

TRANSFORMING ARCHITECTURAL HERITAGE INTO CULTURAL PRODUCTS: DESIGN STRATEGIES FROM THE FOUR PAGODAS OF ZHENGDING

Tianyi QU¹, Akapong INKUER², Chanoknart MAYUSOH³ and Pisit PUNTIEN³

1 Doctoral Student of Philosophy Program in Visual Arts and Design, Faculty of Fine and Applied Arts, Suan Sunandha Rajabhat University, Thailand;
s64584948048@ssru.ac.th

2 Advisor in Visual Arts and Design, Faculty of Fine and Applied Arts, Suan Sunandha Rajabhat University, Thailand; akapong.in@ssru.ac.th

3 Visual Arts and Design, Faculty of Fine and Applied Arts, Suan Sunandha Rajabhat University, Thailand; chanoknart.ma@ssru.ac.th (C. M.); pisit.pu@ssru.ac.th (P. P.)

ARTICLE HISTORY

Received: 3 February 2025

Revised: 17 February 2025

Published: 11 March 2025

ABSTRACT

This study explores the innovative paths of integrating the key architectural elements of the Four Pagodas of Zhengding Ancient City into modern cultural creative product design by extracting their cultural and historical values. The findings indicate that designs incorporating the unique characteristics of the Four Pagodas significantly enhance the cultural added value and market competitiveness of cultural creative products, while also strengthening public cultural identity and preservation awareness. This study provides a theoretical framework and practical guidance for the protection and innovative utilization of cultural heritage.

Keywords: Regional Architectural Heritage, Cultural Creative Product Design, Four Pagodas of Zhengding Ancient City, Cultural Inheritance, Innovative Integration

CITATION INFORMATION: Qu, T., Inkuer, A., Mayusoh, C., & Puntien, P. (2025). Transforming Architectural Heritage into Cultural Products: Design Strategies from the Four Pagodas of Zhengding. *Procedia of Multidisciplinary Research*, 3(3), 51.

INTRODUCTION

In the context of rapid development of globalization and urbanization, traditional regional architectural heritage, as an important carrier of local culture, is facing the risk of being gradually ignored or even disappearing. The ancient architectural art represented by the four towers of the ancient city of Zhengding in Hebei Province - Guanghui Temple Hua Pagoda, Linji Temple Chengling Pagoda, Tianning Temple Lingxiao Pagoda and Kaiyuan Temple Sumeru Pagoda are outstanding symbols of the regional characteristics and cultural value of traditional Chinese architecture. However, due to factors such as urban renewal, transformation of economic development model, and cultural consumption change, the protection and inheritance of these heritages face severe challenges (Zhang & Ke, 2022).

In recent years, China's cultural and creative industries have flourished, and their market size has continued to expand. According to the "Report on the Development of China's Cultural and Creative Industries (2023)", the total output value of China's cultural and creative industries will reach 8.6 trillion yuan in 2022, accounting for 7.8% of GDP, and continue to grow at an average annual growth rate of more than 6%. This not only reflects the market potential of the cultural and creative industries, but also provides an opportunity for the combination of traditional culture and the modern consumer market. The Government has also adopted a series of policies to support the development of cultural and creative industries, such as the 14th Five-Year Plan, which explicitly proposes to promote the integration of culture and technology, and support cultural and creative enterprises to develop high value-added products, so as to achieve innovative transformation of cultural resources and enhance economic benefits (Yang & Zhang, 2019).

In this context, the combination of architectural heritage and cultural and creative products has become an effective way to take into account both protection and development. This not only perpetuates cultural values, but also gives them economic meaning through commercialization and provides a sustainable development engine for local economies (Sun et al., 2018). For example, the cultural and creative practice of the Palace Museum has successfully transformed cultural symbols into market-recognized products, which not only promotes the dissemination of traditional culture, but also provides an example for the protection and industrialization of cultural heritage (Zhang & Ke, 2022).

Research Objectives

To study the application of architectural elements from the Four Pagodas of Zhengding in cultural product design and evaluate their impact on heritage preservation, cultural identity, and market potential.

LITERATURE REVIEWS

The combination of cultural heritage and cultural and creative industries has increasingly become an important model for cultural inheritance and economic development. With its unique cultural connotation and visual symbols, regional architectural heritage plays a central role in the design of cultural and creative products. The existing research mainly focuses on the protection of architectural heritage, the theory of cultural and creative product design and its integration path, which provides a theoretical basis for this research. However, there are few studies on specific architectural heritages (Such as the four towers of Zhengding Ancient City), especially in the practical strategies of transforming architectural cultural elements into design language. Based on the refinement of the cultural connotation of the Four Towers architecture, this study explores its application path in cultural and creative products, so as to make up for the existing research gaps and provide practical guidance. From 2020 to 2024, the master's and doctoral dissertations related to this study will be used as a reference for theoretical and practical analysis.

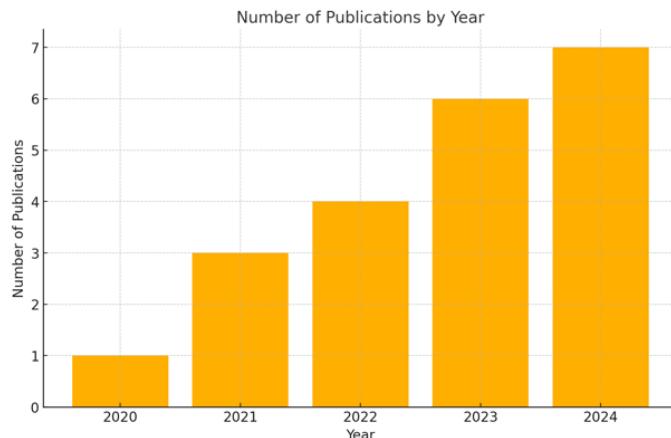


Figure 1 Research statistics of master's and doctoral dissertations related to this study from 2020 to 2024

Preservation and Utilization of Regional Architectural Heritage

As an important carrier of cultural inheritance, regional architectural heritage has a unique value in reflecting regional history and enhancing community identity and cohesion (Matarazzo & Resciniti, 2013). With proper conservation and development, built heritage can boost local economies and become a core resource for tourism and cultural and creative industries. For example, the "Gessi Park" in Italy has not only increased the international profile of the area by combining architectural culture with creative design, but also significantly enhanced economic benefits (Matarazzo & Resciniti, 2013). Cheng et al. (2015) further pointed out that architectural heritage is also of great significance in optimizing the allocation of urban and rural resources, and its rational use can balance the gap between urban and rural development. In recent years, digital technologies such as 3D scanning, BIM modeling, and augmented reality (AR) have become increasingly important in the preservation of built heritage, helping researchers and designers to document, analyze, and reproduce cultural heritage more efficiently (Wang, 2024). In addition, intelligent algorithms and artificial intelligence technologies also play an important role in the digitization of cultural heritage, such as deep learning models that can be used to automatically identify and repair damaged parts of historic buildings (Zhou, 2024).

Research and analysis related to cultural and creative product design

Cultural creative products are centered on the concept of "culture + creativity," transforming intangible cultural heritage into tangible products that integrate cultural transmission with market value (Zhang et al., 2018). In recent years, the focus of cultural creative product design has shifted from functionality and decoration to expression of cultural connotations. For example, Hsu and Tsai (2015) point out that consumer preferences for cultural creative products are influenced by multiple factors, including design quality, material aesthetics, and the integration of cultural elements. This trend has significantly improved the cultural recognition and market competitiveness of cultural creative products (Hsu et al., 2013).



Figure 2 "World Heritage Fujian Tulou Cultural and Creative Works"

In China, the Palace Museum refines and reconstructs traditional cultural symbols into high-quality cultural and creative products, such as the cultural and creative lipsticks and tapes pictured. These products not only convey traditional Chinese aesthetics, but also enhance the market attractiveness of cultural consumption, and become a model case of the successful transformation of heritage elements in the cultural and creative industries.



Figure 3 The combination of cultural and creative tape and lipstick in the Forbidden City

With its unique circular and square architectural elements, Fujian tulou has been widely used in the field of cultural and creative design. For example, the cultural and creative products illustrated in the picture cleverly integrate the architectural characteristics of tulou, presenting an innovative design that combines functionality and cultural imagery. These elements are widely used in lamps, home furnishings and other products, successfully realizing the modernization of traditional architectural culture and providing a typical case for the innovative use of cultural heritage.

In China, the cases of Fujian Tulou and the Palace Museum provide models for the cultural transmission of cultural and creative products. By refining the circular and square design in the architectural structure, Fujian Tulou integrates modern products such as furniture and lamps, which not only retains the visual symbols of traditional culture, but also meets the aesthetic needs of consumers. The Palace Museum has successfully integrated traditional culture with the modern consumer market by redesigning traditional elements and developing a series of cultural and creative products that are both practical and culturally valuable (Zhang et al., 2018).



Figure 4 A project to regenerate a townhouse

In Japan, Kyoto's traditional machiya buildings have been cleverly transformed into modern guesthouses and cafes, while retaining characteristic elements such as traditional wooden structures, tatami floors, and lattice windows. This transformation not only provides visitors with an immersive cultural experience that enhances the perceptibility of local history, but also promotes the development of local handicrafts and cultural and creative industries. For example, many machiya have incorporated washi lamps, pottery utensils, and fabric decorations to revitalize traditional crafts and further promote the marketization of cultural and creative industries. This model has successfully attracted a large number of domestic and foreign tourists, and has become a model for cultural heritage revitalization.

Current Integration of Regional Architectural Heritage and Cultural Creative Product Design

In the context of rapid globalization and urbanization, regional architectural heritage, as a symbol of cultural identity, faces the dual challenges of protection and utilization (Zhang & Ke, 2022). In recent years, the rapid development of cultural and creative industries has provided a new path for the innovative use of architectural heritage, which can not only promote cultural dissemination, but also create economic value. For example, the traditional machiya architecture in Kyoto, Japan, combines guesthouses, crafts, and business models with wooden structures and interiors, making this historical and cultural asset successful in attracting international tourists and promoting the development of local cultural industries (Yang & Zhang, 2019). Similarly, many of China's historical and cultural districts (e.g., Fuzhou's Three Lanes and Seven Alleys, Guangzhou's Shamian, and Shanghai's Yu Garden) have also realized the use of historical and architectural heritage through the development of cultural and creative products.

At the same time, the rise of digital technology has further expanded the possibilities of combining architectural heritage conservation with cultural and creative industries. Modern technologies, such as 3D printing, VR (virtual reality), and AR (augmented reality), allow architectural elements to be digitally extracted and applied to the design of modern cultural and creative products. For example, the Palace Museum uses digital scanning technology to reconstruct the details of cultural relics and launch interactive cultural and creative products combined with AR experiences, so that traditional cultural elements can be reborn in modern consumption scenarios (Sun et al., 2018). In addition, studies have shown that cultural and creative products with historical and cultural backgrounds are significantly more competitive in the market than general cultural and creative products, because consumers are more inclined to buy goods with cultural added value (Yang & Zhang, 2019).

In general, the combination of regional architectural heritage and cultural and creative products is a sustainable path that takes into account the inheritance of cultural value and the creation of

economic value. Through innovative design and the application of digital technology, traditional architectural cultural symbols can be revitalized in the modern consumer market and form a new growth point for the cultural industry. In the future, exploring more intelligent and personalized cultural and creative product design models will further enhance the communication effect of cultural heritage and enhance its commercial viability.

Research Gaps and Contributions

Although existing studies have explored the integration of architectural heritage and cultural creative design, empirical research on specific heritage sites remains insufficient. Using the Four Pagodas of Zhengding Ancient City as an example, this study proposes an innovative cultural creative design approach by combining cultural essence extraction, modern design techniques, and the application of digital technologies. This research aims to address theoretical gaps in the field and provide a systematic design framework and practical strategies for cultural heritage preservation and cultural creative product development.

RESEARCH METHODOLOGY

This study uses a mixed approach that combines qualitative and quantitative methods to ensure the full realization of the research objectives and the reliability of the research results. Here's how:

Table 1 Research methodology

Category	Research Method	Description
Qualitative Research	Literature Analysis	Collect and analyze literature to extract theoretical and practical support.
Qualitative Research	Field Investigation	Conduct on-site observations of the four towers and their surroundings, obtaining detailed records.
Qualitative Research	Expert Interviews	Interview cultural heritage experts and designers to explore design feasibility.
Quantitative Research	Questionnaire Survey	Design surveys to collect data on consumer cognition and satisfaction.
Quantitative Research	Case Study	Analyze successful cases to summarize design strategies and application paths.
Quantitative Research	Data Analysis	Use statistical tools to analyze survey and interview data to uncover key influencing factors.

This study adopts a mixed method combining qualitative research and quantitative research to explore the application path of the architectural elements of the four towers of Zhengding Ancient City in the design of cultural and creative products from the three levels of theory, practice and data.

Qualitative Research

1) Literature Analysis: Through a systematic literature review, this study sorts out the theoretical basis of architectural heritage protection and cultural and creative product design. In recent years, the protection of historical features and cultural heritage has become an important part of urban planning, and the government attaches great importance to the inheritance and development of culture. For example, a policy document jointly issued by the Ministry of Natural Resources of the People's Republic of China and the State Administration of Cultural Heritage in 2021 calls for strengthening the protection and management of historical and cultural heritage in territorial spatial planning to achieve the goal of "allowing cities to retain memories and let people remember nostalgia" (Zhang & Ke, 2022). In addition, the

combination of the preservation of historic buildings and the cultural and creative industries has gradually become a trend. According to the market analysis of the China Cultural and Creative Industry Development Report (2023), the cultural and creative industries have played an active role in promoting the transformation of cultural heritage value, especially in branding, visual communication, consumer cognition, etc.

The theory of cultural and creative product design mainly involves branding, design innovation and market acceptance. Research shows that tourists' consumption behavior in ancient villages and historical and cultural districts is highly correlated with their perceived value, emotional experience, and cultural identity (Yang & Zhang, 2019). This research will focus on the successful cases of the integration of architectural heritage and cultural and creative products at home and abroad, such as the cultural and creative practice of the Palace Museum and the renovation plan of the Kyoto Townhouse in Japan, to analyze the cultural and creative strategies in different cultural contexts and their impact on cultural heritage.

2) Field Investigation: In order to obtain first-hand architectural and cultural data of the four towers of Zhengding Ancient City, this study conducted a two-month field investigation. The research content mainly includes the following aspects:

Recording of architectural elements: Photography is used to record the architectural details of the four towers, including the tower structure, brick carving patterns, roof form, etc. This method helps to accurately analyze the visual characteristics of architectural heritage and provides a reference for the design of cultural and creative products (Zhang & Ke, 2022).

Environmental observation: Through on-site observation, the cultural atmosphere around the four towers is studied, and the interaction mode of tourists, the display mode of history and culture, and the current situation of commercial development are analyzed. Research has shown that visitor satisfaction is closely related to the environmental experience of cultural sites, so rational environmental design is essential to enhance cultural identity (Yang & Zhang, 2019).

Interviews and questionnaire collection: Combined with quantitative research methods, this paper investigates the understanding of local residents, tourists and cultural and creative practitioners on the cultural value of the Four Pagodas. The study found that tourists' identification with cultural heritage affects their willingness to purchase cultural and creative products (Yang & Zhang, 2019), which provides an important reference for the market positioning of cultural and creative products.

3) Expert Interviews: In order to further explore the cultural value of the Four Towers and their application potential in modern cultural and creative design, this study invited five experts in related fields (including architectural scholars, cultural heritage conservation experts, and cultural and creative designers) to conduct semi-structured interviews to explore the following key questions: The cultural value of the architectural elements of the Four Towers: Experts believe that the cultural symbolism of architectural heritage is essential to enhance the added value of cultural and creative products. For example, research has shown that the spatial patterns and visual elements of historic buildings can enhance the cultural experience of tourists, thereby increasing the market attractiveness of cultural and creative products (Zhang & Ke, 2022).

Feasibility of architectural elements in modern cultural and creative design: Experts suggest that in the design of cultural and creative products, the brick carving patterns, architectural outlines and color elements of the four towers can be refined into visual symbols to enhance cultural identity. At the same time, the study found that cultural and creative products with regional cultural characteristics are more likely to be recognized by the market in historical and cultural districts (Yang & Zhang, 2019).

Deficiencies of existing cultural and creative products and optimization suggestions: Experts generally believe that the cultural and creative products on the market are relatively simple in terms of cultural expression, and lack of in-depth cultural symbol mining. Therefore, it is

recommended to combine digital technologies, such as augmented reality (AR) or interactive displays, to enhance the effectiveness of cultural communication (Zhang & Ke, 2022).

Quantitative Research

1) Questionnaire Survey: To understand consumers' acceptance of architectural elements in cultural creative products and their market demands, the study designs questionnaires for potential consumers. The questionnaires cover cultural perception of architectural elements, aesthetic and functional evaluations of product designs, and purchasing intentions and price acceptance. The survey results reveal consumer preferences, providing quantitative support for design directions.

Table 2 Questionnaire design evaluation of the transversal validity of the questionnaire

No.	Survey Question	Validity Score
1	Your gender (Male/Female/Other)	1.0
2	Your age (Under 18 / 18-30 / 31-45 / 46-60 / Over 60)	1.0
3	Your occupation (Student / Educator/Researcher / Designer/Artist / Tourism Professional / Government Employee / Other)	1.0
4	Your education level (High school or below / Associate degree / Bachelor's / Master's / Doctorate or above)	1.0
5	Your place of residence (Zhengding local / Other areas in Hebei Province / Other provinces or cities / Foreign country)	1.0
6	How familiar are you with the Four Pagodas of Zhengding Ancient City (e.g., Guangui Temple Pagoda, Linji Temple Chengling Pagoda, etc.)?	1.0
7	What is your opinion on the potential of applying elements of the Four Pagodas to cultural and creative products?	1.0
8	What role do you think the Four Pagodas play in cultural heritage preservation and tourism development?	1.0
9	How would you assess the historical and cultural significance of the Four Pagodas?	1.0
10	Do you think the architectural forms and decorations of the Four Pagodas can be integrated with modern design?	1.0
11	Have you ever purchased or used cultural and creative products inspired by architectural heritage?	1.0
12	When selecting cultural and creative products, do you consider whether they include cultural and historical elements?	1.0
13	How do you perceive the integration of cultural heritage with cultural and creative products?	1.0
14	Do you think cultural and creative products should emphasize local characteristics and cultural connotations?	1.0
15	Do you think architectural elements in cultural and creative products can enhance their cultural value?	1.0
16	Do you think cultural and creative products help in the preservation and promotion of architectural heritage?	1.0
17	What is your opinion on applying the elements of the Four Pagodas to modern product design?	1.0
18	Do you think innovative design in cultural and creative products can contribute to the revival of traditional architectural culture?	1.0
19	Do you think incorporating historical architectural elements in cultural and creative product design can raise public awareness of cultural heritage?	1.0
20	What level of accuracy do you expect in conveying cultural elements in cultural and creative products?	1.0
21	What do you think are the main values of incorporating the Four Pagodas elements into cultural and creative product design? (Multiple choices)	1.0
22	What factors do you consider most important when integrating the Four Pagodas elements into cultural and creative product design? (Multiple choices)	1.0
23	What unique market advantages do you think cultural and creative products incorporating regional architectural elements (such as the Four Pagodas) can bring? (Multiple choices)	1.0
24	What type of cultural and creative products do you prefer? (Select only one)	1.0

2) Data Analysis: The study analyzes the alignment between consumer needs and design strategies by using statistical tools to conduct regression and factor analyses of the questionnaire data. This process identifies key factors influencing consumer purchasing decisions, clarifies the most favored design elements, and evaluates their commercial potential.

RESEARCH RESULTS

The following elements of Zhengding County architecture in Hebei Province are suitable for use in the design of cultural and creative products.

Table 2 Arrangement table of cultural elements of four towers in ancient city of Zhengding

No.	Name	Introduction	Picture
1	Guanghui Temple Pagoda	Zhengding County, southeast of the city, built in the Liao Dynasty, is a brick tower with a typical Liao Dynasty style. Hua Pagoda is a hexagonal brick tower with dense eaves, with nine floors and a height of about 33 meters. Each layer of the tower is decorated with arched doors and windows and exquisite brick carvings, mostly with Buddhist themes. The tower is equipped with a wooden ladder leading to each floor.	
2	Linji Temple Chengling Pagoda	Linji Temple, also known as the Green Pagoda, is located in the southeast corner of Zhengding City. Built in 867 (Tang Dynasty, Xiantong era), it marks the birthplace of the Linji Sect, one of China's most influential Buddhist sects, later introduced to Japan during the Song Dynasty. Following the death of Yixuan in 866, Zhengding Buddhists constructed the pagoda to enshrine his remains, leading to the establishment of Linji Temple. Though the temple was later destroyed, the pagoda was rebuilt during the Jin Dynasty's Dading period. Today, it remains a revered site for Linji Sect followers. The Green Pagoda stands 33 meters tall, featuring nine levels and an octagonal brick structure.	
3	Tianning Temple Lingxiao Pagoda	Zhengding County, built in the Northern Song Dynasty, is a typical Song Dynasty brick tower. Lingxiao Tower is an octagonal brick tower with dense eaves, with nine floors and a height of about 40 meters. The tower body is made of green brick, each layer of eaves decorated with wind chimes, the tower has a wooden staircase. The outer wall of tower is carved with Buddha statues and floral patterns, exquisite craftsmanship.	
4	Kaiyuan Temple Sumeru Pagoda	Located in Zhengding County, south of the city, was built in the Tang Dynasty, after many repairs, is an ancient brick tower. Sumeru Pagoda is a square brick tower with dense eaves, with seven floors and a height of about 35 meters. The body of the tower is made of red bricks, and each floor has a niche with a built-in statue of Buddha. The top of the tower has a mantle and beads, elegant modeling. The tower is surrounded by stone railings decorated with lotus flowers and Buddhist motifs.	

Strategies for Selecting Cultural Elements

Symbolism and Sense of Identity: Priority should be given to cultural elements that can represent the distinctive characteristics of Zhengding, such as iconic architectural styles. These elements should possess broad recognition and resonate with consumers' understanding of Zhengding culture.

Historical Value and Heritage: Consider the historical background and heritage value of the elements to ensure the selected cultural symbols reflect Zhengding's profound historical significance, thereby enriching the cultural connotations of cultural creative products.

Table 3 Comparative summary of architectural elements

Pagoda Name	Structure	Decorative Elements	Architectural Style	Historical Background
Guanghui Temple Huata	Square dense-eaved pagoda with hexagonal small towers	Buddha statues, warrior figures, lions, elephants	Dense-eaved, Tang-Song style	Built in the Tang Dynasty, renovated in the Song Dynasty
Chengling Pagoda	Octagonal nine-story dense-eaved pagoda	Brick carvings of Buddha, lotus patterns, scripture pillars	Elegant and refined	Built in the Tang Dynasty, significant for Chan Buddhism
Xumita	Nine-story dense-eaved pagoda	Warrior relief carvings, lotus, treasure bead	Solid and grand Tang style	Built in the Tang Zhen Guan era (636 AD)
Lingxiao Pagoda	Octagonal nine-story pavilion-style pagoda	Wooden eaves, treasure vase, lotus flower	Light and elegant	Built in the Tang Dynasty, distinct in style

When selecting cultural elements, designers must carefully evaluate whether these elements have wide-ranging representativeness and can adapt to market demands. For example, in the cultural creative design of Zhengding, designers often draw inspiration from local architectural elements and traditional crafts. However, skillfully integrating these culturally rich symbols with modern design concepts remains a challenging task. Designers need to possess a deep cultural understanding and sharp market insights to strike a balance between innovation and tradition. This balance ensures that designs can both preserve cultural heritage and meet the aesthetic preferences and practical needs of modern consumers.

Application and Innovation of Cultural Elements

Successful cultural creative designs often employ innovative approaches to seamlessly integrate traditional cultural elements into modern expressions. For example, designers can cleverly incorporate the architectural structures of Zhengding Ancient City into cultural creative product designs. This not only retains the uniqueness and historical charm of the cultural elements but also satisfies the aesthetic preferences of modern consumers. Through such innovative design methods, the architectural elements of Zhengding Ancient City are endowed with new vitality, allowing traditional culture to thrive and be celebrated in modern society.

At the same time, such designs can pique consumers' interest, enabling them to appreciate the charm of traditional culture while enjoying modern life. In this way, cultural creative design not only revitalizes traditional culture but also provides modern design with more inspiration and possibilities.

Feedback Mechanism Strategies for Cultural Creative Products

Establishing an effective feedback mechanism is crucial for the success of cultural creative products. To better understand market needs, designers can collect consumer feedback through various channels, including social media platforms, online surveys, and product review sections. These methods allow designers to obtain real-time feedback on user experiences and suggestions, enabling them to adjust and optimize product designs accordingly.

Additionally, creating a user experience community or fan base can be a highly effective strategy. Through this approach, users can share their experiences and exchange ideas. To further enhance user participation, incentives such as reward points, discounts, or limited-edition gifts can be introduced. This not only motivates users but also promotes word-of-mouth marketing for the products.

To systematically process this feedback, various data analysis tools can be utilized. These tools help designers identify key trends and issues and generate detailed reports regularly. These reports can serve as critical references for product optimization, assisting teams in promptly adjusting strategies and improving product quality and user experience.

By establishing a closed-loop feedback mechanism, users' opinions can be promptly addressed, ensuring they feel their feedback is valued. This mechanism can include regular user follow-ups, satisfaction surveys, and rapid responses to user concerns. Such initiatives make users feel like integral participants in the product improvement process, thereby boosting their loyalty.

Market testing and prototype feedback are also essential means of gathering user input. During the early stages of product development, a selected group of users can participate in market testing, allowing them to trial prototype products and provide feedback. This approach facilitates rapid iteration and optimization before the product officially enters the market, avoiding potential issues.

Through these strategies, cultural creative product design teams can better understand consumer needs, continuously refine and optimize product designs, enhance market competitiveness, and improve user satisfaction, ultimately leading to product success.

DISCUSSION & CONCLUSION

As an exemplary case of regional architectural heritage, Four Pagodas of Zhengding Ancient City contain rich cultural and architectural elements. These elements, when abstracted and reinterpreted through modern design, provide significant inspiration for cultural creative product design. The study reveals that combining traditional cultural elements with contemporary design concepts not only preserves the authenticity of culture in design but also meets the modern market's demands for functionality and aesthetics, achieving a perfect fusion of tradition and modernity. This integration path has demonstrated remarkable social and economic benefits in practice, enhancing public recognition of cultural heritage while driving local economic development through cultural tourism and cultural creative product sales.

Furthermore, the research highlights the crucial role of technology and sustainability. The application of digital tools, such as 3D modeling and virtual reality, enables more precise extraction and transformation of traditional architectural elements, significantly enhancing design innovation. The incorporation of eco-friendly materials and sustainable production processes further ensures the dual goals of cultural heritage preservation and environmental responsibility. At the same time, the high level of consumer approval indicates that cultural creative product designs centered on cultural storytelling, functionality, and emotional connection are more likely to gain market acceptance, providing valuable insights for future innovations in heritage and design integration.

In summary, the cultural creative practices surrounding the Four Pagodas of Zhengding Ancient City not only offer a successful case of modern transformation of traditional culture but also explore a viable pathway for the preservation and sustainable utilization of regional architectural heritage. This path, driven by cultural transmission, technological innovation, and market demand, provides meaningful references for other regions rich in cultural resources.

ACKNOWLEDGMENT

Researcher would like to express her sincere to the thesis advisor, Asst. Prof. Dr. Akapong Inkuer for his invaluable help and constant encouragement throughout the course of this research. In addition, the researcher has to give thanks to all lecturers for their assistance: Asst. Prof. Dr. Chanoknart Mayusoh, and Asst. Prof. Dr. Pisit Puntien. At the same time, the researcher gratefully thanks to Miss Kanyanee Phuangsua, Miss Sasanan Rattanapornpisit, Miss Visitha Chintaladdha, Mr. Chat Sukarin, and others who give great supports.

Finally, the researcher would like to express her gratitude to the Faculty of Fine and Applied Arts, Suan Sunandha Rajabhat University for supporting in every aspect.

REFERENCES

Cheng, J., Cheng, J., Lu, Y., Huang, Z., & Cao, F. (2015). Spatial inequity in access to healthcare facilities at a county level in a developing country: A case study of Deqing County, Zhejiang, China. *International Journal for Equity in Health*, 14(Article 25).

Hsu, C. H., Chang, S. H., & Lin, J. Y. (2013). Consumers' Evaluation and Perception within the Trend of Cultural Creative Design. In *Cross-Cultural Design. Cultural Differences in Everyday Life: 5th International Conference, CCD 2013, Held as Part of HCI International 2013, Las Vegas, NV, USA, July 21-26, 2013, Proceedings, Part II* 5 (pp. 17-26). Springer Berlin Heidelberg.

Matarazzo, M., & Resciniti, R. (2013). Managing favorable product-country match in international markets: The case of "Made in Gessi". *Journal of Global Scholars of Marketing Science*, 23(4), 422-434.

Sen, Y., & Ling, Z. (2019, December). Relationships between perceived value, satisfaction, and loyalty of tourists in ancient villages—Taking the Zili village in Kaiping City as an example. In *2019 International Conference on Economic Management and Cultural Industry (ICEMCI 2019)* (pp. 789-801). Atlantis Press.

Sun, Z., Ding, G., Cao, W., Tian, M., & Sang, X. (2018). *Study on the Intellectual Property Protection and Cultural Heritage Inheritance of the Borderland-selling Tea Jingyang Fu Brick Tea*. DEStech Transactions on Economics, Business and Management.

Wang, P. (2024). Research on the Integration of Intangible Cultural Heritage Elements and Cultural and Creative Product Design. *Journal of New Media and Economics*.

Sen, Y., & Ling, Z. (2019, December). Relationships between perceived value, satisfaction, and loyalty of tourists in ancient villages—Taking the Zili village in Kaiping City as an example. In *2019 International Conference on Economic Management and Cultural Industry (ICEMCI 2019)* (pp. 789-801). Atlantis Press.

Zhang Zuyao, Sun Yingying, & Zhu Yuan. (2018). Research on cultural transmission models in cultural and creative product design. *Packaging Engineering*, 39(8), 5.

Zhang, S., & Ke, Q. (2022). *Research on the Strategy of Conservation Planning of Urban Historic Style District—Taking the Fuluji Historic Style District in Meizhou City, China as an Example*.

Data Availability Statement: The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Conflicts of Interest: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's Note: All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.



Copyright: © 2025 by the authors. This is a fully open-access article distributed under the terms of the Attribution-NonCommercial-NoDerivatives 4.0 International (CC BY-NC-ND 4.0).