

Art design interventions as a catalyst for sustainable development and infrastructure enhancement in intangible cultural heritage

Aimin Xia^{1,*}, Tanasorn Girum^{2,*}

¹Chakrabongse Bhuvanarth International Institute for Interdisciplinary Studies, Rajamangala University of Technology Tawan-ok, Bangkok 10400, Thailand

²Faculty of Business Administration and Information Technology, Rajamangala University of Technology Tawan-ok, Bangkok 10400, Thailand

* **Corresponding authors:** Aimin Xia, xia.aim@rmutto.ac.th; Tanasorn Girum, tanasorn_gi@rmutto.ac.th

CITATION

Xia A, Girum T. (2024). Art design interventions as a catalyst for sustainable development and infrastructure enhancement in intangible cultural heritage. *Journal of Infrastructure, Policy and Development*. 8(11): 8790. <https://doi.org/10.24294/jipd.v8i11.8790>

ARTICLE INFO

Received: 31 August 2024

Accepted: 27 September 2024

Available online: 21 October 2024

COPYRIGHT



Copyright © 2024 by author(s).

Journal of Infrastructure, Policy and Development is published by EnPress Publisher, LLC. This work is licensed under the Creative Commons Attribution (CC BY) license.

<https://creativecommons.org/licenses/by/4.0/>

Abstract: This study explores the transformative role of art design interventions in the sustainable development and infrastructure enhancement of intangible cultural heritage, with a particular focus on honored brands. The research develops a framework that positions aesthetic and interactive art design interventions as pivotal components in revitalizing these brands. Aesthetic interventions translate the brand's core philosophy, spirit, and values into compelling visual symbols, harmonizing cultural heritage with modern image design to elevate brand reputation and consumer preference. Interactive interventions enhance user experience, particularly among younger demographics, by integrating technological and entertainment-based engagement, thereby strengthening consumer loyalty and brand influence. The study further investigates how these art design interventions serve as catalysts for broader social development, contributing to the modern relevance and societal impact of time-honored brands. Additionally, it examines the impact of these interventions on sustainable development, societal support, and policy alignment. By weaving together these elements, the research underscores the critical importance of aligning brand strategies with societal goals, fostering environments where brands actively contribute to social welfare and sustainable growth. The findings offer valuable theoretical insights and practical strategies for the sustainable development of time-honored brands, providing clear directions for future research and practice.

Keywords: sustainable development; intangible cultural heritage; art design intervention; brand value enhancement; infrastructure enhancement; social development

1. Introduction

The first chapter explores the impact of art design intervention on enhancing the brand value of “Honored Brands” within the framework of sustainable development. It highlights how aesthetic and interactive art design interventions can transform traditional brands, boosting consumer engagement and trust. By examining the role of brand personality as a mediator, the study aligns with focus on the policy, and development, emphasizing the integration of cultural heritage and modern marketing strategies. The research offers theoretical and practical insights, proposing innovative strategies to revitalize these brands, thus contributing to economic development and cultural sustainability.

1.1. Research background

In today's era of sustainable development, “Honored Brands” face significant challenges. These traditional brands, recognized for their historical significance and

deep cultural roots, must adapt to contemporary market demands while maintaining their legacy. One emerging strategy for revitalizing these brands is “art design intervention”, which involves incorporating artistic elements into the brand to stimulate new forms of production and enhance brand image recognition.

Art design, at its core, merges reality with artistic expression to create both practical and aesthetic values (Liu et al., 2016). As Peter Burger introduced, this concept of “art intervention in society” emphasizes how art, derived from life and accessible to all, can stimulate social productivity (Wang, 2019). Art not only enhances cultural experiences but also serves as a tool within our culture, primarily functioning through its aesthetic values (Lu and Zhao, 2009). This form of intervention encourages artists and designers to engage with real-world challenges, fostering a reflective and impactful dialogue between art and society (Guo, 2019; Wang, 2012).

In the Chinese context, “Honored Brands” refer to those brands officially recognized by the Ministry of Commerce of the People’s Republic of China for their long history and profound cultural significance. These brands have been in continuous operation for decades or even centuries, and are trusted by consumers for their craftsmanship, products, and services (Xu, 2022). The development of these brands is closely tied to specific historical periods and regional environments, which embed them with unique cultural and geographical traits (Rose et al., 2015). This distinctiveness has allowed Honored Brands to maintain high market credibility and cultural value (Dai, 2017; Wang, 2016).

Despite the international study and practice of art design intervention, there has been limited empirical research on its impact on the value of time-honored brands in China. This study aims to fill that gap by exploring how aesthetic and interactive art design interventions, mediated by brand personality, can enhance the value of these traditional brands. By examining the role of art design in brand marketing, this research seeks to provide theoretical and practical insights into how Honored Brands can strengthen their market competitiveness and create more appealing brand images in the modern marketplace.

1.2. Research questions

Despite the increasing focus on brand value as a competitive advantage, current research on the value enhancement of Chinese time-honored brands remains limited in scope. Existing studies primarily emphasize qualitative approaches, focusing on brand management strategies, design innovations, and communication efforts. However, there is a notable gap in quantitative research that systematically examines how art design interventions—particularly in the aesthetic and interactive realms—can enhance brand value. Additionally, little empirical evidence exists on the mediating role of brand personality in this process.

This study aims to address these gaps by quantitatively exploring the impact of art design intervention on the value enhancement of Chinese time-honored brands. The innovative contribution of this research lies in its focus on how aesthetic and interactive art design can serve as critical variables in enhancing brand value, and in its examination of brand personality as a mediator in this relationship. By doing so,

the study offers a fresh perspective on brand value enhancement, combining both theoretical insights and practical implications.

Based on this, the following research questions are posed:

- (1) How do aesthetic and interactive art design interventions influence brand value enhancement in “Honored Brands”?
- (2) Does brand personality mediate the relationship between aesthetic and interactive art design interventions and brand value enhancement?
- (3) Does brand personality have a direct impact on the brand value enhancement of “Honored Brands”?

1.3. Significance of the research

This research aims to deeply understand the impact of art design intervention on the value of “Honored Brands” on sustainable development, explore its value-enhancing effects, and suggest ways to promote this process. Specifically, the significance of this study is reflected in two aspects.

1.3.1. Practical significance

In the context of today’s social development, enhancing brand personality for “Honored Brands” is imperative. These brands embody irreplaceable culture, knowledge, skills, and experiences. However, issues such as unstandardized production, difficulties in quantifying traditional craftsmanship, lack of scale effects, limited product lines, a lack of innovative thinking, and insufficient modern dissemination have caused these enterprises to age and struggle to meet modern consumer demands. This study attempts to inject new cultural connotations into the brand through art design intervention to meet modern consumers’ needs for brand value, shape a differentiated brand image, enhance brand recognition and preference, and enable substantial development in today’s competitive market. Additionally, this study proposes a set of strategies suitable for enhancing the value and revitalization of “Honored Brands”, providing practical support for their modernization.

1.3.2. Theoretical significance

A review of existing literature reveals that the main methods of brand value assessment include those based on financial, market, and consumer factors. However, these methods do not fully meet the needs for assessing the value of time-honored brands, which have deep historical and cultural value and social impact, carrying the legacy of ancient Chinese commercial civilization, with some techniques even recognized as national intangible cultural heritage. These cultural values are often not fully activated and are not assessable by existing methods. Thus, this study introduces a new dimension to the research on value enhancement for time-honored brands, providing fresh insights for the field.

1.4. Research innovation

1.4.1. Theoretical innovation

This study proposes a theoretical model for the value enhancement of time-honored brands based on a design innovation perspective, aiming to delve into new elements that can be injected through art design intervention to enhance the

value of time-honored brands. In traditional business models, time-honored brands may be constrained by conservative images and traditional market positioning, making it difficult to attract a broader consumer base. Therefore, by introducing innovative design concepts, this study aims to inject new thinking and elements into aspects such as brand personality to create a more attractive and competitive brand image. The introduction of this theoretical model not only injects new vitality and creativity into time-honored brands but also provides a more comprehensive and in-depth developmental path in today's highly competitive market environment. Efforts to enhance brand recognition and reputation can position time-honored brands more advantageously in the market and better meet consumer needs, thereby achieving sustained value enhancement.

1.4.2. Practical innovation

This research is dedicated to helping time-honored brands shape brand personality to meet the needs of consumers in a consumer society. First, Chinese time-honored brand enterprises often face outdated brand images; through aesthetic art design intervention, new visual elements and design languages are created to craft a more modern, fashionable brand image. Secondly, symbolic art design intervention conveys the enterprise's history, culture, brand theory, and values in the form of stories, enhancing consumers' understanding and memory of brand value and stimulating emotional resonance. Thirdly, interactive art design intervention introduces experiential marketing concepts to create unique consumer experiences, enhancing brand attractiveness and consumer loyalty. Finally, innovative art design intervention endows the brand with unique design themes and novel content, strengthening brand recognition.

2. Literature review

The role of art design intervention in enhancing brand value has been explored across various industries, with studies consistently demonstrating its positive effects on brand performance and consumer engagement. Gemser and Leenders (2001) found that companies adopting new design strategies often experience improved performance, particularly when the intensity of design is increased. Similarly, Warren (2008) emphasized that the integration of art design, through employee identification and innovation, enhances brand image personalization and artistry, leading to increased brand preference, reputation, and ultimately, brand value.

Further research by Wu (2011) highlights art design intervention as a strategic tool that provides both conceptual frameworks and design ideas aimed at elevating brand value. The incorporation of art design into brand strategies offers an innovative approach to differentiate brands in the market. Shin and Jeong (2022) extended this discussion by noting the evolving role of art design in various industries, particularly its integration with technology, which has significantly enhanced customer perceived value.

While these studies demonstrate the effectiveness of art design intervention in improving brand value, there remains a gap in quantitative research, particularly regarding its impact on time-honored brands in the Chinese context. Furthermore, limited attention has been given to the mediating role of brand personality in this

relationship, a gap this study seeks to address.

2.1. Aesthetic art design intervention, brand personality, and value enhancement of “China Time-honored Brand”

In the context of today’s social development, one of the primary goals of aesthetic design is to attract customers—both new and existing (Candi, 2010). Hertenstein et al. (2005) studied the relationship between design and corporate performance and found a positive correlation between design or industrial design and sales growth. Dell’ Era (2008) showed that art-based activities can influence employees’ aesthetic perception and output, thereby enhancing the company’s brand image. Kusaka and Fan (1989) discussed the relationship between aesthetics and brand value from the perspective of market recognition, suggesting that creative and innovative activities aligned with market demand can significantly enhance brand value. Shin and Jeong (2022) explored how luxury hotel brands enhance customer perceived value through technological implementation, highlighting the importance of the match between brand and technology in enhancing brand value.

These findings underscore that aesthetic art design not only enhances brand image and creates a differentiated brand personality but also brings both intangible and tangible value to consumers. Brands can create unique identities in the market and increase brand attractiveness and loyalty by enhancing consumers’ aesthetic experiences. Based on this, the following hypotheses are proposed:

H1a: Aesthetic art design intervention has a positive impact on brand personality.

H1b: Aesthetic art design intervention has a positive impact on brand value enhancement.

2.2. Interactive art design intervention, brand personality, and value enhancement of time-honored brands

In today’s product homogenization and social development, brand competition is becoming increasingly fierce. Industries are continually seeking new breakthroughs in brand interaction to capture public interest and attention faster than competitors. Pullman and Gross (2004) found a positive correlation between experience design and customer loyalty. Agarwal and Venkatesh (2002) demonstrated that the level of interaction on a website is positively correlated with the website’s performance, increasing customer satisfaction with online shopping.

Interactive art design interventions can transform traditional brand interaction processes, providing new perspectives and opportunities. For example, transforming image stores into art galleries or redesigning shop spaces artistically can turn traditional merchandise display areas into places of artistic creation and appreciation. The “Nieni Momo” coffee shop in Wuxi allows consumers to observe and participate in the creation of clay figures, deepening their understanding of brand personality and innovating brand communication methods. Interactive design based on User-Centered Design (UCD) can significantly improve consumer satisfaction, promote consumption behavior, and help businesses gain more profits (Li, 2016). Based on this, the following hypotheses are proposed:

H2a: Interactive art design intervention has a positive impact on brand personality.

H2b: Interactive art design intervention has a positive impact on brand value enhancement.

2.3. Brand personality and brand value enhancement

Personalized design and details both represent and extend the value of a brand. Unique design languages, century-old materials, and unique craftsmanship can form strong brand design characteristics, differentiating the brand from competitors and reflecting brand personality. Brand personality, akin to the temperament and soul of a brand, humanizes the brand. A unique brand personality can have lasting charm and appeal to consumers, thereby enhancing brand value (Luo et al., 2016). Based on this, the following hypothesis is proposed:

H3: Brand personality has a positive impact on brand value enhancement.

2.4. The mediating role of brand personality

From the perspective of corporate brand building, Shedroff (2001) believes that aesthetic design can create and cultivate a brand image through commercial tools such as advertising. Brand personality emphasizes that companies shape a distinct image through a series of brand identification systems, requiring communication channel construction and attention to product experience and brand connection. The emotional experience and brand connection, controlled by consumers, play a crucial role. Li (2013) suggests that companies can attract and inspire consumers to understand brand meaning through the “calling structure” of the artistic text, enhancing brand added value. Based on this, the following hypotheses are proposed:

H4a: Brand personality mediates between aesthetic art design intervention and brand value enhancement.

H4b: Brand personality mediates between interactive art design intervention and brand value enhancement.

In summary, this research proposes a framework on the impact of art design intervention on the value of “Honored Brands”, as illustrated in **Figure 1**. This framework aims to provide a comprehensive understanding of how aesthetic and interactive art design interventions can enhance brand personality and value, contributing to sustainable development and economic growth.

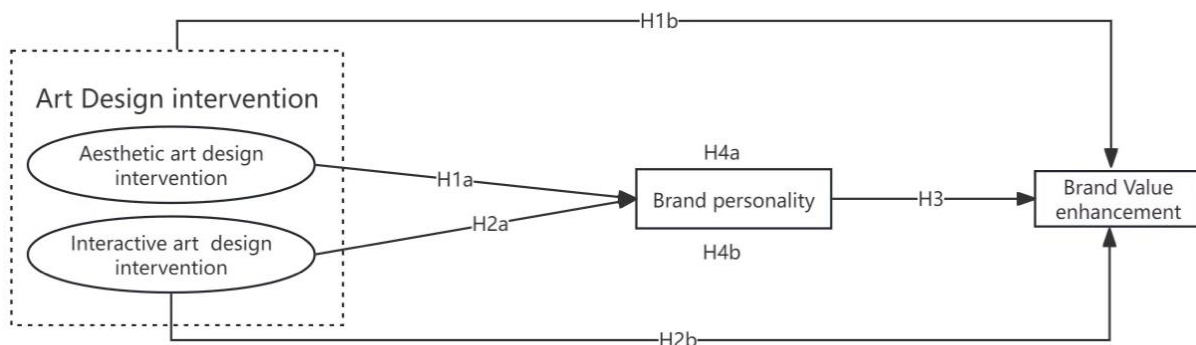


Figure 1. Research framework.

3. Research design

3.1. Research method

This study adopts a quantitative research approach to investigate the impact of art design interventions on the brand value enhancement of “Honored Brands”. The research design includes the development of a conceptual framework, formulation of hypotheses, and utilization of structural equation modeling (SEM) to analyze the relationships between the variables. The study aims to provide empirical evidence on how aesthetic and interactive art design interventions can enhance brand personality and, consequently, brand value.

3.2. Research sample and data collection

The target population for this study includes senior management personnel from Chinese time-honored brand enterprises, as they possess comprehensive knowledge of the brand’s history and innovation strategies. A purposive sampling technique was employed to ensure that the respondents have significant experience and expertise related to brand management and innovation.

3.3. Variable measurement

The study utilizes questionnaires based on a Likert 5-point scale, referring to past literature and established scales for measuring indicators. Aesthetic art design intervention uses the scale developed by Cai et al. (2019). Interactive art design intervention follows the scale by Lai et al. (2016). Brand personality employs the scale by Fan and Chen (2002), focusing on four items such as modernity and activeness, as factors related to art design intervention impact on brand personality were not relevant to other five items. Brand value enhancement uses the scale by Wang (2013), covering brand awareness, brand reputation, brand loyalty, brand preference, and brand association.

3.4. Data analysis methods

The data analysis involves several steps to ensure the robustness and reliability of the findings. Descriptive statistics: To summarize the basic features of the data, providing simple summaries about the sample and measures. Reliability analysis: To assess the consistency of the measurement scales. Cronbach’s alpha will be calculated for each scale to ensure reliability. Validity analysis: To ensure the scales measure what they are intended to measure. Confirmatory Factor Analysis (CFA) will be used to assess the construct validity. Structural Equation Modeling (SEM): To test the proposed hypotheses and analyze the relationships between the variables. SEM will provide insights into the direct and indirect effects of aesthetic and interactive art design interventions on brand value enhancement through brand personality. Mediation analysis: To explore the mediating role of brand personality between art design interventions and brand value enhancement, using techniques such as bootstrapping to test the significance of indirect effects. By employing these methods, the study aims to provide a comprehensive understanding of how art design interventions can enhance the value of “Honored Brands”, contributing to

sustainable development and aligning with the policy, and development.

4. Research results

4.1. Sample characteristics

This study focuses on Chinese time-honored brand enterprises, with the respondents primarily being senior management personnel. A total of 621 questionnaires were distributed, and 512 were returned and deemed valid, yielding an effective response rate of 82.4%. The sample characteristics are detailed in **Table 1**, highlighting the diverse backgrounds of the respondents.

Table 1. Demographic characteristics of the sample.

Demographic Variable	Category	Count	Percentage (%)
Region	Eastern Region	281	54.9
	Central Region	151	29.5
	Western Region	80	15.6
Industry	Food Processing	262	51.2
	Hospitality	67	13.1
	Retail and Wholesale	54	10.5
	Manufacturing	45	8.8
	Pharmaceuticals	38	7.4
	Arts and Crafts	10	2.0
	Residential Services	10	2.0
	Other	26	5.1
Type of Company	Publicly Listed	74	14.5
	Privately Held	438	85.5
Years Established	50–100 years	220	43.0
	101–300 years	210	41.0
	301–500 years	50	9.8
	500–1000 years	21	4.1
	Over 1000 years	11	2.1
Years of Service	5–10 years	79	15.4
	11–15 years	158	30.9
	16–20 years	145	28.3
	21–25 years	87	17.0
	26–30 years	43	8.4
Company Department	Brand Promotion	203	39.6
	Design	175	34.2
	Marketing	134	26.2

4.2. Reliability and validity test

The study employs advanced data analysis software to assess the reliability and validity of the measurement scales. As shown in **Table 2**, all variables' Cronbach's

Alpha coefficients are above 0.8, indicating high reliability. The KMO values for all variables are greater than 0.7, and the Bartlett’s test of sphericity shows p-values less than 0.001, confirming the suitability for further factor analysis.

Table 2. Reliability analysis results.

Variable	Number of Items	Cronbach’s Alpha	KMO	p
Aesthetic	4	0.874	0.807	0.000
Interactive	4	0.884	0.803	0.000
Brand Personality	4	0.817	0.793	0.000
Brand Value Enhancement	5	0.874	0.855	0.000

Using confirmatory factor analysis, the results, as shown in **Table 3**, indicate that the four-factor model fits significantly better than other models. The fit indices ($\chi^2/df = 2.127$, RMSEA = 0.047, CFI = 0.973, TLI = 0.968, IFI = 0.973) confirm that the overall data fit is good, and the variables demonstrate high discriminant validity.

Table 3. Model fit analysis results.

Model	Factor	χ^2/Df	RMSEX	CFI	TLI	IFI
Four-factor model	Aesthetic, Interactive, Brand Personality, Brand Value Enhancement	2.127	0.047	0.973	0.968	0.973
Three-factor model	Aesthetic + Interactive, Brand Personality, Brand Value Enhancement	9.080	0.126	0.803	0.769	0.804
Two-factor model	Aesthetic + Interactive + Brand Personality, Brand Value Enhancement	11.472	0.143	0.740	0.701	0.741
One-factor model	Aesthetic + Interactive + Brand Personality + Brand Value Enhancement	14.283	0.161	0.668	0.620	0.669

Table 4. Convergent and composite validity among variables.

Variable	Code	Significance	Standardized Factor Loading	AVE	CR
Aesthetic	A11		0.791	0.640	0.876
	A12	***	0.747		
	A13	***	0.782		
	A14	***	0.875		
Interactive	A21		0.786	0.661	0.886
	A22	***	0.846		
	A23	***	0.717		
	A24	***	0.892		
Brand Personality	B11		0.804	0.533	0.820
	B12	***	0.676		
	B13	***	0.692		
	B14	***	0.742		
Brand Value Enhancement	C1		0.656	0.586	0.876
	C2	***	0.751		
	C3	***	0.800		
	C4	***	0.805		
	C5	***	0.806		

Further tests for convergent validity (AVE) and composite reliability (CR) of

the scale dimensions are shown in **Table 4**. All variables have standardized factor loadings above 0.65, AVE values exceeding 0.5, and CR values above 0.7, indicating strong convergent validity and composite reliability.

4.3. Correlation analysis

Correlation analysis among the variables (aesthetic art design intervention, interactive art design intervention, brand personality, and brand value enhancement) shows significant positive correlations, with *p*-values less than 0.01, confirming the expected relationships. Below is **Table 5**.

Table 5. Correlation analysis results.

Variable	IND	YOS	DEP	AES	INT	BPY	BVE
IND	1						
YOS	-0.083	1					
DEP	0.057	-164**	1				
AES	-0.157**	0.118**	-0.100*	1			
INT	-0.151**	0.182**	-0.169**	0.420**	1		
BPY	-0.161**	0.203**	-0.110*	0.505**	0.442**	1	
BVE	-0.163**	0.099*	-0.105*	0.542**	0.508**	0.559**	1

“***” means significant at the 0.01 level (two-tailed).

“**” means significant at the 0.05 level (two-tailed).

4.4. Hypothesis testing

The hypothesis testing involves examining the relationships between aesthetic and interactive art design interventions, brand personality, and brand value enhancement using multiple regression analysis and mediation analysis. 1) Aesthetic art design intervention: H1a: Aesthetic art design intervention significantly impacts brand personality ($\beta = 0.474, p < 0.001$). H1b: Aesthetic art design intervention significantly impacts brand value enhancement ($\beta = 0.523, p < 0.001$). 2) Interactive art design intervention: H2a: Interactive art design intervention significantly impacts brand personality ($\beta = 0.404, p < 0.001$). H2b: Interactive art design intervention significantly impacts brand value enhancement ($\beta = 0.492, p < 0.001$). 3) Brand personality: H3: Brand personality significantly impacts brand value enhancement ($\beta = 0.343, p < 0.001$). 4) Mediating role of brand personality: H4a: Brand personality partially mediates the relationship between aesthetic art design intervention and brand value enhancement. H4b: Brand personality partially mediates the relationship between interactive art design intervention and brand value enhancement. Below are **Tables 6** and **7**.

These results validate the hypotheses and highlight the significant roles of aesthetic and interactive art design interventions in enhancing brand personality and brand value, aligned with the policy, and development.

Table 6. Testing results using aesthetic art design intervention.

Model		Model 1		Model 2		Model 3	
Variable		BVE		BPY		BVE	
		β	t	β	t	β	t
Control Variables	IND	-0.077	-2.033*	-0.073	-1.918	-0.049	-1.394
	YOS	0.023	0.613	0.135	3.513***	-0.028	-0.797
	DEP	-0.044	-1.168	-0.036	-0.95	-0.03	-0.866
Independent Variable	AES	0.523	13.813***	0.474	12.337***	0.381	9.425***
Mediating Variable	BPY					0.343	8.593***
R-squared		0.303		0.283		0.407	
Adjusted R-squared		0.298		0.277		0.401	
F		55.133		49.952		69.512	

Table 7. Testing results using interactive art design intervention.

Model		Model 1		Model 2		Model 3	
Variable		BVE		BPY		BVE	
		β	t	β	t	β	t
Control Variables	IND	-0.088	-2.29*	-0.089	-2.247*	-0.051	-1.457
	YOS	-0.001	-0.018	0.119	2.959**	-0.051	-1.419
	DEP	-0.017	-0.432	-0.017	-0.433	-0.01	-0.272
Independent Variable	INT	0.492	12.457***	0.404	9.929***	0.323	8.286***
Mediating Variable	BPY					0.418	10.735***
R-squared		0.266		0.219		0.402	
Adjusted R-squared		0.26		0.213		0.396	
F		45.846		35.578		67.988	

5. Discussion and conclusion

5.1. Discussion

This study explores how aesthetic and interactive art design interventions can enhance the value of Chinese time-honored brands, addressing a gap in quantitative research in this field. The findings suggest that both design strategies—by transforming cultural elements into visually compelling symbols and facilitating user interaction—play a critical role in boosting brand value. These results align with previous studies on the impact of strategic design on brand performance (Gemser and Leenders, 2001; Warren, 2008), confirming that art design interventions can elevate a brand's market position and consumer engagement. The aesthetic aspect of art design, as observed, not only increases the visual appeal of time-honored brands but also strengthens the cultural and historical connections with consumers. This finding supports Warren's (2008) argument that personalization through artistic elements can significantly enhance brand reputation. The study also aligns with Wu's (2011) framework, which views art design intervention as a strategic tool to create brand differentiation. However, our research adds to the literature by

demonstrating that these aesthetic elements must be balanced with interactive designs that enhance user experience, which is increasingly important in the digital age (Shin and Jeong, 2022).

Despite these contributions, the study has several limitations. First, while it focuses on time-honored brands in China, the findings may not be generalizable across different cultural contexts or industries. The unique historical and cultural depth of Chinese brands provides a specific lens through which these design interventions are viewed, limiting broader application. Additionally, the study mainly considers brand personality as a mediating factor, and other potential mediators such as consumer trust, brand loyalty, or emotional attachment were not included. These variables could provide a more comprehensive understanding of how design interventions impact brand value. Another limitation lies in the scope of the industries covered. Time-honored brands operate across diverse sectors, each with distinct consumer needs and brand perception dynamics. The study did not fully account for these industry differences, which may affect how art design interventions are perceived and implemented. Future research should explore the varying impacts of aesthetic and interactive art design across different industries, providing a more nuanced understanding of how design strategies can be customized to fit specific brand needs. In conclusion, while this study provides valuable insights into the role of art design intervention in enhancing the value of time-honored brands, it opens up several avenues for future research. Investigating other mediating factors, expanding the study to include international brands, and examining cross-industry differences could enrich the current understanding. Ultimately, these findings offer both theoretical and practical guidance for strengthening brand competitiveness, helping traditional brands remain relevant in a rapidly evolving marketplace.

5.2. Conclusion

This study offers an in-depth exploration of aesthetic and interactive art design interventions to construct a research framework for enhancing the brand value of “Honored Brands”. The findings highlight several key points: 1) Aesthetic art design intervention: Aesthetic design transforms brand concepts and cultural connotations into visual symbols, visually enhancing the brand’s reputation and preference. This transformation allows consumers to perceive the brand’s values and cultural connotations more intuitively, thereby establishing emotional identification and loyalty. 2) Interactive art design intervention: Interactive design focuses on providing a convenient user experience through technologized and engaging interaction paths, enhancing the emotional connection between consumers and the brand. This design not only facilitates emotional bonding with the brand but also improves user satisfaction and promotes positive word-of-mouth effects. 3) Theoretical and practical implications: The study comprehensively deconstructs and analyzes the concept of art design intervention, enriching its application dimensions and structure in brand management. This comprehensive discussion provides a clear theoretical foundation and practical guidance for subsequent research in related fields, offering useful insights for further exploring paths and strategies for enhancing the value of “Honored Brands”.

By analyzing the mechanisms of art design intervention on brand value enhancement, this study provides significant theoretical and practical contributions. It underscores the role of cultural and aesthetic elements in the sustainable development of brands and highlights the importance of modern interactive designs in enhancing consumer engagement. These insights are crucial for enhancing the competitiveness and expanding the influence of “Honored Brands”. The study’s findings offer a roadmap for brand managers and policymakers to develop strategies that integrate traditional cultural elements with modern design innovations, fostering an environment where time-honored brands can thrive sustainably. By aligning brand development strategies with broader societal goals and policies, brands can contribute positively to social welfare and sustainable growth, thus ensuring their continued relevance and success in the contemporary market.

Author contributions: Conceptualization, AX and TG; methodology, AX; software, AX; validation, AX; formal analysis, AX; investigation, AX; resources, AX; data curation, AX; writing—original draft preparation, AX; writing—review and editing, AX and TG; visualization, AX; supervision, TG; project administration, AX and TG; funding acquisition, AX. All authors have read and agreed to the published version of the manuscript.

Conflict of interest: The authors declare no conflict of interest.

References

- Agarwal, R., & Venkatesh, V. (2002). Assessing a firm’s web presence: A heuristic evaluation procedure for the measurement of usability. *Information Systems Research*, 13(2), 168–186.
- Antal, A. B. (2012). Artistic intervention residencies and their intermediaries: A comparative analysis. *Organizational Aesthetics*.
- Cai, R., Tang, C., & Sun, W. (2019). The connotation of product design innovation, scale development, and validation (Chinese). *Soft Science*, 33(09), 134–139. <https://doi.org/10.13956/j.ss.1001-8409.2019.09.22>
- Candi, M. (2010). Benefits of aesthetic design as an element of new service development. *Journal of Product Innovation Management*, 27(7), 1047–1064.
- Cheng, J. S., Xiang, Y., Sher, P. J., & Liu, C. W. (2018). Artistic intervention, intellectual capital, and service innovation: A case study of a Taiwan’s hotel. *Service Business*, 12(3), 1–33.
- Dai, S. (2017). Viewing the presentation and cognitive approaches of time-honored brands through Wanglaoji. *China Brand*, (02), 54–55.
- Fan, X., & Chen, J. (2002). A comprehensive model for evaluating brand image and its application (Chinese). *Nankai Business Review*, (03), 65–71.
- Gemser, G., & Leenders, M. A. (2001). How integrating industrial design in the product development process impacts on company performance. *Journal of Product Innovation Management*, 18(1), 28–38.
- Guo, H. (2019). Research on micro-intervention rural planning strategies based on cultural heritage. *Engineering Sciences*, 2(02), 27–33.
- He, J. (2006). Development and validation of a localized model of brand relationship quality (Chinese). *Journal of East China Normal University (Philosophy and Social Sciences)*, (03), 100–106. <https://doi.org/10.16382/j.cnki.1000-5579.2006.03.020>
- Hertenstein, J. H., Platt, M. B., & Veryzer, R. W. (2005). The impact of industrial design effectiveness on corporate financial performance. *Journal of Product Innovation Management*, 22(1), 3–21.
- Lai, H., Rui, M., & Liang, L. (2016). Empirical study on the impact of design-driven product innovation on customer perception and purchase intention (Chinese). *Research and Development Management*, 28(04), 22–30. <https://doi.org/10.13581/j.cnki.rdm.20160704.006>
- Leng, Z. (2004). The reasons for the developmental lag of “Chinese time-honored brands” and countermeasures (Chinese).

- Journal of Beijing Technology and Business University (Social Science), (01), 55–57,63.
<https://doi.org/10.16299/j.1009-6116.2004.01.014>
- Li, J. (2016). Trend analysis of brand interaction design based on UCD. *Theater House*, (18), 264.
- Li, Y. (2013). Artistic interpretation of brand theory (Chinese). *Journal of Guizhou University (Art Edition)*, 27(01), 42–46,89.
<https://doi.org/10.15958/j.cnki.gdxbyzb.2013.01.010>
- Liu, Y., Zhang, S., & Bao, Z. (2016). Thoughts on artistic intervention in community building and planning. *Planners*, 32(08), 29–34.
- Lu, Z., & Zhao, Y. (2009). Art is not what: Defining art from semiotics. *Art Panorama*, 25(06), 97–104.
- Luo, F., Dai, X., Huang, Y., & Zhang, M. (2016). Study on the driving effect of design strategy on brand value enhancement (Chinese). *Packaging Engineering*, 37(04), 168–171. <https://doi.org/10.19554/j.cnki.1001-3563.2016.04.041>
- Ministry of Commerce of the People's Republic of China. (2023). Notification on the issuance of the “Management Measures for the Demonstration Creation of China Time-honored Brand” by the Ministry of Commerce and other five departments. Available online: https://www.gov.cn/zhengce/zhengceku/2023-02/01/content_5739600.htm (accessed on 2 August 2024).
- Pullman, M. E., & Gross, M. A. (2004). Ability of experience design elements to elicit emotions and loyalty behaviors. *Decision Sciences*, 35(3), 551–578.
- Qiu, Z. (2004). Research on the marketing strategies of Chinese “time-honored” enterprises under economic globalization (Chinese). *Peking University Journal (Philosophy and Social Sciences)*, (S1), 54–61.
- Rose, G. M., Merchant, A., Orth, U. R., et al. (2015). Emphasizing brand heritage: does it work? And how? *Journal of Business Research*, 21(3), 132–141.
- Shin, H. H., & Jeong, M. (2022). Redefining luxury service with technology implementation: The impact of technology on guest satisfaction and loyalty in a luxury hotel. *International Journal of Contemporary Hospitality Management*, 34(4), 1491–1514.
<https://doi.org/10.1108/IJCHM-06-2021-0798>
- Tao, R. (2023). Research on artistic intervention in the upgrading of rural tourism industry [PhD thesis]. Nanjing University of the Arts.
- Wang, X. (2019). Research on the potential of public art intervention and urban space publicness [Master's thesis]. Shenzhen University.
- Wang, Y. (2013). Factors influencing corporate brand value based on social responsibility and enhancement paths [PhD thesis]. Tianjin University of Finance and Economics.
- Wang, Z. (2016). “Craftsmanship spirit”: An anthropological study of the core competitiveness of time-honored brands (Chinese). *Journal of Guangxi University for Nationalities (Philosophy and Social Science Edition)*, (6), 107–112.
- Warren, S. (2008). Empirical challenges in organizational aesthetics research: Towards a sensual methodology. *Organization Studies*, 29(4), 559–580.
- Wu, B. (2011). Research on design strategies for enhancing the value of women's clothing brands [PhD thesis]. China Academy of Art.
- Xu, M. (2022). Research on the impact of national consciousness on the cultural symbol value of China Time-honored Brand [Master's thesis]. Shandong Institute of Business and Technology.
- Zhang, J., & Wang, Y. (2018). Research on the relationship between the stereotype of time-honored brands and consumer purchase intention—Based on an empirical analysis of consumer cognition process. *Journal of Hebei University of Economics and Business (Comprehensive Edition)*, 18(1), 50–57.