound socio-economic repercussions of the global pandemic at these sites. We scrutinized the dynamic heritage of community engagement, with a particular focus on pioneering methods to augment the participation and awareness of younger individuals. We focused on innovative methods to enhance the involvement and awareness of young individuals. Employing a comprehensive content analysis through a multiple case study approach, cultural heritage initiatives in Taiwan were investigated, emphasizing the pivotal role of technology and digital platforms in engaging young audiences. Using a comprehensive content analysis approach within a multiple case study framework, we examined various cultural heritage initiatives in Taiwan. Notably, we accentuated the crucial role played by technology and digital platforms in captivating younger audiences. Through theoretical sampling and triangulation methods, including semi-structured interviews, secondary sources, and participant observation, we sought to obtain a holistic understanding of the subject matter. The research findings underscore the pivotal importance of digital experiences as supplements to physical presence, providing a gateway to cultural heritage exploration. Moreover, we advocate for heritage sites to harness digital platforms effectively, encouraging collaborations with external partners to enrich visitor experiences. We also offer valuable recommendations aimed at enhancing customer engagement and communication with the younger demographic, thus making significant contributions to the cultural heritage sector in Asia. Furthermore, this research signifies a notable transition from traditional physical service design to online platforms, leveraging technology to inspire and engage diverse generations. By embracing digital tools, cultural

heritage sites not only attract new visitors but also retain the interest of existing ones amidst an ever-evolving societal landscape. Ultimately, this study sheds light on the imperative nature of cultural heritage preservation and adaptation in the face of contemporary challenges, emphasizing the need for innovation and resilience in this vital sector.

**Keywords:** cultural heritage; experience innovation; service design; digital environment

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## 1. Introduction

As cultural heritage increasingly finds its way into tourism agendas, there is a growing concern about its sustainability. According to a study by Bajec [1], young individuals often fail to recognize the significance of cultural heritage and exhibit limited interest in its preservation, lacking an understanding of its inherent values. Safeguarding tangible and intangible heritage necessitates rigorous scholarly inquiry to raise awareness among today's youth [2]. While researchers have predominantly focused on aspects like visitor satisfaction and heritage conservation effectiveness [3], the crucial role of resident and visitor involvement has been overlooked [4].

The tourism industry in Asia is rapidly expanding, presenting challenges for the sustainable development of cultural heritage. Customizing appropriate services for tourists can inspire them to learn, enjoy, and participate [5]. Collaborative public-private operational models contribute to the sustainable operation of cultural heritage sites. Partnering with third-party vendors can accelerate and enhance innovation, strengthening customer experiences [6]. In this pivotal transformation of cultural heritage, more research is needed to share best practices [7]. To explore the impact of digital technology applications on the customer experience of cultural heritage, we look at the customer experience in computer-mediated environments (CMI), which has been a topic of interest in recent academic research [8,9].

Little research has been done to understand how digital solutions permeate everyday organization and management [10]. From existing research on cultural heritage, it is evident that the majority of studies are concentrated in relatively developed countries such as the United States, the United Kingdom, Australia, and Spain. However, the profound research on heritage in developing countries should not be overlooked [11].

Currently, researchers are mainly focused on museums, and cultural heritage has not been found [12–14]. How to rely on various digital technology applications (such as live streaming and social media) to keep in touch and always exist in their communities and audiences worldwide needs further research [13]. According to a survey conducted by the Taiwan Cultural and Educational Foundation, over 70% of teenagers believe that learning about world cultures is important, and they agree that learning about Taiwanese culture is important. However, when asked about the number of historical sites in Taiwan, only 22% of teenagers could provide the correct answer.

Consequently, based on the above discussion of existing research and its gaps, we aim to sift through the changes in how COVID-19 fosters community engagement to uncover new ways of connecting that might assist young people's participation and awareness. Our research questions are as follows: (1) How can cultural heritage sites promote youth engagement through social media? (2) What are the factors that promote young people's participation in cultural heritage? (3) What is the role of the government in promoting young people's participation?

## 2. Literature review

### 2.1. Taiwan's cultural heritage institutions

Taiwan promulgated the Public-Private Partnership (PPP) Act in 2000. This means that traditional public infrastructure projects, previously undertaken solely by the government, are now open for private sector participation in construction and operation. Through private funding, innovation, and management expertise, the quality of public services is enhanced. There are five forms of PPP, with Build-Operate-Transfer (B.O.T) and Operate-Transfer (O.T) being the most used (Table 1).

**Table 1.** Operational models for Taiwan's cultural heritage (Source: Ministry of Finance, R.O.C.).

Forms	Content
BOT	Private organizations build and operate; ownership transferred to the government after the operating period.
BTO	Private organizations build; government acquires ownership and private sector operates; operational rights return to the government after the operating period.
ROT	Private organizations invest in government facilities; operational rights return to the government after the operating period.
OT	Government invests in repairs; private organizations operate; operational rights revert to the government after the operating period.
Boo	Private organizations invest and own; operate independently or entrust a third party, in line with government policy.

In recent years, there has been a trend in Taiwan of combining the reuse of cultural heritage with cultural creativity, leading to some successful cases. The preservation and reuse of these cultural assets have become essential resources for enhancing local tourism visibility and competitiveness, while also creating new forms of cultural wealth. Therefore, appropriate management of cultural assets should not only generate economic benefits to balance the high costs of preservation but also facilitate the concentration and interaction of various talents and economic sectors within the cultural and creative industries. This approach expands and enhances creativity in urban environments and produces goods and services with high cultural and symbolic value [15].

Most researchers looking at cultural heritage focus on relatively developed countries such as the United States, the United Kingdom, Australia, and Spain, but the in-depth study of heritage in developing countries should not be overlooked [11]. There are significant differences in regulations governing the transition to new uses for cultural heritage among different countries, and there is almost no exchange between countries with similar experiences. This process remains under-researched [7].

### 2.2. Cultural heritage service innovation

Driven by the S-D logic, the way in which service innovation is viewed, focuses on customer value and experience, and service design can complement the practical approach required by the S-D logic to realize service innovation [16]. Cultural heritage sites now need to do more than just provide services; they need to emphasize the importance of visitor involvement and shift the focus from

production to value co-creation [17]. Organizations can create and deliver experiences within these touchpoints [18], and the design of the experience they present to the participants, who are at the heart of the service innovation process is important [19]. Incorporating local art and culture into service design can create unique value and experiences for visitors [20]. Management should consider service innovations, and the development of these services should include ways of co-creation with partners and customers [21]. Young people today have diverse career aspirations and seek to realize their self-worth. The establishment of relevant education will play an important role in this. Taiwan's heritage sites primarily operate locally, with Taiwanese youth and second-generation entrepreneurs leading brands that collaborate deeply with the community and local food industries. This partnership helps to consolidate local cultural strengths and form cultural brands.

### *2.3. Application of technology and customer experience*

Digital technology can be used as a tool for epidemic detection and transmission and as a temporary alternative to “physical” attributes, facilitating greater community involvement in cultural heritage, which will play a more important role in the future of cultural heritage [22].

Marshall et al.'s [23] findings suggest that as digital technology becomes more widespread, this approach will be popular with visitors to heritage. Huang et al. [24] suggest in their study in China that the application of digital technology helps with post-epidemic economic recovery. Digital technology can create stories and allow consumers to interact with brands in novel and unconventional spaces to create experience value [25]. Digital technology enables cultural heritage sites to provide innovative channels for visitors who are not physically present but who may wish to support the institution [26].

Cultural heritage utilizes social media promotion to create connections with the lifestyles of young people, fostering engagement with the heritage [27].

We investigate the service design and customer experience of cultural heritages, where digital technology applications such as social media platforms, E-commerce, etc. can help to enhance the customer experience before, during, and after the purchase [28]. The establishment of an integrated platform can facilitate multi-stakeholder participation [29]. Digital platforms can help realize sustainability goals [30]. The management not only needs to highlight the uniqueness of the heritage site's space but also needs to create value and services for consumers beyond the architectural space. When employees have a better understanding of the organizational background, they can play a unique role in value-creation activities [31].

### *2.4. Customer journey*

The customer journey, representing the stages and touchpoints in the customer experience, plays a crucial role in creating a positive customer experience. It serves as a tool for understanding and addressing gaps in the customer experience, leading to improved profits and partner value [32]. In the pre-purchase stage, customers learn about a company, its products, and services. This might happen through passive awareness, such as seeing ads on Facebook or Instagram. Customers actively seek out several brands, products, or services that can meet their specific needs and conduct research and comparisons. During this process, they look at reviews or opinions on social media and compare the product features and information released by companies. After the purchase, personalized offers, new product information, and membership rewards can be provided to leave a positive impression and

encourage repeat purchases. Social media can facilitate interaction between cultural heritage sites and visitors at both stages, The level of participation and perception comes from the process of interaction [33].

The Internet enables individuals to maintain the logistics value necessary in their daily lives. When we ensure that young people have positive experiences at every stage, it enables them to engage with various participants, co-create value, and online connectivity facilitates access to efficient, convenient, and real-time value, especially benefiting visitors [34]. Research shows that cultural participation has a positive impact on the personal development of young people [35].

In particular, when planning the visitor experience journey, designing activities that appeal to young people can be a key factor in increasing their participation. Geus et al. [36] quantitatively studied visitor experiences in events and festivals, event experience is the interaction between individuals and the event environment, influenced by the degree of participation. Therefore, planning touchpoint management and initiating visitor-centric activities in designing the visitor experience journey contribute to their active engagement.

### **3. Methodology**

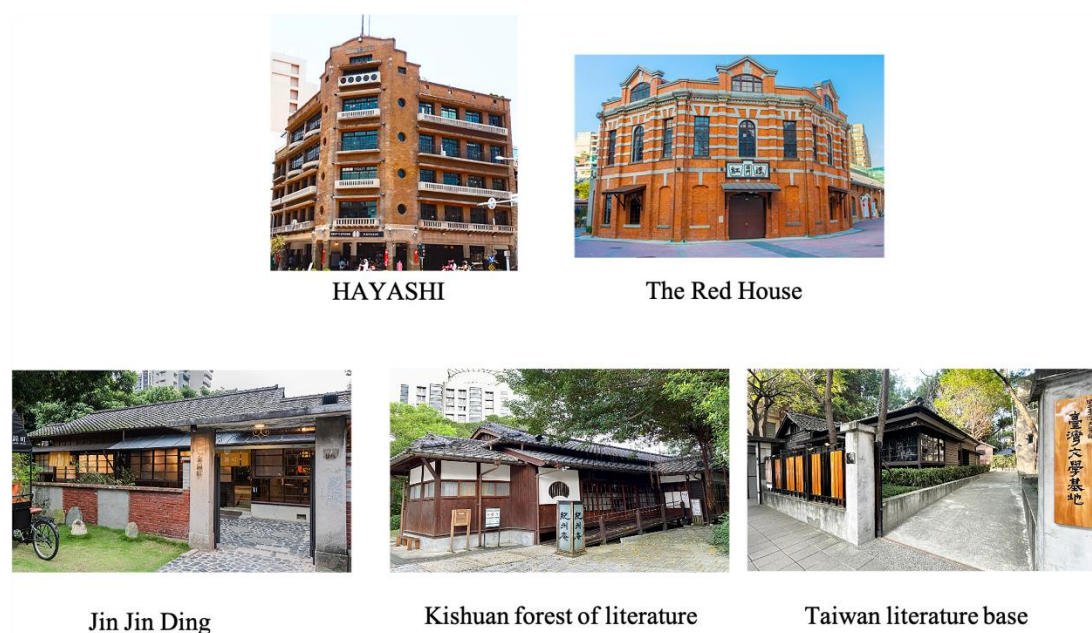
#### *3.1. Case studies*

We employed a mixed-methods approach to investigate four destinations. Initially, semi-structured interviews were conducted with managers and visitors during and after the pandemic. Following the lifting of restrictions, the research team conducted participatory surveys, observations, and interviews, which are commonly used to collect data through multiple case comparisons to discover and construct theory from data [37]. While the literature recognizes the potential of digital platforms to create value for cultural heritage innovation, a direct link to visitors' experiences is notably absent, necessitating further research. Therefore, the establishment of a tentative theory becomes crucial to demonstrate the alignment of the research strategy with this emerging phenomenon [38]. The utilization of a multiple-case research approach enables the researcher to delve into various cases and discern the distinctions among them [39].

#### *3.2. Case selection*

We investigated how cultural heritage interacted and engaged in marketing communication both online and offline from May 2021, during the pandemic, until January 2024, when the pandemic concluded. Four cultural heritage destinations that offered cultural, artistic, and culinary experiences for visitors were selected for this research. These destinations continued offline operations during the lockdown period, becoming more active on social media. We collected their activities on social media to promote youth engagement to discuss different activities and the benefits of different platforms.

The five cases we selected are historic buildings (Figure 1). Two of them are very well-known sightseeing spots, while the other three are locations that are gaining attention among local young people. First, they are all Japanese-style buildings left over from the Japanese colonial period. In the case study, researchers can gather and analyze survey data to comprehend the phenomenon under investigation [40].



**Figure 1.** Views of the five case study heritages in Taiwan.

### 3.3. Data collection and analysis

We employed a combination of primary and secondary data sources to achieve our research objectives. For participant selection, a purposive sampling approach was utilized, which is a common method in qualitative research aimed at selecting individuals with relevant knowledge or experience [41]. A total of 12 primary stakeholders were selected, consisting of six cultural heritage management teams and five visitors aged 20–35, who had visited cultural heritage sites at least twice and expressed interest in cultural tourism.

These individuals underwent two semi-structured interviews, each lasting 15 to 30 minutes, conducted between 2021 and 2024. Supplementary responses were also collected 2–3 times during different phases of the pandemic. The table below shows the time of our initial interview, and the interview outline between the management and visitors can be viewed in the appendix (Table 2).

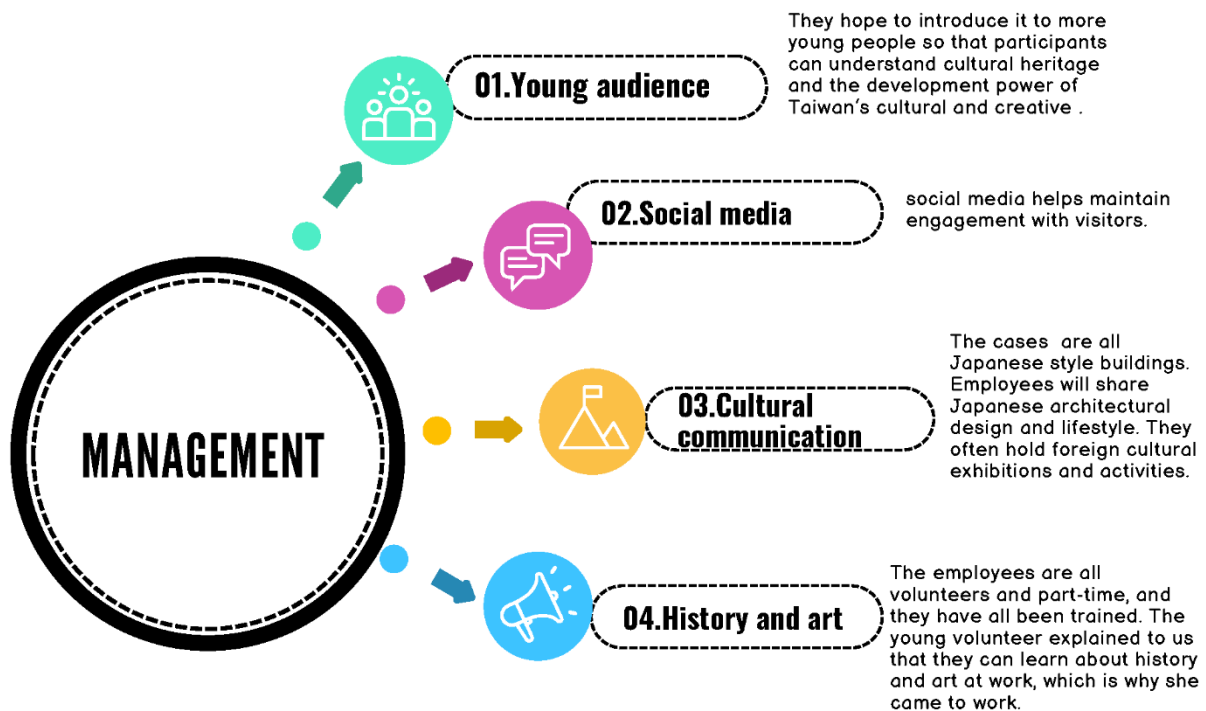
First, we contacted the management, staff, and tourists of the selected cases that fit our purpose to enquire about their willingness to be interviewed and sent the outline of the interviews to the respondents before conducting the actual interviews. Due to the impact of the epidemic, we used telephone interviews, face-to-face interviews, and text responses as the interview format. The interviews were recorded using open-ended audio recordings.

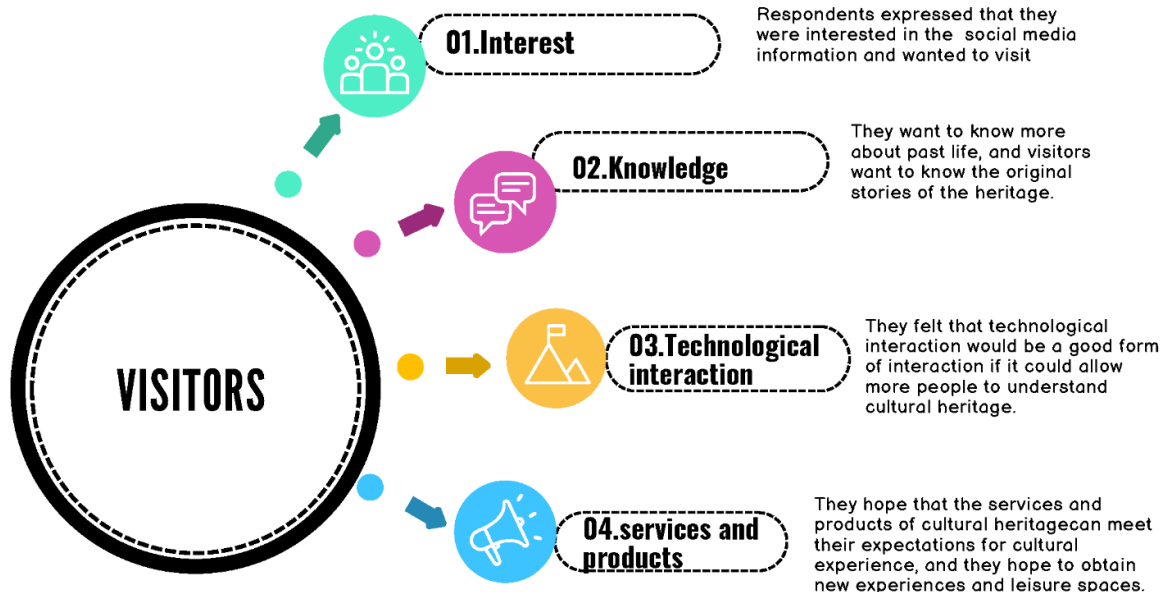
Additionally, we collected supplementary secondary data from various sources, including interviews from newspapers and magazines, organizational data from companies, government department reports, and online audiovisual materials. Through personal observation and synthesis of these secondary sources, common patterns were identified, leading to the derivation of cross-case conclusions and the application and extension of frameworks. Industry-specific recommendations were proposed to make the research findings more relevant to the practical development of cultural heritage sites.

**Table 2.** Data source.

Interviews	Date
1 Director	2021.6.28
2 Managers	2021.5.6
2 Merchant	2021.11.6–2023.11.23
3 Full-Time Staff	2022.4.28–2023.12.16
2 Volunteer	2024.1.28
8 Visitors	2021–2024

We have organized the responses from both the management and visitors into Figures 2 and 3. Their responses are categorized into four aspects each. The management explained to us that they hope to introduce cultural heritage and the development power of Taiwan’s cultural and creative industries to more young people, and that social media can help maintain engagement with visitors. They often hold Taiwanese and foreign cultural exhibitions and activities, giving more opportunities for young people to connect with different cultures. From the visitor’s perspective, they were interested in the social media information and wanted to visit. They expressed a desire to learn more about past life and the original stories of the heritage. Additionally, they felt that technological interaction would be a good form of interaction if it could allow more people to understand cultural heritage. We subsequently provide a more detailed explanation of the relevant content.

**Figure 2.** Interview results (management).



**Figure 3.** Interview results (visitors).

In this study, triangulation was applied through the integration of semi-structured interviews with consumers and management, secondary sources, and participant observation. Semi-structured interviews were the primary data source for qualitative research, while participant observation, commonly utilized in case studies, involved in-depth description and analysis of specific phenomena to attain theoretical saturation within the triangulation framework [42]. Verification of research outcomes was facilitated by examining the same conclusions reached by different methods or different observers [43]. The ability to immediately capture the meaning of the change process through internal follow-through and field notes and formal and informal communication with members of the organization is crucial [44]. During the period, participant observation by visiting sites and eliminating methodological flaws or data or researcher bias was completed through triangulation.

## 4. Research findings

### 4.1. New forms of interaction close to young people

Cultural heritage faces many problems in actual operation, especially in attracting people. As the informant said:

*“There are no big shopping district cinemas close to Kishuan; it is at the end of a sprawling neighborhood that started out as a money-loser.”*

Our visitors from the Hayashi Department Store explained that they had read a lot of information on the internet, so they went to visit the store. There are also some responses from other tourists.

*“I don’t know too much about this building, I just saw on social media, know it’s a landmark so I’m here to check it out.”*

In the case of Jinjinding, visitors typically made physical visits. However, after updating the website, visitors became accustomed to the original interactive mode due to the adoption of new technology. Nonetheless, the convenience provided by digital technology and safety concerns during



the pandemic will likely motivate them to give it a try. Young people are proficient in technology use, and new communication methods should be embraced to engage them effectively.

While live streaming is currently emerging as a cultural heritage tool, its prospects are highly promising. The interviewed visitors expressed unfamiliarity with online purchases, stating that it does not align with the physical heritage experience. Both Hayashi and Kishuan initiated live streaming amid the COVID-19 pandemic, bridging physical events with social media platforms and continuing this approach even as the pandemic winds down.

Kishuan and professors from the University of Taiwan are collaborating to host live literary lectures, aiming to share Taiwan's top university education with the public and enhance their appreciation of cultural heritage. Feedback from HAYASHI indicates that although live-streaming cultural heritage experiences took some time to gain momentum initially, they ultimately generated positive interaction and brand recognition.

Different from other department stores sales, the experience of live streaming is a necessary component of co-creation and sharing of the entire user experience through the co-experience generated through interactions with and among the audience [45].

#### *4.2. The design of the event is key to attracting young people*

After the end of the pandemic, Hayashi Department Store continues to host events on social media platforms, particularly engaging in collaborations with different industries. For instance, on Instagram, viewers of the retro dance videos in Tainan have opportunity to win movie tickets (Figure 4).



**Figure 4.** Hayashi office (2023). Retro Dance Video Event. Retrieved from: [https://www.instagram.com/p/C0D2tPKv8bu/?img\\_index=1](https://www.instagram.com/p/C0D2tPKv8bu/?img_index=1).

In recent years, Kishuan, which is concerned about the young community, has also organized high school magazine competitions and editorial camps (Figure 5). For example, the 5th High School Magazine Competition had a total of 50 high school and vocational school magazine teams participating in the competition, and the overall event was conducted in a synchronized manner by a physical and online live streaming, with about 120 teachers and students coming to the event and their events can be viewed and participated in online. Engaging customers from time to time to co-create a

delightful online customer experience provides an opportunity to improve online customer attitudes and repurchase intentions [46]. Online interaction enables consumers to continue to connect with cultural heritage, and service design includes satisfying emotional needs such as art activities [47].



**Figure 5.** Kishuan office (2022). live streaming for High school magazine competitions. Retrieved from: [https://www.facebook.com/watch/live/?ref=watch\\_permalink&v=367774625472450](https://www.facebook.com/watch/live/?ref=watch_permalink&v=367774625472450).

#### 4.3. Added value of food experiences

As indicated in this survey, visitors prioritize characteristics that align with the destination's image, which is a crucial factor in shaping their travel experience. This implies that cultural heritage sites can enhance visitor engagement by highlighting visual content that resonates with the destination's identity in their promotions and products. During the pandemic, images of iconic landmarks conveyed messages of safety, stability, and resilience [48]. Post-pandemic, these previously seen photos may serve as an incentive to visit these places.

A photographer shared her experience, stating that she chose to capture moments at a cultural heritage site because she recalled seeing stunning photos of it on Instagram. Another scenario involved visitors taking a break in the dining area, capturing numerous aesthetically pleasing photos in the cafe, ultimately becoming the most satisfying aspect of their heritage site experience, as expressed by the interviewee:

*"I wanted to sit down and have a cup of coffee because I got tired from walking around the heritage site, and the environment of the site was beautiful."*

Throughout the interviews, we received numerous evaluations regarding foods, with all four cases incorporating foods areas. A student visitor at Hayashi Department Store explained that she specifically traveled a considerable distance to Hayashi Department Store because it was the only place selling black bean jelly, a unique product there, and she has visited more than eight times. There were also comments from visitors related to Kishuan:

*"I think it's about their dining service; I believe this aspect could be improved. Because it's already quite remote, I think you can develop this place as a leisure destination."*

Most visitors at Hayashi Department Store and Jinjinding purchase souvenirs or enjoy afternoon tea. Respondents mentioned that they wanted to buy iconic or retro items in the environment of Hayashi Department Store. Jinjinding primarily offers high-end afternoon tea and souvenir products such as gold honey cakes. Visitors described their afternoon tea as resembling works of art, and Jinjinding shows the specificities on their Instagram post (Figure 6). This illustrates how social media can help spread the word about the character of a cultural heritage site. The phenomenon of young people enjoying sharing photos on Instagram can be attributed to their love for visual presentation and social media. Therefore, places and meals that offer picturesque settings and photogenic dishes tend to attract them. Therefore, the experiential space design of cultural heritage sites is a crucial factor, especially in achieving a balance between retro and modern elements. This experience encompasses various aspects, including products, packaging, communication, store interactions, sales relationships, and events [49].

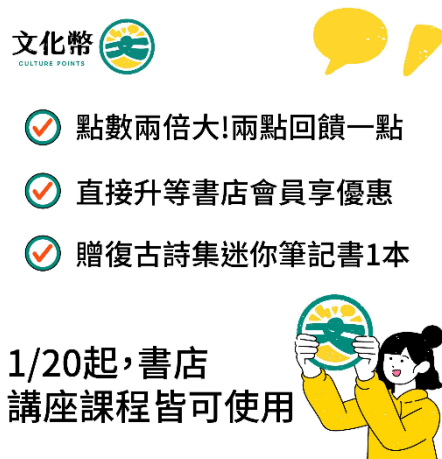
### Instagram

- 🏠 首頁
- 🔍 搜尋
- 🔍 探索
- 📺 連續短片
- 💬 訊息
- ❤️ 通知
- ⊕ 建立
- 👤 個人檔案



**Figure 6.** Jinjinding office (2023). Jinjinding Instagram post. Retrieved from: <https://www.instagram.com/p/Cxr57xXPTY6/>.

Therefore, the ability to capture beautiful photos may be a characteristic that attracts young people to participate. The Taiwanese government actively promotes cultural experiences among young people, exemplified by initiatives like the Cultural point (Figure 7). Taiwanese individuals aged 16–22 can receive cultural vouchers provided by the government, which can be used for discounts when visiting cultural heritage sites. Such measures are expected to effectively encourage the participation of young people, addressing concerns raised by our six interviewees regarding the high prices of cultural heritage product.



**Figure 7.** Kishuan office (2024). Culture point events. Retrieved from: [https://www.instagram.com/p/C2R9Evcv-uW/?img\\_index=1](https://www.instagram.com/p/C2R9Evcv-uW/?img_index=1).

#### 4.4. *Creating convenience factors for young people*

In this study, the factor of convenience emerges as a primary reason for visitors to proactively engage with cultural heritage [50]. Visitors express higher satisfaction levels when they encounter comfortable and relaxing environments. For instance, a visitor from Kishuan mentioned that she often takes walks in Kishuan during her lunch break. Many visitors have experiences of visiting cultural heritage sites with their families, indicating that designing activities tailored for families could create more opportunities for young people to visit. This highlights the importance of considering the needs and preferences of diverse visitor demographics, including families, to enhance youth engagement in cultural heritage experiences. Cultural communication and exchange help to enhance tourists' understanding of local culture and create a desire to visit heritage sites, especially among young people who view heritage sites merely as historical relics. Activities and performances held at these sites will significantly increase audience numbers, providing a platform for the public who may not have access to theatrical productions, concerts, or other educational or entertaining performances.

## 5. Discussion

We discuss the planning of the visitor's experience; effective touchpoint management and thoughtfully designed activities are considered crucial elements. By gaining a deep understanding of the interaction between visitors and heritage, we provide a more personalized and meaningful experience.

### 5.1. *Novel experiences for services and products*

In this study, we found that novel experiences are a key factor influencing visitors' continued engagement with cultural heritage sites. The visit to a cultural heritage site is considered a unique journey, and participating in activities at cultural heritage sites enhances its special significance and contributes to the creation of lasting memories. Novel experiences manifest as an independent and unexpected dimension of the overall experience, where unusual or extraordinary conditions become

essential elements of the event experience, which are integral to the overall composition [36]. Della Corte and Aria [51] suggested that cultural heritage sites are currently facing a dilemma where they must demonstrate creativity and innovation by developing new methods of interaction with marketing objectives to innovate tourists' experiences.

To enhance visitor engagement at cultural heritage sites, it is essential to go beyond traditional historical narratives. We recommend that cultural heritage sites focus on creating novel and unique experiences for visitors. This can include incorporating interactive elements, immersive technologies, and hands-on activities that allow visitors to actively participate and engage with the heritage. Emphasizing extraordinary conditions or offering exclusive experiences can further enhance visitor satisfaction and encourage repeat visits. This may include non-traditional exhibitions, unique interactive experiences, or specially curated cultural events. Such conditions not only become highlights of the visitor experience but also imbue participants with a sense of distinctive value in their engagement with cultural heritage.

***Proposition 1-1:*** *Unique products and experiences can promote the participation of young people both online and in-person*

***Proposition 1-2:*** *Social media can redirect online interactive audiences to offline visits*

## *5.2. Integrating online interactions and innovations for visitor engagements*

Cooperation across multiple platforms contributes to the development of more opportunities. Frequent interactions on social platforms help maintain consumers' interest in cultural heritage sites, facilitating subsequent revisits and mutual cross-flow benefits. Traditional and contemporary dialogues, along with various human resources, provide a platform for cross-border cooperation and address social needs such as parent-child education, youth development, elderly living, and lifelong learning [52]. The establishment of digital platforms is indispensable in cultural heritage services, enabling staff to deliver prompt and efficient services through digital information and providing visitors with access to additional information. Utilizing digital technology in communication helps enhance awareness, especially among young people. Activities on various social platforms create an interactive effect both online and offline. Young people participating in art and cultural activities not only enhance their cultural literacy but also develop various life skills. Social media platforms are crucial to the lives of young people. Heritage sites can collaborate with different institutions, such as cultural and creative departments, to design cultural products that promote local culture and preserve local crafts. The design of local products and the presence of local young brands provide young people with opportunities to establish their own brands and connect with local culture. Cultural and creative products not only attract young people to purchase and understand the meanings behind them but also express their creativity, fostering personal development and a sense of community belonging.

***Proposition 2-1:*** *The establishment of social platforms can provide diversified services for communities.*

***Proposition 2-2:*** *Frequent interactions on social media platforms will have an impact on young people's cultural interests.*

### 5.3. Local and policy support

In this case, except for the Jinjin Ding and Hayashi, the other three used volunteers as their main staff. The young volunteer interviewed at the Literature Base told us that she was interested in culture and chose to apply for the program. She was attracted by the opportunity to participate in lectures and to be taught about culture and history, and she was introduced to the Young Artist-in-Residence program at their cultural heritage, where artists can live in the cultural monument to complete their work and where they are required to give back to the community by conducting lectures, workshops, and other activities at the cultural monument. They need to give back to the community by giving talks, workshops, and other activities in the cultural heritage. It is crucial to consider the importance of local traditions and culture related to tourism services and creative industries in service development to increase profits while maintaining local cultural values [53].

Taiwan is facing a surge in cultural heritage restoration projects, leading to a shortage of skilled restoration professionals. The industry points to several factors contributing to this talent gap: The lengthy training period required for traditional craftsmen, unreasonable salaries, and unstable policies, all of which make it difficult to attract young people to the field. Therefore, government support is needed to address these challenges.

In Taiwan, the preservation of cultural heritage often encounters several issues, one of which is whether the historical period is sufficiently long. This criterion is frequently manipulated for political purposes and is used by the public to question whether a site should become a legally recognized cultural asset. The preservation of cultural heritage inevitably involves clashes with local and political interests. We also found that government support is a critical factor influencing the implementation of preservation projects. Heritage practices should be recognized as relevant policy and key actors in improving wellbeing and mental health [54].

**Proposition 3-1:** *The presence of young people in cultural heritage can help to increase cultural exchange and dissemination.*

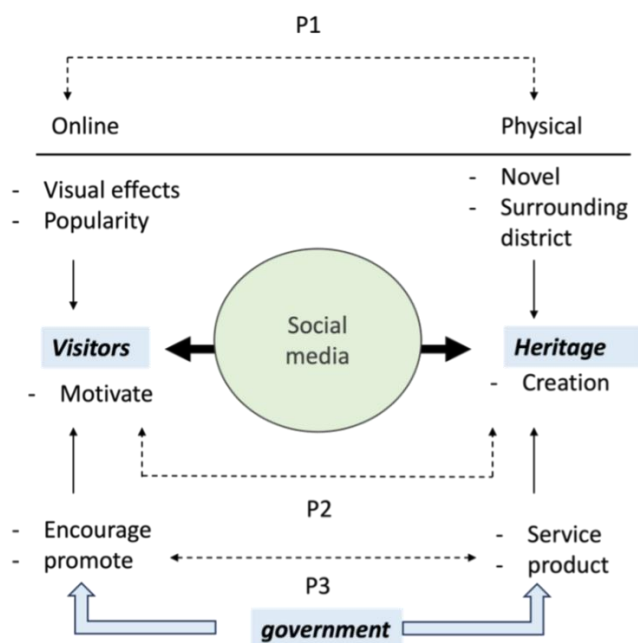
**Proposition 3-2:** *Cultural heritage can have greater social value if they can become platforms for cultural and artistic exchange.*

### 5.4. Integrated experiential design model for cultural heritage

Based on the research findings, we propose a conceptual model regarding the visitor's experience, encompassing the impact of service design by the management on the visitor's experience journey, particularly the benefits arising from the shift from online during the pre-pandemic period to offline during the post-pandemic period (Figure 8).

Our model includes the interaction between visitors and the environment, along with multiple experiential elements and their resulting impacts [36]. Given that the visitor's experience is a confluence of physical, social, and personal environments, it varies among individuals [50]. We further delve into the perspective of service design by the management, discussing how service design and experiential innovation can be implemented, especially concerning the establishment of social media platforms and the creation of new forms of interaction. In the physical environment, cultural heritage sites can emphasize unique experiences and enhance their connection with the surrounding business district. They can create motivation for visitors to make offline visits through social media platforms,

particularly through the visual appeal of images or videos. With government support, cultural heritage sites can innovate and enhance their products and services through visitor participation.



**Figure 8.** Integrated experiential design model for cultural heritage.

## 6. Conclusion and suggestions

### 6.1. Conclusion

Cultural heritage sites can promote youth engagement through social media by interactive content. By leveraging social media channels effectively, heritage sites can create a sense of accessibility and relevance among young audiences, encouraging them to explore and connect with cultural heritage in meaningful ways.

Several factors contribute to promoting young people's participation in cultural heritage. First, fostering a sense of ownership and belonging by involving young individuals in decision-making processes and programming initiatives relevant to their interests and concerns. Second, offering diverse and interactive experiences that cater to the preferences and lifestyles of young people. Last, creating opportunities for social interaction, collaboration, and peer learning within the cultural heritage context can enhance young people's engagement and sense of community.

(1) We outline cultural heritage initiatives and strategies in Taiwan focusing on the role of technology and the construction of digital platforms in increasing young people's engagement. In this study, the role of facilitation from the government for online and offline value exchange was found. The exchange of value between cultural monuments and e-money is a new area, especially when e-money is used specifically for cultural venues. Future research could focus more on this area.

(2) Separating the commercialized space from the cultural experience of the historic buildings at the cultural heritage would enhance the perception and satisfaction of the visitors. The two well-known cultural heritage sites lack a comfortable and relaxing experience space compared to the other three,

especially regarding the creation of a quiet environment, which is valued by younger visitors to the cultural heritage.

(3) Heritage can collaborate with various organizations, and participants in this interview have visited three or more of the venues mentioned in the case, suggesting that visitors to cultural heritage are attracted to similar types of cultural heritage regardless of location. Visitors to cultural heritage sites emphasize the spatial and cultural experience. Therefore, if cultural monuments can cooperate and exchange, it will bring more cross-cultural experiences, especially with the different stories that similar architectural styles can bring to a monument.

The five cultural heritages in this study are all concerned with the design of services for the visitor experience journey. Service design is a total experience with an emphasis on the creation of experiences. It is important to raise awareness among young people and the public of the need to preserve the integrity of specific objects and the role that heritage plays in modern society. Managers can improve perception and relationship assessments by designing different stages of the experience. Digital technology applications are beneficial for the public to gain more knowledge and a better understanding of cultural heritage, and the large number of digital technologies that are popular among young people should be used as part of cultural heritage education.

## *6.2. Theoretical contribution*

Our findings fill a gap in social engagement in the cultural heritage. In the past, service design and customer experience research have rarely been conducted in the cultural heritage field, and a multi-case comparison of practice examples has been conducted in the process of cultural heritage transformation [7]. We contribute to the theoretical framework by investigating the service design and customer experience planning of cultural heritage. Building upon the advocacy of [48], the research extends beyond Europe to provide a broader perspective, with interviews conducted with managers to delve into the decision-making processes in response to the pandemic. Furthermore, aligning with the insights of Settimini [55] regarding community participation, we demonstrate how cultural heritage can act as a catalyst for community involvement and the development of local culture. It supplements practical cases on the integration of digital solutions into organizational and managerial practices [10], emphasizing the importance of researching heritage in developing countries [11].

Moreover, we advocate for the inclusion of more practical cases in Asian cultural heritage research [46,56]. By emphasizing the potential synergy between creative and digital methods, the research provides insights into how young individuals can meaningfully engage with cultural heritage in the Asian context [57]. Exploring the practical cases and managerial strategies outlined in the study, stakeholders involved in cultural heritage management can gain valuable insights into how to effectively involve and attract younger generations, contributing to the sustainability and vitality of cultural heritage sites in the region.

## *6.3. Practical implications*

We highlight the crucial role of engaging young people in the cultural heritage industry. We provide valuable insights into how the sector has transformed and implemented innovative strategies in response to the epidemic, particularly in encouraging active participation from the younger demographic.



The role of government initiatives in promoting young people's participation in cultural heritage was shown in this study. However, improvements in these measures are needed. For instance, the age range for participating in these activities could be further expanded, and additional subsidies could be provided to cultural heritage sites to allocate more funds for activities beyond the maintenance of the sites themselves.

Private enterprises help infuse cultural heritage with elements of business management, they can endow them with social functions to serve the different needs of the public, and they give the public more opportunities to contact and experience heritage. By inviting organizations to provide solutions to revitalize heritage through collaboration, the government hopes to preserve heritage and use them in innovative ways to become unique cultural landmarks and create jobs for the community. The public-centered revitalization plan needs more people to participate to realize the value. The younger generation is the main force of the future, and their participation can bring more vitality to the heritage. We are in agreement with Raffaelli et al. [58] that when communities actively engage, it creates a cultural environment that encourages behavioral changes among residents and visitors.

New ways of interacting with visitors to cultural heritage sites is currently a new area of study, and we attempt to bridge this gap in the academic literature to a certain extent. Our findings can provide management insights for the development of a marketing strategy and promotion of the cultural heritage area to attract more young people. Cultural heritages need to review how to combine cultural resources with daily life and recreate opportunities to continue interactions with visitors.

#### *6.4. Limitations and future research*

While this study provides valuable insights into service design for visitor experiences in cultural heritage sites, it is not without limitations. First, we focused on only four cultural heritage sites, limiting the generalizability of the findings to a broader context. Future research could include a more extensive range of cultural heritage sites to provide a more comprehensive understanding of service design strategies.

Additionally, we primarily focused on the perspectives of managers and may not fully capture the experiences and perceptions of visitors. Future research could incorporate the viewpoints of visitors to gain a more holistic understanding of the effectiveness of service design in enhancing visitor experiences.

Furthermore, we predominantly emphasize digital service design, which may not fully address the needs and preferences of all visitor demographics. Researchers could explore alternative or complementary approaches to service design to cater to diverse visitor segments effectively.

#### **Use of AI tools declaration**

The authors declare they have not used Artificial Intelligence (AI) tools in the creation of this article.

#### **Ethical statement**

This study does not contain any studies with human or animal subjects performed by any of the authors.

## Conflict of interest

Chun-Liang Chen is an Editor of the special issue for us and was not involved in the editorial review or the decision to publish this article. All authors declare that there are no competing interests.

## Author contributions

Conceptualization, W.-K.N. and C.-L.C.; data curation, W.-K.N. and C.-L.C.; methodology, W.-K.N. and C.-L.C.; project administration, Y.-H.H., W.-K.N. and C.-L.C.; resources, W.-K.N. and Y.-H.H.; validation, W.-K.N. and Y.-H.H.; writing—review and editing, W.-K.N., and C.-L.C.; writing—original draft, W.-K.N.; formal analysis, W.-K.N.

All authors have read and agreed to the published version of the manuscript.

## References

1. Bajec JF (2019) The interpretation and utilization of cultural heritage and its values by young people in Slovenia. Is heritage really boring and uninteresting? *Etnoloska Tribina* 49: 173–193. <https://doi.org/10.15378/1848-9540.2019.42.07>
2. Halu ZY, Küçükkaya AG (2016) Public participation of young people for architectural heritage conservation. *Procedia Soc Behav Sci* 225: 166–179. <https://doi.org/10.1016/j.sbspro.2016.06.017>
3. Carbone F, Oosterbeek L, Costa C, et al. (2020) Extending and adapting the concept of quality management for museums and cultural heritage attractions: A comparative study of southern European cultural heritage managers' perceptions. *Tour Manag Perspect* 35: 100698. <https://doi.org/10.1016/j.tmp.2020.100698>
4. Wang H, Zhang B, Qiu H (2022) How a hierarchical governance structure influences cultural heritage destination sustainability: A context of red tourism in China. *J Hosp Tour Manag* 50: 421–432. <https://doi.org/10.1016/j.jhtm.2022.02.002>
5. Lin JH, Fan DXF, Tsaur SH, et al. (2021) Tourists' cultural competence: A cosmopolitan perspective among Asian tourists. *Tour Manag* 83: 104207. <https://doi.org/10.1016/j.tourman.2020.104207>
6. Kotler P, Kartajaya H, Setiawan I (2017) *Marketing 4.0: Do Tradicional Ao Digital*. Rio de Janeiro: Sextante.
7. Clark C (2006) Defence heritage moves on to civilian futures. *WIT Trans Ecol Environ* 94: 197–207. <https://doi.org/10.2495/BF060191>
8. Hausman AV, Siekpe JS (2009) The effect of web interface features on consumer online purchase intentions. *J Bus Res* 62: 5–13. <https://doi.org/10.1016/j.jbusres.2008.01.018>
9. Hall CM, Williams AM (2019) *Tourism and Innovation*. London: Routledge. <https://doi.org/10.4324/9781315162836>
10. Taormina F, Baraldi SB (2022) Museums and digital technology: a literature review on organizational issues. *Eur Plan Stud* 30: 1676–1694. <https://doi.org/10.1080/09654313.2021.2023110>
11. Su X, Li X, Kang Y (2019) A bibliometric analysis of research on intangible cultural heritage using CiteSpace. *Sage Open* 9: 2158244019840119. <https://doi.org/10.1177/2158244019840119>

12. Calvo-Porrall C, Lévy-Mangin JP (2021) Examining the influence of store environment in hedonic and utilitarian shopping. *Adm Sci* 11: 6. <https://www.mdpi.com/2076-3387/11/1/6>
13. Samaroudi M, Echavarria KR, Perry L (2020) Heritage in lockdown: digital provision of memory institutions in the UK and US of America during the COVID-19 pandemic. *Mus Manag Curatorship* 35: 337–361. <https://doi.org/10.1080/09647775.2020.1810483>
14. Zollo L, Rialti R, Marrucci A, et al. (2022) How do museums foster loyalty in tech-savvy visitors? The role of social media and digital experience. *Curr Issues Tour* 25: 2991–3008. <https://doi.org/10.1080/13683500.2021.1896487>
15. Trunfio M, Lucia MD, Campana S, et al. (2022) Innovating the cultural heritage museum service model through virtual reality and augmented reality: The effects on the overall visitor experience and satisfaction. *J Herit Tour* 17: 1–19. <https://doi.org/10.1080/1743873X.2020.1850742>
16. Sudbury-Riley L, Hunter-Jones P, Al-Abdin A, et al. (2020) The trajectory touchpoint technique: A deep dive methodology for service innovation. *J Serv Res* 23: 229–251. <https://doi.org/10.1177/1094670519894642>
17. Vargo SL, Lusch RF (2004) Evolving to a new dominant logic for marketing. *J Mark* 68: 1–17. <https://doi.org/10.1509/jmkg.68.1.1.24036>
18. Lemon KN, Verhoef PC (2016) Understanding customer experience throughout the customer journey. *J Mark* 80: 69–96. <https://doi.org/10.1509/jm.15.0420>
19. Wetter-Edman K, Vink J, Blomkvist J (2018) Staging aesthetic disruption through design methods for service innovation. *Des Stud* 55: 5–26. <https://doi.org/10.1016/j.destud.2017.11.007>
20. Chen CL (2022) Strategic sustainable service design for creative-cultural hotels: A multi-level and multi-domain view. *Local Environ* 27: 46–79. <https://doi.org/10.1080/13549839.2021.2001796>
21. Chen JS, Kerr D, Chou CY, et al. (2017) Business co-creation for service innovation in the hospitality and tourism industry. *Int J Contemp Hosp Manag* 29: 1522–1540. <https://doi.org/10.1108/IJCHM-06-2015-0308>
22. Roigé X, Arrieta-Urtizberea I, Seguí J (2021) The sustainability of intangible heritage in the COVID-19 era—resilience, reinvention, and challenges in Spain. *Sustainability* 13: 5796. <https://doi.org/10.3390/su13115796>
23. Marshall MT, Dulake N, Ciolfi L, et al. (2016) Using tangible smart replicas as controls for an interactive museum exhibition, in *Proceedings of the TEI'16: Tenth International Conference on Tangible, Embedded, and Embodied Interaction*, 159–167. <https://doi.org/10.1145/2839462.2839493>
24. Huang H, Mbanyele W, Fan S, et al. (2022) Digital financial inclusion and energy-environment performance: What can learn from China. *Struct Chang Econ Dyn* 63: 342–366. <https://doi.org/10.1016/j.strueco.2022.10.007>
25. Scholz J, Smith AN (2016) Augmented reality: Designing immersive experiences that maximize consumer engagement. *Bus Horiz* 59: 149–161. <https://doi.org/10.1016/j.bushor.2015.10.003>
26. Navarrete T (2019) Digital heritage tourism: Innovations in museums. *World Leis J* 61: 200–214. <https://doi.org/10.1080/16078055.2019.1639920>

27. Ng WK, Hsu FT, Chao CF, et al. (2023) Sustainable competitive advantage of cultural heritage sites: Three destinations in East Asia. *Sustainability* 15: 8593. <https://doi.org/10.3390/su15118593>
28. Hoyer WD, Kroschke M, Schmitt B, et al. (2020) Transforming the customer experience through new technologies. *J Interact Mark* 51: 57–71. <https://doi.org/10.1016/j.intmar.2020.04.001>
29. Huang H, Mbanyele W, Wang F, et al. (2023) Nudging corporate environmental responsibility through green finance? Quasi-natural experimental evidence from China. *J Bus Res* 167: 114147. <https://doi.org/10.1016/j.jbusres.2023.114147>
30. Huang H, Mo R, Chen X (2021) New patterns in China's regional green development: An interval Malmquist–Luenberger productivity analysis. *Struct Chang Econ Dyn* 58: 161–173. <https://doi.org/10.1016/j.strueco.2021.05.011>
31. Boukis A, Kabadayi S (2020) A classification of resources for employee-based value creation and a future research agenda. *Eur Manag J* 38: 863–873. <https://doi.org/10.1016/j.emj.2020.05.001>
32. Clinehens JL (2019) *CX That Sings: An Introduction to Customer Journey Mapping*. Jennifer Clinehens. Available from: <https://books.google.com.tw/books?id=qgPaDwAAQBAJ>.
33. Mustak M (2019) Customer participation in knowledge intensive business services: Perceived value outcomes from a dyadic perspective. *Ind Mark Manag* 78: 76–87. <https://doi.org/10.1016/j.indmarman.2017.09.017>
34. Wassler P, Fan DXF (2021) A tale of four futures: Tourism academia and COVID-19. *Tour Manag Perspect* 38: 100818. <https://doi.org/10.1016/j.tmp.2021.100818>
35. Smyth L (2016) The disorganized family: Institutions, practices and normativity. *Br J Sociol* 67: 678–696. <https://doi.org/10.1111/1468-4446.12217>
36. Geus SD, Richards G, Toepoel V (2016) Conceptualisation and operationalisation of event and festival experiences: Creation of an event experience scale. *Scand J Hosp Tour* 16: 274–296. <https://doi.org/10.1080/15022250.2015.1101933>
37. Strauss A, Corbin J (1990) *Basics of Qualitative Research*. Newbury Park, CA: Sage publications.
38. Ridder HG (2017) The theory contribution of case study research designs. *Bus Res* 10: 281–305. <https://doi.org/10.1007/s40685-017-0045-z>
39. Yin RK (2003) Designing case studies, In: *Qualitative Research Methods*, Sage, 5: 359–386.
40. Baxter P, Jack S (2008) Qualitative case study methodology: Study design and implementation for novice researchers. *Qual Rep* 13: 544–559. Available from: <http://www.nova.edu/ssss/QR/QR13-4/baxter.pdf>.
41. Etikan I, Musa SA, Alkassim RS (2016) Comparison of convenience sampling and purposive sampling. *Am J Theor Appl Stat* 5: 1–4. <https://doi.org/10.11648/j.ajtas.20160501.11>
42. Merriam SB, Tisdell EJ (2015) *Qualitative Research: A Guide to Design and Implementation*. Hoboken: John Wiley & Sons.
43. Nightingale AJ (2020) Triangulation, In: *International Encyclopedia of Human Geography*, 2 Eds., Elsevier, 477–480. <https://doi.org/https://doi.org/10.1016/B978-0-08-102295-5.10437-8>
44. Kurtmollaiev S, Fjuk A, Pedersen PE, et al. (2018) Organizational transformation through service design: The institutional logics perspective. *J Serv Res* 21: 59–74. <https://doi.org/10.1177/1094670517738371>

45. Hu M, Zhang M, Wang Y (2017) Why do audiences choose to keep watching on live video streaming platforms? An explanation of dual identification framework. *Comput Hum Behav* 75: 594–606. <https://doi.org/10.1016/j.chb.2017.06.006>
46. Anshu K, Gaur L, Singh G (2022) Impact of customer experience on attitude and repurchase intention in online grocery retailing: A moderation mechanism of value Co-creation. *J Retail Consum Serv* 64: 102798. <https://doi.org/10.1016/j.jretconser.2021.102798>
47. Blocker CP, Barrios A (2015) The transformative value of a service experience. *J Serv Res* 18: 265–283. <https://doi.org/10.1177/1094670515583064>
48. Mele E, Filieri R, De Carlo M (2023) Pictures of a crisis. Destination marketing organizations' Instagram communication before and during a global health crisis. *J Bus Res* 163: 113931. <https://doi.org/10.1016/j.jbusres.2023.113931>
49. Ferreira J, Sousa B (2020) Experiential marketing as leverage for growth of creative tourism: A co-creative process, In: *Advances in Tourism, Technology and Smart Systems. Smart Innovation, Systems and Technologies*, Singapore: Springer, 171. [https://doi.org/10.1007/978-981-15-2024-2\\_49](https://doi.org/10.1007/978-981-15-2024-2_49)
50. Falk JH, Dierking LD (2016) *The Museum Experience*. New York: Routledge. <https://doi.org/10.4324/9781315417899>
51. Della Corte V, Aria M (2016) Coopetition and sustainable competitive advantage. The case of tourist destinations. *Tour Manag* 54: 524–540. <https://doi.org/10.1016/j.tourman.2015.12.009>
52. Chang AYP, Hung KP (2021) Development and validation of a tourist experience scale for cultural and creative industries parks. *J Dest Mark Manage* 20: 100560. <https://doi.org/10.1016/j.jdmm.2021.100560>
53. Tran TP, Mai ES, Taylor EC (2021) Enhancing brand equity of branded mobile apps via motivations: A service-dominant logic perspective. *J Bus Res* 125: 239–251. <https://doi.org/10.1016/j.jbusres.2020.12.029>
54. Sayer F (2024) *Heritage and Wellbeing: The Impact of Heritage Places on Visitors' Wellbeing*. Oxford: Oxford University Press, 142–168. <https://doi.org/10.1093/9780191914539.003.0006>
55. Settimini E (2021) Cultural landscapes: Exploring local people's understanding of cultural practices as "heritage". *J Cult Herit Manage Sustain Dev* 11: 185–200. <https://doi.org/10.1108/JCHMSD-03-2020-0042>
56. Kostka G, Mol APJ (2013) Implementation and participation in China's local environmental politics: Challenges and innovations. *J Environ Policy Plan* 15: 3–16. <https://doi.org/10.1080/1523908X.2013.763629>
57. Echavarría KR, Samaroudi M, Dibble L, et al. (2022) Creative experiences for engaging communities with cultural heritage through place-based narratives. *ACM J Comput Cult Heritage (JOCCH)* 15: 1–19. <https://doi.org/10.1145/3479007>
58. Raffaelli R, Franch M, Menapace L, et al. (2022) Are tourists willing to pay for decarbonizing tourism? Two applications of indirect questioning in discrete choice experiments. *J Environ Plan Manag* 65: 1240–1260. <https://doi.org/10.1080/09640568.2021.1918651>

