

Analysis of the Cross-Media Transformation Path and Market Communication Effectiveness of Folk Paper-Cutting Art Driven by Cultural IP

Yuhong Wang^{1,2}

¹College of Art and Design, Xi'an Innovation College of Yan'an University, Xi'an 710100, Shaanxi, China

²Institute of Intangible Cultural Heritage Digitalization, Xi'an Innovation College of Yan'an University, Xi'an 710100, Shaanxi, China

Corresponding author: Yuhong Wang (e-mail: wangyuhong9536@126.com)

ABSTRACT The inheritance and development of folk paper-cutting art is an important issue in the protection of intangible cultural heritage. Continuing cultural vitality and achieving market-oriented dissemination through modern innovation are key directions for living heritage transmission. Taking Shaanxi paper-cutting as the research object, this paper proposes and constructs a comprehensive framework for cultural IP transformation. The study first evaluates the cultural IP value of Shaanxi paper-cutting and extracts core visual symbols and narrative motifs. It then designs cross-media transformation paths, including visual re-creation of symbolic elements, narrative construction across media, and technology-integrated immersive experience. A controlled experiment with a sample size of 512 is used to test market communication effectiveness. The results show that the cultural IP transformation strategy significantly improves audience cognition, emotional attachment, consumption willingness, and cultural identity, with emotional connection exerting the strongest effect on consumer willingness. The study provides a feasible path for the innovative transformation and market dissemination of Shaanxi paper-cutting and offers reference for living transmission of intangible cultural heritage.

INDEX TERMS cultural ip, folk paper-cutting, cross-media transformation, market communication, intangible cultural heritage

I. INTRODUCTION

PLEASE modify to: Folk paper-cutting art is an important part of China's intangible cultural heritage. Its exquisite geometric patterns complement the complex structural aesthetics of regional embroidery, making it an important cultural carrier that embodies regional folk culture and the aesthetic pursuits of the people. The uninhibited and unreserved style of Shaanxi paper-cutting, the unsophisticated but authentic and rustic forms, the uncompromising color contrasts of the artwork, and the solemn auspicious connotations have all made the apex of the treasure cabinet of folk art in the Yellow River Basin. It greatly reflects the production, life, seasonal customs, religious beliefs as well as beauty preferences of the people in Shaanxi, and in particular, northern Shaanxi and Guanzhong. Nevertheless, in the modern social environment of globalization, urbanization and dramatic boom of digital media, the conventional paper-cutting art, as with many intangible cultural heritage projects, is placed in dire times: an ageing population, and no heirs; dwindling use of the traditional application background (SC window decorations, wedding decorating);

a shift in the aesthetics concept, resulting in estrangement of young generation; and weak in marketing, a cyclic and sustainable industrialisation process is hardly established. All these make up the bottleneck to the living inheriting of Shaanxi paper-cutting.

This study constructs a comprehensive analytical framework to assess the intellectual property value of the Shaanxi paper-cutting school, designs cross-media pathways, and verifies its market effectiveness. (In this paper, "cultural intellectual property" refers to cultural symbols or brands with clear intellectual property and commercial development value formed through creative transformation based on traditional cultural resources.) This study aims to reveal its transformation mechanism and scientifically measure its market effectiveness. Its goal is to provide a new paradigm and methodological foundation for the innovative development and creative transformation of Shaanxi paper-cutting and even broader intangible cultural heritage, thereby combining theoretical insights with practical operation. It is not only to open up its transformation mechanism, but to scientifically measure its level of effectiveness in the market, with the

view to giving a new paradigm and methodological underpinning which is able to be able to unify theoretical insight with practical operability to the innovative development and creative transformation of Shaanxi paper-cutting and even the larger intangible cultural heritage.

II. RELATED WORK

The study of Chinese paper-cutting art has shown a significant trend of interdisciplinary and multi-dimensional expansion. Huang *et al.* [1] constructed a digital transformation framework for Chinese paper-cutting art. Su and Chaetnalao [2] analyzed the aesthetic features and narrative symbols of traditional paper-cutting, and used digital 3D modeling software to create 3D illustrations with spatial sense and interactive potential from these 2D paper-cutting style elements. Huang Y *et al.* [3] selected film and television works containing paper-cutting art elements and their English subtitles as corpus, and used qualitative analysis methods to systematically identify and classify the cultural proprietary items appearing in the subtitles. Wang and Zakaria [4] started from the perspective of cultural philosophy and semiotics, and used the methods of in-depth interpretation and hermeneutics to decode the symbolic system, narrative structure and philosophical concepts behind the patterns. Nanjing paper-cutting has distinct regional symbolic characteristics. Dong and Saelee [5] designed a digital interpretation scheme to transform these static symbols into dynamic, interactive and easy-to-understand educational content. Color is an important means of expression in Jiaodong paper-cutting art. Yun *et al.* [6] used Roland Barthes semiotics as an analytical framework and focused on Jiaodong paper-cutting works on the theme of "Calabash Brothers" to systematically collect and classify their use of color. Yuzhu B *et al.* [7] examined how contemporary paper-cutting art embodies, inherits and innovates local knowledge and cultural heritage. Lu and Lee [8] developed a series of 3D digital fashion designs that integrate the characteristics of Chinese paper-cutting art. Li [9] elaborated on the connotation and artistic characteristics of folk paper-cutting art and explored the application practice of folk paper-cutting art in art design. Yuan [10] started from the cultural inheritance value, aesthetic education and literacy cultivation value, and revealed its unique educational significance in transmitting folk symbols such as zodiac and solar terms, continuing handicrafts such as cutting techniques, and improving aesthetic ability, cultivating creativity and craftsmanship spirit. Existing research lacks a systematic overview of the collaborative transformation and integration paths of multiple media. This paper introduces the theory of cultural IP into the contemporary transformation context of paper-cutting art, systematically analyzes its transformation mechanism from traditional resources to modern IP and its cross-media narrative strategies, and constructs an evaluation system to measure its market communication effect. This makes up for the shortcomings of existing research in industrialization, systematization and effectiveness eval-

uation, and provides a new paradigm with both theoretical insights and practical guidance for the living inheritance and innovative development of intangible cultural heritage.

III. METHODS

A. VALUE ASSESSMENT AND CORE ELEMENT EXTRACTION OF SHAANXI PAPER-CUTTING CULTURE IP

This phase systematically and thoroughly clarifies the core value assets of Shaanxi paper-cutting as a potential cultural IP, and selects the elements with the greatest development potential. The work is conducted on two levels:

First, a comprehensive resource survey and interpretation of connotations. Through systematic literature review (including local chronicles, folklore works, biographies of senior artists, related academic papers, etc.) and in-depth field investigation (focusing on visiting representative paper-cutting inheritor workshops and folk art museums in Yan'an, Yulin, Weinan and other places, and conducting semi-structured in-depth interviews with at least 8 senior inheritors and 3 cultural scholars who have long studied Shaanxi folk art), a comprehensive review of the historical evolution, regional distribution (such as the difference between the simplicity and boldness of northern Shaanxi and the delicacy and beauty of Guanzhong), main themes (such as auspicious patterns, opera stories, folk life), core patterns (such as "Hair-bun doll", "snake coiled around rabbit", "eagle treading on rabbit"), shape characteristics (such as exaggerated deformation, yin and yang complement each other), color system (such as monochrome, color separation, background color, dotting), craft techniques (such as cutting, carving, staining, sample fumigation) and the deep cultural connotations behind it (such as the life view of seeking good fortune and avoiding harm, the philosophy of yin and yang complementing each other, and the folk view of agricultural civilization) [11].

Based on the above map, a cultural IP evaluation perspective is introduced. Referring to relatively mature cultural IP evaluation systems both domestically and internationally, and combining the characteristics of intangible cultural heritage, a value evaluation index system for Shaanxi paper-cutting cultural IP is constructed, encompassing five dimensions (content power, visual power, story power, emotional power, and dissemination power). Each dimension includes several specific and measurable secondary indicators. An expert panel composed of 10 intangible cultural heritage research experts (scholars from universities and research institutions) and 5 brand marketing and cultural and creative industry experts was invited to use the Delphi Method to assign weights to the relative importance of each indicator and score Shaanxi paper-cutting's performance on each indicator (on a scale of 1-10). To ensure the reliability of expert opinions and to reach a consensus, this study conducted two rounds of Delphi surveys. After the first round, the summarized anonymous expert opinions (including the score distribution of each indicator and the reasons given) were

fed back to all experts, followed by a second round of scoring. After the two rounds of scoring, the Kendall's concordance coefficient (W) for each indicator score was 0.82 ($p < 0.01$), showing a high degree of consistency among experts in the weighting and scoring of indicators, thus confirming the final evaluation results. By calculating the weighted average score, the overall IP value potential is quantitatively evaluated, and the core cultural symbols with the highest scores (such as the "fish and lotus pattern" symbolizing reproduction and the "topknot doll" as a guardian deity) and narrative motifs (such as "Yellow River stories" and "Going West") are accurately identified, representing the most advantageous and development-potential core cultural symbols (e.g., "fish and lotus pattern" symbolizing reproduction and "topknot doll" as a guardian deity) and narrative motifs (e.g., "Yellow River stories" and "Going West").

B. DESIGN OF CROSS-MEDIA TRANSFORMATION PATH FOR SHAANXI PAPER-CUTTING BASED ON CULTURAL IP

The core cultural symbols and narrative motifs extracted in the first stage, this study designed three interrelated and mutually supportive cross-media transformation paths, aiming to activate the IP value of Shaanxi paper-cutting in a comprehensive and three-dimensional way through the characteristics of different media forms [12,13].

1) Path One: Visual Re-creation of Symbol Extraction

This direction is directed towards the metamorphosis of the visual strength of Shaanxi paper-cutting. The core visual symbols that are most recognizable and culturally significant are chosen and redesigned with new design techniques (simplification, abstraction, deformation, heterogeneity, integration with popular colors, etc.) to be used. This will enable them to maintain their spirit but be more in tune with the modern culture particularly lean towards what the young people like most. The resulting products can be distributed to various physical culture and creative products (including fashion accessories, home furnishings, and cultural and creative gifts), digital products (including WeChat stickers, mobile phone themes and digital collectibles NFTs), and visual identity systems (including brand collaborations and public art installations). The trick is that the traditional symbols should be alive in this or that situation of the modern everyday life.

2) Path Two: Narrate construction and Cross media narrative network construction

This direction is aimed at studying and developing the narration potential of Shaanxi paper-cutting. It explores folk stories, historical traditions, and folk traditions connected with paper-cutting (the paper-cutting traditions on the Spring Festival, marriage, birthday), the micro-story suggested by the paper-cutting patterns per se. Addressing the inherent challenges of paper-cutting art's static nature, strong symbolism, and relatively limited narrative extensibility,

this approach draws on cross-media narratology theory. By introducing modern narrative methods to reconstruct traditional materials, it transforms originally static visual symbols into extensible, dynamic narrative elements. Specifically, by endowing classic symbols with personification and embedding folk scenes into a coherent story world, it breaks through the narrative limitations of static patterns, enabling paper-cutting content to flow, evolve, and complement across different media such as animation, games, and picture books. With the help of modern narrative methods, those materials are rebuilt into a sequence of stories with common emotions (love, courage, nostalgia, and growth) and modern appeal. These stories are then fragmented and reshaped into various media outlets: e.g. 2D or 3D animated short films on video, hugely involving interactive e-books or lightweight mobile games, illustrated storybooks, or even small-scale script-based murder mysteries or environmental plays. All the media contents are more or less autonomous but are based on the same worldview and the same sets, one compelling and supplementing another, a rich and network of stories of the Shaanxi paper-cutting world. Table 1 shows the actual dissemination effect of the multi-media formats (animated short films, mobile game demos, and picture book storybooks) proposed in Path Two in the actual participants.

3) Path 3: Technological integration and scenario-based experience innovation

This path focuses on using cutting-edge digital technologies to enhance the "experience" and "communication" of Shaanxi paper-cutting. It focuses on using technologies such as augmented reality (AR), virtual reality (VR), mixed reality (MR) and interactive projection to transform static, two-dimensional paper-cutting works into dynamic, interactive, and even participatory immersive experiences. For example, an AR application is developed, and users can scan physical paper-cuttings or specific pictures to display paper-cutting character animations and explain their cultural connotations on the screen; VR experience areas are set up in museums or cultural tourism attractions to allow the audience to "walk into" the folk scenes created by paper-cutting; interactive devices are used to allow the audience's body movements to generate paper-cutting style light and shadow patterns in real time. The core of this path is to break the static mode of exhibition and create a highly participatory and unforgettable experience moment that is linked online and offline, which is particularly suitable for education promotion, tourism value-added and special exhibitions.

C. CONSTRUCTION AND EMPIRICAL VERIFICATION OF MARKET COMMUNICATION EFFECTIVENESS EVALUATION SYSTEM

To scientifically verify the actual effectiveness of the above-mentioned transformation path based on cultural IP, this stage constructs a multi-dimensional market communication

TABLE 1. Comparison of Market Dissemination Effect Scores for Each Media Format in Path Two

Media Form	Cognitive Awareness	Emotional Connection	Consumption Willingness	Cultural Identity
Animated Short Film	4.72 ± 0.68	4.51 ± 0.79	4.08 ± 0.92	4.63 ± 0.71
Mobile Game	4.58 ± 0.74	4.39 ± 0.83	4.21 ± 0.88	4.48 ± 0.76
E-Picture Book	4.63 ± 0.70	4.45 ± 0.81	4.02 ± 0.95	4.55 ± 0.73
F-value	2.87	1.94	3.12*	2.33
p-value	0.057	0.144	0.045	0.098

effectiveness evaluation system and conducts empirical testing through controlled experiments.

1) Construction of the Evaluation System

The system will consist of four main dimensions, which are (1) Awareness: the level of knowledge and understanding of brand Shaanxi paper-cutting by the audience, including rate of brand recall, accuracy of key symbol recognition, etc.; (2) Emotional connection: In this study, emotional connection was specifically operated on three sub-dimensions: "nostalgia" triggered by traditional elements, "aesthetic pleasure" evoked by visual beauty, and "cultural pride" generated by the value of traditional culture.; (3) Consumption Willingness: the degree of willingness to pay money to Shaanxi paper

2) Empirical Test Design

This study employed a questionnaire survey method and designed a controlled experiment. First, two sets of test materials were prepared: Group A (control group materials) contained high-resolution images of Shaanxi traditional paper-cutting samples, accompanied by standardized text descriptions (emphasizing their historical, technical, and cultural value); Group B (experimental group materials) contained pre-produced intellectual property-based outcomes based on the three methods mentioned above, including: a set of redesigned cultural and creative product images, a one-minute paper-cutting animation, and screenshots of augmented reality (AR) interactive effects (screen recordings). Subsequently, samples were selected through a structured online survey platform. To more comprehensively reflect the market communication effect, this study included respondents aged 45 and above with traditional paper-cutting usage habits (such as participating in weddings and festival decorations) in the population sample to ensure that the research conclusions could cover audiences with traditional application backgrounds and enhance their universality. The final sample covered all age groups from 18 to 60 years old and proportionally included respondents from rural and urban areas as well as different educational backgrounds. Eligible respondents were randomly divided into two groups, reading either Group A or Group B materials and immediately completing a questionnaire containing an effect evaluation scale. To ensure data quality, at least 500 valid questionnaires (250 per group) need to be collected.

This study was approved by the Ethics Committee of Xi'an Innovation College of Yan'an University, and was

performed in accordance with the principles of the Declaration of Helsinki. All eligible participants signed an informed consent form.

By calculating a weighted average score, the overall IP value potential was quantitatively assessed, and the core cultural symbols and narrative motifs with the highest scores, representing the greatest advantages and development potential, were precisely identified. The results are summarized in Table 2.

Shaanxi paper-cutting scored the highest in the two indicators of "depth of cultural connotation" and "representativeness of folk customs" (both exceeding 8.5 points), and its weighted contribution was also the greatest. This fully demonstrates that the profound historical accumulation and distinctive folk customs of Shaanxi paper-cutting constitute its core advantage as a cultural IP, namely, its strong "content power". This provides a solid and unique content foundation for subsequent IP development. At the same time, the "symbolic uniqueness" under the "visual power" dimension also received a high score (8.5 points), indicating that its visual symbols have high recognizability and recreation potential. However, it is worth noting that the scores of "narrative extensibility" (7.0 points) under "story power" and "cross-media adaptability" (7.5 points) under "communication power" are relatively low. By introducing modern narrative techniques and cross-media transformation strategies, the study successfully transformed traditional symbols into extensible and dynamic story elements, thus breaking through the original creative bottlenecks. This objectively reflects the inherent challenges that traditional paper-cutting art faces in directly transforming into long narratives or adapting to dynamic media due to its static and highly symbolic characteristics.

IV. RESULTS AND DISCUSSION

A. SPECIFIC PATHS AND MULTI-DIMENSIONAL INTERACTIVE EFFECTS OF CROSS-MEDIA TRANSFORMATION OF SHAANXI PAPER-CUTTING

Based on the three transformation paths designed using the aforementioned methods, rich implementation possibilities and significant synergistic effects are demonstrated in simulated practices and case studies. Under the symbol extraction and re-creation path, the envisioned practice goes beyond simple pattern replication, involving in-depth modern design translation. For example, the classic Shaanxi "topknot doll" image can retain its frontal shape, basic form with raised hands and feet, and core meaning of warding off evil and

TABLE 2. Expert Scoring Sheet for the Value Assessment of Shaanxi Paper-cutting Culture IP

IP Value Dimensions	Specific indicators	Weight	Average expert score (1-10 points)	Overall evaluation value
Content power	Cultural Connotation Depth	0.25	8.7	2.18
	Folk Customs Representative	0.20	9.2	1.84
Visual ability	Symbolic uniqueness	0.15	8.5	1.28
	Color expression	0.10	7.8	0.78
Storytelling power	Narrative Extensibility	0.15	7.0	1.05
Emotional power	Emotional resonance	0.10	8.9	0.89
Dissemination power	Cross-media adaptability	0.05	7.5	0.38
Total		1.00		8.40

bringing good fortune, but its lines can be minimalistically treated and paired with Morandi colors or highly saturated contrasting colors, applied to a series of trendy hoodies, canvas bags, phone cases, and even digital wallpapers. This approach removes the "rustic" feel of the ancient symbol, adding a sense of fashion and fun, making it more easily accepted and loved by young consumers. Under the narrative reconstruction path, an IP project called "Paper-cutting Adventure" can be conceived. It features a young boy from the Guanzhong region who loves paper-cutting as the protagonist, connecting Shaanxi's distinctive folk customs such as "Yellow River Ballad," "Fengxiang Clay Sculpture Festival," and "Anse Waist Drum" through his dreams or adventures in the form of paper-cutting animation. This core story can be spawned into various media products: a series of 3-5 minute animated short videos released on Douyin and Bilibili to attract traffic; a beautifully illustrated picture book telling the complete story; and a casual mobile game where players unlock plot points by completing paper-cut patterns. These elements collectively construct a lightweight yet captivating "paper-cut fantasy world." Through technological integration, we envision collaborating with museums to develop a dedicated AR application. When visitors scan a traditional "Fish Playing with Lotus" paper-cut in a display case with a tablet, a 3D animation appears on the screen: koi carp frolic among lotus flowers, ripples spread across the water, and the auspicious phrase "abundance year after year" is presented in dynamic text form. This experience transforms static visual appreciation into dynamic cultural interpretation, greatly enhancing the exhibition's interactivity and educational value.

These three directions are not actually independent of each other, but are highly intertwined and intertextual. The dynamic characters required for technology integration (path three) are the product of symbolic re-creation work (path one); the behaviors and plots of these characters in AR/VR strictly follow the basic character settings and storylines defined by narrative reconstruction (path two). In turn, an engaging AR experience (path three) can encourage viewers to purchase corresponding cultural and creative products (output of path one) or find and watch corresponding animated movies (output of path two). This is the cross-media collaboration of cultural IP operations. It allows various products/content to support each other, drive traffic,

empower each other, and become stronger together, thus producing a value-added effect of "1+1+1=3".

B. DATA COMPARISON OF MARKET COMMUNICATION EFFECTIVENESS AND VERIFICATION OF THE SIGNIFICANT EFFECT OF IP-BASED CONVERSION

To precisely identify the independent contributions of different transformation paths, the experimental design employed a more detailed grouping method: the control group (Group A, N=128) viewed high-definition images of traditional paper-cutting along with standard textual descriptions; the experimental groups were further subdivided into three independent subgroups based on three transformation paths. Specifically, Group B1 (N=128) viewed only the cultural and creative product design drawings after symbol extraction and visual reshaping, Group B2 (N=128) viewed only the paper-cutting animated short film after narrative reconstruction, and Group B3 (N=128) experienced only the screenshot recording of the augmented reality (AR) interactive experience after technological integration. This design aimed to isolate the influence of a single variable and accurately attribute the independent contribution of different paths to the market communication effect. Immediately after viewing the corresponding materials, each group completed a questionnaire containing the effect evaluation scale. As shown in Table 3.

The research results indicate that all experimental groups exposed to IP content (B1, B2, B3) scored significantly higher on the four dimensions than the control group (A) exposed to traditional introductory content (all p-values < 0.001). This finding strongly supports the argument that, within cultural IP theory, systematic and innovative cross-media transformation can significantly enhance the market communication influence of Shaanxi paper-cutting among contemporary audiences, especially potential younger audiences. Specifically, the significant increase in awareness suggests that through rich and vivid expressive forms like animation, AR interaction, and fashion design, information about Shaanxi paper-cutting is more easily captured, understood, and remembered by modern audiences, breaking down the cognitive barrier of it being an ancient, distant phenomenon. The significant increases in emotional connection and purchase intention validate the fundamental advantage of the cultural IP model: transforming a cold cultural her-

TABLE 3. Comparison of scores across dimensions of market communication effectiveness among the four participant groups

Communication Effectiveness Dimension	(M $\pm$ SD)				F-value	p-value
	Control Group A (n=128)	Experimental Group B1 (Symbol Reconstruction) (n=128)	Experimental Group B2 (Narrative Reconstruction) (n=128)	Experimental Group B3 (Technology Integration) (n=128)		
Awareness	3.45 $\pm$ 0.89	4.12 $\pm$ 0.81	4.58 $\pm$ 0.72	4.35 $\pm$ 0.79	45.32	< 0.001
Emotional Connection	3.12 $\pm$ 1.02	3.85 $\pm$ 0.91	4.02 $\pm$ 0.88	4.28 $\pm$ 0.83	38.17	< 0.001
Purchase Intention	2.78 $\pm$ 1.11	3.67 $\pm$ 1.02	3.58 $\pm$ 1.05	3.92 $\pm$ 0.95	29.84	< 0.001
Cultural Identity	3.65 $\pm$ 0.95	4.18 $\pm$ 0.85	4.33 $\pm$ 0.79	4.25 $\pm$ 0.81	22.56	< 0.001

itage into a warm and accessible cultural companion through narrative, emotion, and experiential communication, evoking deep-seated fondness and resonance in the audience.

Further post-hoc tests (LSD) revealed the differentiated impact of the various paths: In enhancing awareness, narrative reconstruction (B2) was the most effective, scoring significantly higher than symbol reconstruction (B1) and technology integration (B3); however, in stimulating emotional connection and purchase intention, technology integration (B3) demonstrated the strongest driving force, with its scores being significantly higher than the other two experimental groups. This suggests that immersive, interactive experiences are more effective at touching audiences' emotions and stimulating their purchasing behavior.

C. ANALYSIS OF THE INTRINSIC RELATIONSHIPS AMONG THE DIMENSIONS OF COMMUNICATION EFFECTIVENESS AND PROFOUND IMPLICATIONS FOR CONVERSION STRATEGIES

To gain a deeper understanding of the intrinsic driving mechanisms of market communication effectiveness—that is, which factors most critically influence audience consumption decisions—this study conducted further multiple linear regression analysis on the experimental group data. Using "consumption intention" as the dependent variable and "awareness," "emotional connection," and "cultural identity" as independent variables, a regression model was established, and the results are shown in Table 4 below:

TABLE 4. Regression analysis results of market communication effectiveness dimension on consumer willingness (experimental group)

Independent variable	Unstandardized coefficient B	Standard coefficient Beta	t-value	p-value	VIF
Awareness	0.215	0.198	3.887	< 0.001	1.245
Emotional Connectivity	0.387	0.401	7.452	< 0.001	1.367
Cultural identity	0.298	0.283	5.621	< 0.001	1.198

The variance inflation factors (VIF) are all much less than 5, which means that there is no serious multicollinearity problem between the independent variables, and the research results are trustworthy. More importantly, one can observe the standardized regression coefficients (Beta values) and clearly notice the relative significance of each independent variable. Among them, emotional connectivity has the highest Beta value (0.401), has the greatest impact on consumption intention, and has the most critical driving value. The second most significant (Beta = 0.283) and strongly positive effect is the effect on cultural identity.

Although their cognitive contribution is large ($p < 0.001$), Beta=0.198 is relatively small.

The theoretical and practical value of this discovery is great. It shows the inner world of consumerist behavior created by IP-based Shaanxi paper-cut publications, and it may be closer to a model based on emotion recognition rather than just a cognitive behavioral model. This indicates that in the future, the strategic approach to the development and promotion of Shaanxi paper-cutting and even wider intangible cultural heritage intellectual property rights cannot just focus on transmitting information and popularizing knowledge, but should pay more attention to creating emotional appeal and promoting cultural value on a deeper level.

V. CONCLUSION

This paper constructs a comprehensive analytical framework encompassing intellectual property value assessment, cross-media pathway innovation, and market benefit demonstration to explore the modern transformation of Shaanxi paper-cutting art. Driven by cultural intellectual property rights, the study systematically examines how to digitally transform paper-cutting aesthetics to achieve successful market dissemination and industrial revitalization. First, based on professional analysis, the study elucidates the essential advantages (the power of profound connotations) and opportunities (narrative power and dissemination power) of Shaanxi paper-cutting as cultural intellectual property rights, providing guidance for transformation practices. Furthermore, the study proposes three cross-media transformation paths—symbolic reconstruction, narrative universe construction, and technological integration experience—to address contemporary adaptation dilemmas. This collaborative model provides a practical strategy for revitalizing traditional cultural heritage, thereby ensuring the continued relevance of these cultural assets.

AUTHOR CONTRIBUTIONS

Yuhong Wang designed, collected and analyzed the data, and drafted the manuscript. Yuhong Wang conducted the study, critically revised the manuscript for important intellectual content, and gave final approval of the version to be published. Yuhong Wang participated fully in the work, take public responsibility for appropriate portions of the content, and agreed to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

CONFLICTS OF INTEREST

The author declares no conflict of interest.

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HUMAN RESEARCH SUBJECTS

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