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## RESEARCH ARTICLE

Section: *Literature, Linguistics & Criticism*

## Digital innovation strategies for intangible cultural heritage preservation and creative products: Focusing on traditional Chinese new year wood-block printing

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### ABSTRACT

**Purpose:** This study aims to explore the impact of digital innovation strategies on cultural heritage preservation and the development of creative products, focusing on traditional Chinese New Year woodblock printing in China. Specifically, it investigates the mediating role of digital literacy and the moderating effect of the perceived value of intangible cultural heritage in these relationships.

**Method:** A quantitative research design was employed, utilizing a structured online survey to collect data from 227 respondents involved in the cultural heritage and creative industries in China. The data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS to test the hypothesized relationships between digital innovation strategies, digital literacy, perceived value, cultural heritage preservation, and creative products.

**Findings:** The findings indicate that digital innovation strategies significantly influence both cultural heritage preservation and creative product development. Digital literacy was found to mediate these relationships, while the perceived value of intangible cultural heritage moderated the effects of digital innovation on both preservation and creative product outcomes. These results underscore the importance of digital tools and strategies in enhancing cultural heritage practices and creative industries.

**Originality/Implications:** This research contributes to the understanding of how digital innovation can bridge the gap between cultural heritage preservation and creative industries. It provides practical insights for policymakers, cultural institutions, and stakeholders in creative sectors, emphasizing the need for digital literacy and greater engagement with intangible cultural heritage in digital transformation efforts.

**KEYWORDS:** digital innovation, cultural heritage preservation, creative products, digital literacy, intangible cultural heritage

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## Introduction

Digital technologies have completely transformed many elements, including cultural heritage preservation and promotion. Intangible cultural heritage can be retained by developing the accessibility of everyone around the globe with the aid of different kinds of digital innovation strategies used at present, for instance, through digital marketing, adopting technology, digital documentation, and collaborative use of platforms (Zhao & Kim, 2024). It has therefore changed the mechanism of interaction through cultural artifacts, traditional practices, and heritage sites. This, in itself, safeguards the practices while creatively interpreting them in a manner that these practices can be meaningful in today's society (Cao et al., 2024). More importantly, in preserving intangible cultural heritage such as Traditional Chinese New Year woodblock printing, the use of digital tools is an exercise that digitally transforms cultural practices in a bridge that spans from traditional to modern worlds (Huang et al., 2024). More importantly, with time, the strategies of digital innovation change; thus, in developing new cultural goods, they have been very significant in the development of creative and commercially viable products based on heritage (Abbas et al., 2024). It researches the interaction between digital innovation strategy and cultural heritage conservation, particularly regarding traditional Chinese New Year woodblock printing, which discusses how it contributes to the creative development of the product (Huang et al., 2024). The influence of digital innovation on cultural heritage preservation and creative product creation, in terms of a mediator role by digital literacy and the moderating role by perceived value, is addressed in this study.

In recent years, there have been numerous research studies trying to find the role of digital innovation strategies in preserving and promoting cultural heritage. For example, (Achmad, 2023) underlines that digital documentation tools, such as 3D scanning and virtual reality, are essential for the preservation of cultural artifacts and practices. These technologies enable the accurate reproduction and global dissemination of heritage items, whereby not only are there cultural practices preserved, but they reach a broader audience (Corvello et al., 2023). Studies on the use of digital marketing strategies have shown their applicability in both reaching global markets and heightening the visibility of traditional crafts, like woodblock printing. For example, (Harbiankova et al., 2023) examined research on online collaborative platforms and found that they have provided more opportunities for local communities to participate in the preservation and promotion of their cultural heritage, hence creating a sense of ownership and engagement with cultural practices. Digital innovation strategies have also been studied concerning creative industries. According to (Davidson et al., 2023), digital tools such as design software and online platforms have allowed artists and designers to combine traditional cultural elements with modern designs to produce novel products appealing to the contemporary market. The integration of digital technologies in the creative industries ensures the preservation of traditional cultural elements while introducing new forms of cultural expression (Chohan, 2023). It shows that digital marketing has a big influence on consumer perception and the creation of demand for heritage-based products as found by the studies about commercializing creative products based on traditional heritage. (Huang et al., 2024) also did a research that shows that the perceived value of intangible cultural heritage highly influences the success of digital innovation strategies. In this regard, when the perceived value is high, it means more successful preservation and product creation. A considerable amount of research focuses on the mediating role of digital literacy in the effective use of digital innovation strategies. Scholars like (Farias-Gaytan et al., 2023) have shown that the more digitally literate an individual is, the better they are at using digital tools to preserve and promote cultural heritage. Digital literacy empowers stakeholders to understand the intricacies of digital platforms and technologies, which enables them to create quality digital content and engage with digital audiences effectively. It has been proven through studies that digital literacy is critical to digital innovation strategy adoption by cultural institutions and creative industries. Researchers such as (Marín & Castañeda, 2023) have studied how the concept of perceived value could moderate the relationship between digital innovation strategies and cultural outcomes. According to their study, it is because the value assigned by stakeholders to the heritage would determine at what level the digital strategy would be implemented and the effectiveness in which preservation and the product goals are achieved.

Although there is significant empirical work on each of the individual components of this study—digital innovation strategies, preservation of cultural heritage, and creative product development—there are gaps in literature for which this research attempts to bridge. Critical gaps include those left by a deficiency of comprehensive studies investigating the integrated role of digital innovation strategies regarding both

intangible cultural heritage preservation and creative product development. The majority of the modern studies are oriented in one direction only: either preserving or developing a product, disregarding the intersection of these domains (Li & Zhang, 2023). Much of the literature currently seems to focus more on the technological dimension of digital innovation, while considerably less attention is afforded to the socio-cultural factors-the perceived value of cultural heritage, for instance, as well as the digital literacy involved-which could likely impact the strategy's success quite a lot (Nguyen & Habók, 2023). This research fills this gap by integrating these factors into a unified model and explores how they interact in the process of affecting both the preservation of cultural heritage and creative product development. Another gap in the literature is the under-researched role of perceived value as a moderator in the relationship between digital innovation strategies and cultural outcomes. Even though research has proven that digital innovation is highly crucial for cultural heritage preservation and creative product development, there is still a lack of understanding of how perceived value contributes to the effectiveness of such strategies (Kuo et al., 2023). For example, research by (Li & Zhang, 2023) already discussed the said concept; however, no related studies that looked into how perceived value in intangible cultural heritage specifically moderates the relationship between digital strategies and cultural preservation or product creation can be found. In addition, digital literacy had been established in many studies as a potential mediator of various adoption behaviors but not particularly and in detail from the context involving cultural heritage protection and creative economies, especially how it can also relate to these traditional cultural traditions, such as woodblock print-making (P. Reddy et al., 2023). This research fills in the gaps by exploring the mediating and moderating roles of digital literacy and perceived value when customers adopt and the effectiveness of digital innovation strategies. Thirdly, current research always fails to take into account the specific cultural context under which the digital innovation strategies are applied. A large percentage of the literature concerned with the preservation of digital heritage and creative products has been dominated by a Western context, and not much attention is paid to the application of the strategies in the non-Western setting, more so in the case of a country like China, where cultural practices are well valued socially and culturally (Huang et al., 2024). This is the area that presents new challenges and opportunities that are still considered very underexplored in the literature-the application of these digital innovation strategies to traditional Chinese practices, such as New Year woodblock printing. By orienting itself into this particular context of culture, research aims to put forward valuable understanding in the perspective of how to adapt and employ such a digital innovation strategy for keeping and promoting intangible cultural heritage, further creating cultural products.

The primary objective of this study is to explore the impact of digital innovation strategies on cultural heritage preservation and creative product development, with a focus on traditional Chinese New Year woodblock printing. This research aims to examine how digital marketing, technology adoption, digital documentation, and collaborative platforms contribute to the preservation of this cultural heritage and the creation of new cultural products. Specifically, the study seeks to address the following research questions: 1) How do digital innovation strategies influence cultural heritage preservation, particularly in the context of traditional Chinese New Year woodblock printing? 2) What is the impact of digital innovation strategies on the development of creative products rooted in traditional cultural heritage? 3) How does digital literacy mediate the relationship between digital innovation strategies and cultural heritage preservation or creative product development? 4) To what extent does the perceived value of intangible cultural heritage moderate the relationship between digital innovation strategies and cultural outcomes?

This is a contribution to the literature on digital innovation in cultural heritage preservation and creative industries, especially regarding non-Western contexts, by putting attention into the project of preserving Traditional Chinese New Year woodblock printing, making this case research unique to the problems and opportunities arising from applying digital innovation strategies in the context of Chinese intangible cultural heritage. This research will thus be important for policymakers, institutions, and heritage practitioners who design and develop creative products, providing them with some evidence-based recommendations on how these processes can most effectively integrate digital technologies. The study has furthered the investigation of the mediating and moderating roles of digital literacy and perceived value in the paper to add more depth to our understanding of the socio-cultural dimensions that influence digital innovation strategies' success. It will give more holistic approach to adoption and implementation of such strategies. The theoretical framework to be used here is the widely applied Technology-Organization-Environment (TOE) framework in different

organizational settings used to study adoption of digital technology (Ganguly, 2024). In the cases of cultural heritage preservation and creative industries, it is a quite useful lens used to understand how technology, organization, and environment interaction influences the process of adoption of digital innovation and its effectiveness in the organizations involved. The technological aspect refers to the digital tools and platforms that are available for preservation and promotion, while the organizational aspect involves how institutions, industries, or individuals respond to these technologies. Environmental factors involve external considerations such as attitudes to cultural heritage in society, the level of digital literacy, and the demand for creative products in the market (Lian & Xie, 2024). Research aims are in line with this framework since they are investigating how the strategies of digital innovation, digital literacy, and perceived value interact to influence cultural heritage preservation and creative product development. This research integrates the TOE framework with empirical research on cultural heritage preservation and creative industries to provide a comprehensive model in understanding factors that contribute to the successful application of digital technologies in preserving and promoting traditional cultural heritage while fostering innovation in creative industries.

## **Literature Review**

In this respect, the intersection between digital innovation and cultural heritage preservation has gained particular attention within the contemporary technological landscape, especially with regard to technologies that document, promote, and make intangible cultural heritage accessible. Of course, one central element within this shift is digital marketing and promotion, which plays an enormous part not only in raising awareness but also in trying to create value for traditional art forms (Liu et al., 2023). Cultural artifacts such as Chinese New Year woodblock prints can transcend the local boundary to an international scale through technologies such as social media platforms, digital storytelling, and online exhibitions. The digital shift supports preservation through the creation of an atmosphere that encourages the sharing and celebration of cultural practices while making the economy viable (Pritika Reddy et al., 2023). Besides, technologies such as 3D scanning and digital documentation provide an immovable archive for these arts that can surmount the danger of material decay. Through the collaborative platforms and digital networks, artisans and custodians are empowered to collaborate in sharing knowledge, collaborating, and co-creating towards the sustainability of these practices along with the newest modern innovation (Lian & Xie, 2024). The digitalization of cultural heritage is highly dependent on the literacy of the people involved, as their ability to navigate and utilize digital tools directly impacts the effectiveness of these strategies (Liu et al., 2023).

The perceived value of intangible cultural heritage, mostly in the context of traditional crafts, will play a very crucial role in the molding of the outcomes of digital preservation strategies (Reshma et al., 2023). When people and communities realize that their heritage holds cultural, historical, and economic value, new methods of its preservation and promotion will not be resisted. With regard to Chinese New Year woodblock printing, the perceived value transcends aesthetic and historical importance into a form of cultural pride and identity that the works represent. This kind of value perception could, in turn, change how stakeholders like local artisans, policymakers, and consumers engage with and participate in the preservation process (Petracek et al., 2024). Digital literacy, therefore, acts as a facilitator for deepening engagement with digital tools and, by doing so, amplifying the effect of marketing and adopting technology. Higher levels of digital literacy, in this context, lead to increased effectiveness when applying new media in promotion and preservation, and through that effect, the more prominent and sustainable visibility of such practices (Pritika Reddy et al., 2023). This moderating effect of perceived value means a person will even be more prone to participation and support toward digital innovation only if he or she can cognitively ascribe the appropriate intrinsic value in the heritage recognized.

## ***Hypothesis Development***

Digital innovation strategies encompass the wide scope of technological interventions with the aim of improving preservation, dissemination, and engagement with cultural heritage. Among the key components of the strategies include digital marketing and promotion, technology adoption, digital documentation, and collaborative platforms (Huang et al., 2024). This digital marketing and promotion strategy uses digital platforms to increase the visibility and awareness of the cultural practices worldwide, thus opening up access to more people beyond geographical boundaries (Hutson et al., 2023). Technology adoption refers to embracing modern tools, including

3D scanning, virtual reality, and artificial intelligence, in mainstream preservation methods to document, restore, and protect cultural heritage (Li & Zhang, 2023). This also includes protection and digitization of tangible artifacts as well as nonmaterial intangible and cultural practices that are going to endure beyond physical decay. Collaborative platforms enable the interaction and co-creation among cultural custodians, artists, and institutions (Lian & Xie, 2024). This way, a community of practice is created that ensures heritage preservation sustainability. These strategies are seen to represent a more up-to-date process of preserving processes, focused on making cultural knowledge more accessible, more interactive, and more long-lived in the context of the digital era (Luo, 2023).

From various discovery, it was found that digital innovation takes up a huge role in preserving cultural heritage. Digital technologies' effect on heritage tourism, it is quoted in an article that the usage of digital means like virtual exhibitions and 3D reconstructions increases public engagement, thereby making cultural elements easier to preserve (Sun et al., 2024). As applied to heritage preservation, research has established that photogrammetry and 3D scanning technologies can potentially be used for creating detailed digital copies of cultural artifacts. As illustrated in the 2018 study by Borkowski et al., this means preservation and studying without physical contact. These technologies have been especially effective in the preservation of intangible cultural heritage, such as when digital innovation strategies help document practices such as traditional music, dance, and crafts. As (Petracek et al., 2024) have seen, digitalization has increased the recognition and consciousness by the public, therefore a stronger cultural preservation effort. More than that, these technologies have proven to increase the involvement of youth, thereby assuring transfer of cultural knowledge in the form most appealing to the modern masses.

#### *H1: Digital Innovation Strategies has a significant impact on Cultural Heritage Preservation*

Digital innovation strategies in creative industries refer to the application of modern technological tools and platforms for the development, promotion, and commercialization of creative products (Abbas et al., 2024). This often involves digital marketing and promotion, technology adoption, digital documentation, and collaborative platforms that all contribute to the expansion of creative practices in the digital domain. This means that through digital marketing, consumers can connect directly through other online channels with the aim of creating more ties and wider reach in the market with creative products (Chohan, 2023). Technology adoption is characterized as changing new and innovative processes by making use of digital design, artificial intelligence, and virtual reality among other tools (Corvello et al., 2023). Digitization ensures that all creative products will be well documented, archived, and accessible to be used and replicated in the future, preserving therefore the very substance of creative work. Platforms, which facilitate interactions across disciplines, and global interaction among people, therefore, are big facilitators in the push towards extended creativity through being an enabler, allowing creators to work in real-time, crossing those geographic as well as resource-based boundaries (Duan & Sandhu, 2023). These strategies, together, have a profound effect on the way creative products are generated, marketed, and consumed in today's digital era (Felicetti et al., 2024).

Empirical research has shown how digital innovation strategies affect the creative industries, manifesting the new tools in more effective and innovative product development and greater visibility and audiences. For example, (Tang et al., 2023) looked into how the development of digital technology in music production has increased creativity among artists, as more sources and avenues are available for collaborating, which positively impacts the quality and diversity of creative products. Similar changes have been documented in filmmaking, where digital technologies involving CGI, digital editing, and online distribution changed the nature of movie-making; it is now more streamlined, allowing for much greater experimentation and innovation (Nasiri et al., 2023).

#### *H2: Digital innovation strategies has a significant impact on creative products*

##### ***Digital Literacy as Mediator***

The previous empirical studies highly discuss the role of digital literacy in the efficiency of digital innovation strategies for cultural heritage preservation. Digital literacy is the ability to use digital tools, technologies, and platforms effectively and responsibly (Achmad, 2023). Digital literacy has been shown to impact the way by which persons and institutions adopt and implement digital preservation methods. (Nasiri et al., 2023)

found, in a research study, that the higher level of digital literacy among heritage professionals enables them better use some digital tools that help preserve heritage sites and cultural artifacts through 3D scanning and digital archiving; hence, there is a high probability that heritage preservation becomes effective and sustainable because of the infusion of new technology into traditional techniques. Like such, in relation to intangible cultural heritage, research by (Davidson et al., 2023) provided proof that through the use of digital literacy for custodians and practitioners in a culture can provide documentation tools with digital media that can make possible the safety of these activities. Furthermore, research has shown that digital literacy not only facilitates a better technical implementation but also deepens the understanding of how digital tools could be applied to cultural preservation for heritage practitioners to align their digital innovation strategies with the heritage conservation goals (Sousa et al., 2024). This, therefore, identifies that digital literacy is the critical mediating factor in the effectiveness with which digital innovation strategies consisting of digital marketing, technology adoption, and collaborative platforms can be undertaken in the preservation of cultural heritage (Zhang et al., 2024).

### *H3: Digital literacy mediates the relationship between digital innovation strategies and cultural heritage preservation*

The increasing research studies in creative industries reveal that the positioning of digital literacy is crucial when it comes to implementing strategies of digital innovation and will lead to the development and commercialization of creative products (Iftikhar et al., 2022). Digital literacy has been proven a significant enabler of technology adoption, and it is demonstrated to enhance the creative process by allowing artists, designers, and other creative professionals to use digital tools and platforms to explore new possibilities, create innovative products, and reach global audiences. For example, studies by (Farias-Gaytan et al., 2023) showed that fashion designers with higher levels of digital literacy skills are more prepared to use the digital tools CAD software, virtual fitting rooms, and online distribution platforms that greatly enhance the creativity and marketability of their designs. Similarly, in music production and marketing, the advancement of digital technology has been fueled by musicians' digital literacy as they are capable of manipulating sounds, editing tracks, and also using social media to expand their audience base (P. Reddy et al., 2023). Digital literacy research has also contributed toward explaining the role of such literacy in aiding content creators to negotiate digital marketing and promotional platforms necessary for the prosperity of creative products in the digital economy. In this respect, (Veronika et al., 2023) learned that the content creators holding higher levels of digital literacy were able to successfully reach their audiences through targeted online campaigns and, by this means, could increase sales and visibility. Overall, digital literacy has been identified as the pre-eminent factor that allows creative professionals to fully exploit the prospects of digital innovation strategies to more dynamic and commercially viable creative products (Nasiri et al., 2023).

### *H4: Digital literacy mediates the relationship between digital innovation strategies and creative products* ***Perceived value as Moderator***

Previous empirical research indicated that the perceived value of intangible cultural heritage is the foundation of efforts put forth to preserve the same using innovative strategies on the digital platform (Cao et al., 2024). Perceived value basically refers to worth assigned by individuals or communities for practices, artifacts, and traditions, and forms the core of motivation for preservation action. Various studies have evidenced that wherever ICH is significant in terms of value, such stakeholders as the governments, the cultural institutions, and local communities are most probable to embrace it along with investments into a digital innovation approach for preserving that ICH. For instance, (Huang et al., 2024) study established that cultural and educational values related to intangible heritage, such as music and dance, positively impact the extent of digital preservation activities. Examples include digitizing cultural performances and employing web-based media for the transmission of such content. Similar to this, research studies from (Luo, 2023) indicated that in the cultural heritage tourism context, the more a community appreciates the value of their intangible cultural heritage, the more individuals are likely to welcome new technologies like virtual reality and digital storytelling that would better aid them in preserving and promoting their traditions. This perception of high value feeds straight into the strength of effectiveness for digital strategies due to stakeholders more likely to apply resources in development and implementation toward novel tools and platforms (Wang et al., 2023). Conversely, if the ICH

is deemed to have less perceived value, then the strength in adoption in digital strategies may well be weaker and ineffective to support preservation. This suggests that the perceived value of ICH modulates the effectiveness of digital innovation strategies for preservation purposes (Zhao & Kim, 2024). These empirical findings inform the hypothesis that the perceived value of intangible cultural heritage moderates the relationship between digital innovation strategies and cultural heritage preservation (Petracek et al., 2024).

*H5: Perceived value of intangible cultural heritage moderates the relationship between digital innovation strategies and cultural heritage preservation*

Evidence from empirical research further suggests that perceived value is involved in moderating the effect of digital innovation strategies on creative products, especially in cultural and creative industries (Davidson et al., 2023). One of the paramount factors that may determine how successfully digital innovation strategies can be applied to creative product creation and commercialization was identified to be perceived value of intangible cultural heritage. (Luo, 2023) explored the determinants of how cultural value perceived of heritage elements, such as traditional crafts or folk art, shapes the degree to which digital tools are integrated into creativity processes. The findings showed that when high cultural value of heritage is perceived both by the producers and consumers, digital strategies would entail digital marketing, online collaborative effort, and technology-based design for the products (Huang et al., 2023). For example, the textile craft of the olden times was perceived by the fashion industry to be very valuable that they begin to embrace a new digital innovation strategy like 3D modeling and digital storytelling for the development of their new lines of fashion inspired by the technique of the old times. In the cinematic and entertainment fields, the appreciation of cultural values motivated filmmakers as well as video game developers to develop digital works based on storytelling using digital means so that authenticity in the creative processes may be enriched through appealing output of the end-products (Felicetti et al., 2024). These findings clearly underpin perceived value as the foundation in which creative industries base the implementation of their digital strategies in encouraging stakeholders' investments in innovation-orientated technology, particularly where product development and market outreach are concerned (Iftikhar et al., 2022).

*H6: Perceived value of intangible cultural heritage moderates the relationship between digital innovation strategies and creative products*

***Theoretical Framework Supporting the Research***

In this study, to describe the relationships and model, the Technology-Organization-Environment (TOE) framework would be suitable in understanding the integration of digital innovation strategies in cultural heritage preservation and creative product development. The TOE framework was first developed by Tornatzky and Fleischer in 1990. It has been found to explain how technological, organizational, and environmental factors influence the adoption and implementation of technological innovations within organizations (Ganguly, 2024). The technological aspect constitutes the dimensions of the digital tools and platforms, through which intangible cultural heritage is preserved and promoted, ranging from digital marketing, technology adoption, digital documentation, and collaborative platforms. The organizational dimension reflects the work of heritage institutions, creative professionals, and other stakeholders involved in the digital strategies. Their digital literacy, expertise, and perceived value of intangible heritage determines the overall implementation of the digital innovations for preservation and product development purposes (Ciampa et al., 2023). The environmental dimension of the TOE framework also considers the external contextual factors such as societal attitudes toward cultural heritage, the impact of digital media as well as market demand for creative products. (Cao et al., 2024) studies have observed that the perceived value of intangible cultural heritage is crucial in moderating the adaptation and implementation of digital innovations. The conceptualization provided here enhances this framework to explain how, through the interaction with digital literacy and the perceived value of intangible cultural heritage, digital innovation strategies can propel the preservation of cultural heritage and the creation of innovative cultural products. Since the integrated framework of TOE with empirical research on digital literacy and perceived value for cultural heritage offers a comprehensive understanding of factors which contribute to successfully applying digital strategies into preservation and promotion of cultural heritage combined with creative industries thus based on this, the conceptual framework developed is as shown in Figure 1.

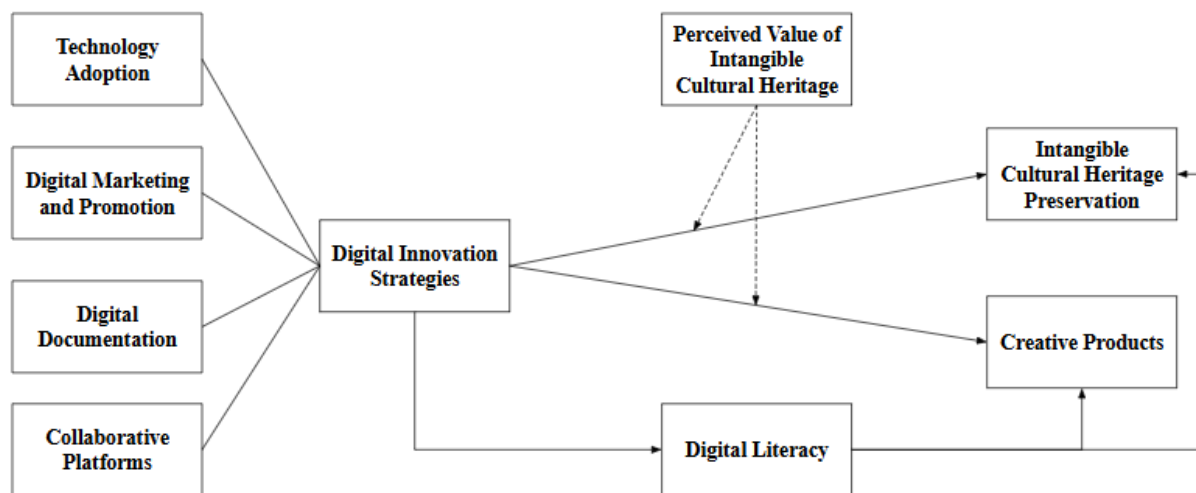


Figure 1: Conceptual Framework

## Methodology

### *Research Design*

This study employed a quantitative research design to examine the role of digital innovation strategies in preserving cultural heritage and developing creative products, particularly in traditional Chinese New Year woodblock printing. A cross-sectional survey was used to collect data from relevant stakeholders engaged in cultural heritage preservation and creative industries in China. Since this type of approach enabled the testing of causal relationships and examination of several variables in a well-structured framework, a quantitative approach was appropriate to use.

### *Population*

The population for the study included all those people and organizations that have been actively engaging in the activities of cultural heritage preservation and the creative industries within China. Generally, the case of this paper will target to engage people in the preservation and promotion of the traditional Chinese New Year woodblock printing, be it artisans, craftsmen, cultural heritage professionals employed in museums and galleries, and within the cultural heritage institutions. In addition, designers, marketers, and product developers were involved, who are all stakeholders in the creative industries. This population was selected because they directly experience cultural heritage practices and have been involved with or are knowledgeable about the inclusion of digital innovation strategies in heritage preservation and product development. The study aimed to seek their perceptions and experiences regarding the adoption of digital tools in cultural heritage contexts.

### *Sample Size and Sampling Technique*

There were 227 samples which were to form the respondents of this research. Samples selected had proved to be quite sufficient to hold power in SEM and gave confidence about both the reliability and the validity of results. A specific non-probability convenient sampling technique had been employed to make this selection. A convenient approach was taken in recruiting participants who were readily available and willing to participate, provided they fit the category of people involved in cultural heritage preservation or the creative industries in China. The sampling was stratified to ensure drawing samples from various regions in China to ensure diversity and representation of different perspectives regarding the use of digital innovation strategies in cultural heritage contexts. Respondents were selected based on professional engagement related to Chinese New Year woodblock printing or involving culture institutions and creative sectors where digital tools and strategies are being applied.

### ***Data Collection Technique***

This investigation used a structured questionnaire to gather data within the scenario. The survey instrument used a 5-point Likert scale for assessing respondents' perceptions regarding digital innovation strategies, digital literacy, and the value placed on intangible cultural heritage, as well as the impact of these factors on the preservation of cultural heritage and the development of creative products. The Likert scale ranged from 1 to 5 (Strongly Disagree through Strongly Agree) so that the participants were able to express their varied levels of agreement or disagreement to the statements. The questionnaires, it was intended, would collect quantitative data regarding these constructs as well as relevant demographics for this study. The questionnaires will be distributed personally and online to maximize the likelihood of response from a representative sample. The Chinese New Year woodblock prints would be carried out in the cultural heritage sites, workshops and events for distribution in person while online would carry out email blasts and social networking sites targeting not only the professional but also those relevant stakeholders on both creative industries as well as culture heritage sectors. The survey also gave room for participants as they were free to participate too.

### ***Data Analysis Technique***

The data collected during the survey were further analyzed using PLS-SEM in SmartPLS. The use of PLS-SEM has become prominent for the evaluation of complex, multiple-variable interactions where the constructs involved are not only reflective and formative constructs as in the case of the current study. It can apply the flexibility of working with a smaller sample size, estimate the relationship for data which need not follow normal, and the capacity of modeling direct as well as indirect effects. This technique adopted uses SmartPLS for testing the measurement model regarding the constructs to assess the validity and reliability of constructs. For justifying the measurement model, the structural model was evaluated. This then looks at the hypothesized relationships between digital innovation strategies, digital literacy, perceived value of intangible cultural heritage, cultural heritage preservation, and creative product development. The path coefficients, t-values, and R-squared values are computed for analysis purposes in order to make judgments on the significance and strength of the relationship in the model being explored.

### **Results and Discussion**

This research is very informative about the complex interplay between digital innovation strategies, digital literacy, perceived value of intangible cultural heritage, and their influence on cultural heritage preservation and creative product development. Under such immense pressure from globalization and modern technological advancements, the integration of digital tools has emerged as a vital strategy for safeguarding traditional practices and fostering new avenues for creativity. Discussion Chapter The outcome of the four hypotheses is discussed in this discussion chapter and how these mediated and moderated digital innovation strategies, by digital literacy and perceived value of intangible cultural heritage, shape not only cultural heritage preservation but also innovative product development. The following sections reflect some of the most important findings of this research and discuss theoretical, practical, and policy implications that may arise in the attempt to bridge the gap between tradition and modernity, through which digital transformation is expected to play its part in cultural and creative industries.

The findings of this study indicate that the implementation of digital innovation strategies indeed affects cultural heritage preservation and creative products development; this is according to Hypotheses 1 and 2. The positive effect of digital innovation strategies on the preservation of cultural heritage also falls in line with the rising number of literature reports that underscore the transformational role of digital tools in the protection of intangible cultural heritage. In this increasingly globalized and digitalized world, digital marketing, technology adoption, digital documentation, and collaborative platforms have become critical components for the promotion of cultural heritage preservation. The findings of this research validate the fact that digital marketing is an essential tool for creating awareness and engaging a global audience, thereby contributing to the preservation of traditional cultural practices, such as Traditional Chinese New Year woodblock printing (Zhao & Kim, 2024). Further to this, integration of technology with 3D scanning, virtual reality (VR), and augmented reality (AR) enables people to create digital replicas and hence interact with the cultural artifacts in very innovative ways (Cao et al., 2024). The intangible cultural practice is preserved with preserving tangible heritage to be practiced

by future generations. Moreover, digital preservation via online archives and repositories has helped in the preservation of cultural knowledge and techniques; it has given a centralized platform for researchers as well as the public to interact with and learn about traditional cultural practices (Reshma et al., 2023).

Likewise, the impact of innovation strategies in digitization on the creative products, from Hypothesis 2, is positive as it, in fact, portrays this to be a very substantial potential way in which these digital resources promote the commercialization and worldwide dissemination of those native designs. The above reasoning thus compliments earlier researchers that have tended to be overemphasizing on the idea of the digital technologies, on how these blend those traditional pieces of cultures together with modern fashion designs (Huang et al., 2024). CAD software, online platforms, and e-commerce solutions have enabled artisans to create innovative products that not only are in line with the traditional heritage but also satisfy contemporary consumer tastes. Digital marketing through targeted advertising, social media campaigns, and influencer collaborations amplified the reach of these creative products, allowing for their successful integration into the global marketplace (Liu et al., 2023). This further outcome of this study leads to an argument that strategically pursued digital innovation strategy might indeed cultivate symbiotic mutualism between preserving cultural heritage and the commercialization of creative products. With respect to this aspect, digital innovation does not only preserve heritage but also offers economic opportunities for the locals by converting the product into a form that is more commercially viable for them to be on the same global competitive market (Li & Zhang, 2023).

This study produces strong empirical evidence supportive of the role of digital literacy in mediating the relationship between strategies for digital innovation and the preservation of cultural heritage (Hypothesis 3) as well as between digital innovation strategies and creative products (Hypothesis 4). The recent patterns of the literature indicate that digital literacy is being considered one of the key skills that assist individuals and organizations in effectively engaging with digital technologies to enable them to achieve wanted results (Luo, 2023). Against this backdrop, the conclusions drawn from this study are that digital literacy works as a vital enabler of people and organizations as they strive to preserve cultural heritage through the preservation of old customs. Digital documentation involves the process of creating digital replicas, archives, and virtual representations of cultural artifacts, which involves a certain level of expertise and knowledge in the use of digital tools such as 3D modeling software, archival management systems, and online platforms (Mantzou et al., 2023). Heritage professionals will be hampered in producing quality and accurate digital documentation that has become an efficient tool for preservation without digital literacy. Similarly, the need for digital marketing strategy to promote the cultural heritage, attract an international audience, and even understand what will work to efficiently use online resources, engage a target audience, and write captivating narratives that capture diverse audiences as well (Sun et al., 2024). This implies that the results of this research recommend that organizations concerned with preserving cultural heritage need to invest in digital literacy programs for their employees and stakeholders so that they can use the available digital technologies appropriately. This way, digital literacy is what will facilitate an unimpeded interface between strategies for digital innovations so that strategies put forward lead to desired consequences within the general aim of preservation of cultural heritage.

The mediating role of digital literacy in the link between digital innovation strategies and creative products, as shown in Hypothesis 4, further reflects this understanding: the level of digital literacy is as important as the others in promoting the successful commercialization of traditional cultural products. The creation and promotion of creative products based on traditional cultural practices but may appeal to a global market depend on using digital tools, which include computer-aided design (CAD) software, e-commerce platforms, and social media marketing (Ma, 2024). The results of the study also reflect that digital literacy improves the skills of artisans for effective design, manufacturing, and marketing of the creative products in such a manner that the aesthetic value of the artistic products will not be solely beneficial but well connected to contemporary trends and consumers' choices as well. Digital literacy also enables artisans and cultural organizations to use digital marketing tools, like search engine optimization, targeted online advertisements, and engagements on social media, in order to target even diverse and populous audiences. Cultural heritage products can easily fail to achieve the visibility and traction required when entering global competitive markets without using the proper skills and knowledge in these tools (Lian & Xie, 2024). Thus, the mediating role of digital literacy in this study suggests that digital literacy for stakeholders involved in the development of creative products holds the watershed between ensuring success in the integration of traditional cultural elements into modern product

designs. This is also underlined by the continuous need for investments in the development of digital skills with a view to putting the full potential of digital innovation strategies into play in the cultural and creative sectors. The findings of the present study very strongly support Hypotheses 5 and 6: namely, that intangible cultural heritage perceived value represents an important moderating variable both for the relation between digital innovation strategies and the preservation of cultural heritage, as well as for the one between digital innovation strategies and creative products. This study shows that intangible cultural heritage perceived value has enhanced the impact of digital innovation strategies. This high perceived value of heritage inspires stakeholders to make financial and cultural investments in the tools and platforms of digital media, which have enabled the preservation, documentation, and promotion processes to be undertaken effectively (Petracek et al., 2024). For instance, when the heritage that such institutions and practitioners are charged with the preservation of holds more cultural and emotive value, they will have a stronger attachment to the introduction of new technologies such as 3D modeling, virtual reality, and even digital archiving systems (Zhang et al., 2024). In such cases where heritage is seen as holding low perceived value, attachment to such strategies of digital intervention may be very weak, therefore resulting in weaker preservation efforts. This shows that the perceived value of intangible cultural heritage remains a subjective aspect and, however, becomes the critical determinant that will affect whether digital innovation strategies will work successfully in the process of preserving cultures. Thus, the moderating effect calls upon awareness raising towards the value of intangible cultural heritage and intensified cultural pride of communities for fruitful integration of digital technologies into the preservation initiative process.

As in Hypothesis 6, the perceived value of intangible cultural heritage also influences the development with regard to the relationship between digital innovation strategies and creative products. It goes without saying that once the stakeholders, including artisans and creative industry players, appreciate the cultural values created by traditional designs and practices, they are even more likely to use digital innovation strategies for the creation of new culturally inspired products. Using the high perceived value with digital tools in the form of computer-aided design, online promotional, and e-commerce platforms is apt when products are being produced that also have intrinsic cultural values but yet to keep modern consumer demands are produced (Wang et al., 2023). This study's findings resonate well with previous literature, which reports that perceived cultural heritage value is an aspect that drives stakeholders to embrace the incorporation of traditional cultural factors into modern product designs, since it greatly influences the choice to do so (Harbiankova et al., 2023). Hence, if the stakeholders are informed that the essence of the traditional culture can be conserved in the event that commercialization happens, then that should finally be assimilated into digital innovation for economic and cultural sustainability. In addition, the value perceived for intangible cultural heritage can spark more consumer interest in creative products that are traditionally based, and thus help promote the global marketing of such products. This implies that strong cultural identity and heritage value can help in effective application of digital strategies within the creative industries, therefore ensuring successful development of products and deepening market penetration (Liu et al., 2023).

Concluding, the study will therefore deliver the holistic understanding regarding how the strategies of digital innovation with the factor of digital literacy and the perceived value of intangible cultural heritage are propelling toward significant outcomes regarding the preservation of cultural heritage and the development of creative products. Overall, the findings suggest that in the direct support of a higher level of digital literacy and a stronger perception of cultural value, stakeholders have more chance of applying digital tools effectively in safeguarding heritage and generating innovative, marketable products. These findings add to an increase in the literature emphasizing the role that digitalization takes in maintaining cultures and creative industries. Moreover, they give concrete advice to cultural institutions, creative industries, and policymakers to concentrate investments on the development of digital literacy and raise public awareness about the value of intangible cultural heritage, ensuring that digital innovation is harnessed for both cultural sustainability and economic growth. Future research may be extended based on the findings here and may examine the specific contextual factors and digital tools that enhance integration in these sectors.

## Implications

This theoretical contribution explores how digital strategies for innovation interact with preservation of cultural

heritage and the development of creative products. Combining the domains of digital transformation, cultural heritage theory, and studies on creative industries affords a rich and nuanced theoretical framework for studying the mediating role of digital literacy as well as the moderating influence that is placed by the perceived value of intangible cultural heritage. This work extends the scope of applicability of the theory of innovation diffusion by showing that the successful introduction of new technologies for the conservation of cultural heritage and innovative product creation can be supported by digital tools when digital literacy is at a sufficiently high level. In addition, it furthers theoretical debate about how perceptions of cultural value impact the adoption of technology in creative industries—indeed, by speaking out against traditional models and their general tendency to de-emphasize emotional and cultural drivers in digital innovation adoption. This paper further develops educational and empowerment theories by discussing increased digital competency through enhanced efficiency of digital strategy usage in preservation and creativity of heritage while highlighting digital literacy as central to such innovations. The moderating role of perceived cultural value aligns with socio-cultural theories asserting the significance of local cultural context in the adoption of global technologies. The study bridges a theoretical gap between these domains: digital innovation, the preservation of cultural heritage, and the creative industries, offering a more integrated view of how each domain intersects and influences the others within the context of modern technological advancement.

It has significant practical implications for cultural heritage institutions, policymakers, and creative industries to leverage such digital innovation for both the preservation of cultural heritage and the development of innovative, culturally-inspired products. This study identifies the role of digital literacy in enabling the proper implementation of digital tools and strategies, which calls for investments in digital training by stakeholders such as artisans, heritage practitioners, and cultural institutions for the effective enjoyment of digital transformation. This research calls for heritage organizations to not only adopt advanced digital technologies such as 3D modeling, virtual reality, and digital archiving systems but also to cultivate a deep understanding of cultural relevance, thereby ensuring that digital interventions are effective and culturally respectful. Moreover, the moderating role of perceived value emphasizes the need for community engagement and education in raising awareness about the cultural and economic benefits of preserving intangible cultural heritage through digital means. The results of this research are beneficial to creative industries, especially those of traditional craftsmanship and design-based, since it can establish the potential contribution of digital innovation for heritage-inspired products to breathe new life into them, thus expanding market reach and enhancing consumer engagement. Policymakers will be able to use these insights to design supportive frameworks and incentives for the integration of digital tools both in cultural heritage preservation and the creative sector. This will eventually lead to a sustainable digital ecosystem that will positively impact heritage conservation and economic growth. In conclusion, this study would be helpful for the stakeholders from all sectors, as it suggests practical recommendations for a balanced approach to technology adaptation and a firm cultural value framework. This indicates that digital innovation would effectively help in serving both heritage and innovation goals.

### **Limitations and Future Directions**

Although this research gives very good insight into the relationship between digital innovation strategies and cultural heritage preservation, several limitations need to be considered. This is in the fact that the study is limited to a traditional case study of Chinese New Year woodblock printing in relation to intangible cultural heritage. This can be a good and context-based study, though the findings would not be universally generalizable across other forms of intangible cultural heritage across varied cultural contexts. The differences in perceiving a variety of cultural practices as well as the uptake of digital tools should also limit the applicability of results for other regions or heritage forms. The study largely relies on quantitative methods, which cannot be assumed to be representative of the intricacies involved in the emotional attachment of stakeholders to cultural heritage and the subtle nuances in decision-making towards the adoption of digital. Qualitative insights may also further provide insight into how people and communities relate to digital innovation strategies and further provide a holistic view of the cultural and social dimensions that might influence digital transformation in heritage preservation.

Further studies can further this research by working on the limitations identified and enlarging the scope of the study by including even more diversified forms of cultural heritage from different geographical

and cultural contexts. A comparison between the varied elements of intangible cultural heritage, such as music, dance, and traditional crafts, may turn out to be fruitful in understanding how digital innovation strategies are applied diversely. More forthcoming studies may depend on mixed method practices that integrate use of questionnaires with numerical information and depth interviews or qualitative case studies in realizing insight regarding the underlying drives, attitudes, and barriers held by the pertinent stakeholders in implementing these digital applications. Longitudinal analysis would also establish the long-run impact of these digital innovations with respect to their effectiveness in achieving the goals but also sustainability when adapting to continually changing technological lands. Further areas of interest relate to the crossing of digital innovation and policy, because knowledge regarding the ways through which governmental and institutional support drives the adoption of digital strategies will be highly insightful in guiding policy and funding instruments in the future. In conclusion, the role of emerging technologies such as artificial intelligence, augmented reality, and blockchain in cultural heritage preservation may open new frontiers for innovation and further opportunities to enrich the research on the digital transformation of cultural heritage.

## **Conclusion**

**Conclusion:** The paper provides a holistic analysis of how digital innovation strategies affect both the preservation of cultural heritage and the development of creative products, mediated by the role of digital literacy and moderated by perceived value. Findings have demonstrated how digital tools, in conjunction with sufficient digital literacy and a high regard for the cultural value of heritage, play a critical role in preserving traditional practices and innovation in creative industries. This study contributes to the growing literature on embedding technology in the cultural sector by showing that digital innovation strategies can indeed lead to meaningful outcomes in terms of the preservation of intangible cultural heritage and the creation of new, marketable products. This approach would then require increased investment in the development of digital literacy, first and foremost for stakeholders in heritage preservation. This would further emphasize the importance of community engagement through the process, which would include increasing people's awareness regarding the cultural benefits and the economic benefits that people can gain from digital innovation. Although this study does have limitations, such as its focus on one cultural practice, it is helpful for policymakers, cultural institutions, and creative industries as a guide to making the best use of digital tools while being respectful of and enhancing cultural heritage. The future research avenues are to further carry out the finding in other cultures and forms of heritage to get profound insights into what digital innovation can enable for sustainable cultural and creative industries.

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