

Research on Aesthetic Innovation and Cross-Border Integration Path of Cultural Industry Based on Immersive Experience

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Abstract: This article focuses on the background of the vigorous development of immersive experience and discusses the path of aesthetic innovation and cross-border integration of cultural industry. Through theoretical analysis and other methods, the internal relationship among immersive experience, aesthetic innovation of cultural industry and cross-border integration is deeply analyzed. It is found that immersive experience can promote the aesthetic innovation of cultural industry in expanding aesthetic space, enriching aesthetic content and innovating aesthetic methods. Aesthetic innovation of cultural industry promotes immersive experience by deepening the connotation of experience and optimizing the quality of experience. The cross-border integration of cultural industry, science and technology and other industries enriches the immersive experience and brings new opportunities and challenges to the aesthetics of cultural industry. Based on the above, this article puts forward some paths, such as strengthening the excavation and transformation of cultural connotation, promoting technological innovation and application, improving the coordinated development of industries and cultivating professional talents, so as to provide theoretical and practical reference for the cultural industry to realize aesthetic innovation and cross-border integration based on immersive experience.

1. Introduction

With the rapid development of digitalization and experience economy, the cultural industry is undergoing profound changes. As a new form of experience, immersive experience has gradually become a new engine for the development of cultural industry with its unique interactivity, situational and full participation [1]. At the same time, the position of aesthetic innovation in the cultural industry has become increasingly prominent. It is not only related to the improvement of the quality of cultural products, but also the key element to shape the core competitiveness of cultural industries [2]. Cross-border integration has broken the boundaries of traditional industries and injected new vitality and development space into the cultural industry.

In this situation, it is of great theoretical and practical significance to explore the aesthetic innovation and cross-border integration path of cultural industry based on immersive experience [3]. From a theoretical perspective, at present, the relevant research on how immersive experience specifically affects the aesthetic innovation of cultural industries, as well as the internal logic and synergistic mechanism of the two in the process of cross-border integration needs to be deepened [4]. Further exploring the relationship among them can enrich and expand the theoretical system of cultural industry. From a practical point of view, the development of cultural industry is in urgent need of innovative development mode and path [5]. Promoting aesthetic innovation and cross-border integration based on immersive experience will help cultural enterprises to create more attractive and unique cultural products and services, meet the increasingly diversified and personalized needs of consumers, and enhance the market competitiveness and sustainable development ability of cultural industries [6].

This article aims to systematically analyze the internal relationship among immersive experience, aesthetic innovation of cultural industry and cross-border integration, and deeply explore the effective path to realize aesthetic innovation and cross-border integration of cultural industry based on immersive experience; Help the cultural industry achieve high-quality development in the new

era and better meet the people's yearning for a better cultural life.

2. The relationship between immersive experience and aesthetic innovation of cultural industry

2.1. The role of immersive experience in promoting aesthetic innovation in the cultural industry

The traditional aesthetic space of cultural industry is often limited by venues and display methods. With the help of modern technology, such as virtual reality (VR) and augmented reality (AR), immersive experience has broken this limitation. Taking immersive drama as an example, the audience is no longer confined to a fixed seat to watch the performance, but can freely shuttle in the performance space and feel the plot from different angles. The expansion of this space has brought new possibilities for aesthetics [7]. By constructing a virtual scene or enhancing the real scene, the immersive experience creates an aesthetic field beyond reality, allowing the audience to conduct aesthetic activities in a broader and more free space.

Immersive experience promotes the development of aesthetic content of cultural industry in a diversified direction. It is no longer only dependent on the traditional elements such as words, images and sounds, but integrates many new forms such as interactive games and somatosensory interaction [8]. Table 1 shows the new elements of different types of immersive experiences and their ways of enriching aesthetic content:

Table 1 Immersive Experiences Enrich the Aesthetic Content of Cultural Industries

Immersive Experience Type	Integration of New Elements	Ways to Enrich Aesthetic Content
Immersive Exhibition	Somatosensory Interaction Devices	Audiences control exhibit displays through body movements, adding dynamic changes and a sense of participation
Immersive Game	Narrative Branch Choices	Players' decisions influence the plot's direction, bringing diverse storytelling experiences
Immersive Cultural Tourism Project	Live-Action Role-Playing	Tourists assume roles and integrate into story scenarios, enriching the experience layers

Immersive experience promotes the change of aesthetic mode of cultural industry from traditional passive acceptance to active interaction. In traditional aesthetics, the audience is mostly in a passive state of watching or listening. In the immersive experience, the audience becomes an active participant in the aesthetic process [9]. This aesthetic way of active interaction makes the audience no longer a simple bystander, but a co-creator of aesthetic activities, which greatly enhances the depth and uniqueness of aesthetic experience.

2.2. Cultural industry aesthetic innovation to enhance the immersive experience

Aesthetic innovation of cultural industry endows immersive experience with deeper cultural connotation. Through the deep excavation and artistic processing of cultural resources, historical stories, philosophical thoughts and regional culture are integrated into the immersive experience. Taking an immersive historical and cultural theme park as an example, local historical allusions and traditional cultural values are skillfully integrated into the scene design and plot arrangement. Tourists not only get the entertainment experience, but also can deeply understand and feel the local culture, so that the immersive experience can be sublimated from simple sensory stimulation to spiritual cultural edification.

Aesthetic innovation pays attention to the quality control of all aspects of immersive experience. From spatial layout and color matching to sound effect design and interactive logic, they are carefully crafted according to aesthetic principles. This pursuit of quality enhances the overall style

of immersive experience and makes the audience get a better and unforgettable experience.

3. The logic of cross-border integration of cultural industries based on immersive experience

3.1. Cross-border integration of cultural industry and science and technology

Technology provides a solid technical foundation for immersive experience. By creating a highly realistic virtual environment, VR technology makes users feel as if they are in another world. For example, in the VR historical and cultural experience project, users can feel the fierceness of ancient battlefields. AR technology superimposes virtual information on the real scene. For example, during the tour of some cultural monuments, visitors can see the original features of the monuments and the dynamic display of related historical stories through the mobile phone AR application. Big data and artificial intelligence technology can customize personalized immersive content according to user preferences, and enhance the accuracy and attractiveness of the experience.

The cross-border integration of cultural industry and science and technology has spawned many new industrial forms. Through live broadcast and real-time interactive technology, online immersive performing arts enables global audiences to feel the charm of the stage synchronously, expanding the spread scope and audience groups of the performing arts industry. Table 2 lists in detail the new industrial forms and their characteristics produced by partial integration:

Table 2 Innovative Industrial Forms from the Integration of Cultural Industries and Technology

New Industrial Form	Technology Application	Main Characteristics
Digital Art Exhibition	Projection Technology, Interactive Sensing Technology	Breaks traditional exhibition modes, emphasizing audience interaction with works
Online Immersive Performance	Live Streaming Technology, Real-Time Interaction Technology	Breaks geographical limitations, enabling global synchronous viewing and interaction
Virtual Cultural Tourism	VR, AR Technologies	Experience attractions worldwide without leaving home, customize travel itineraries

3.2. Cross-border integration of cultural industry and other industries

The integration of cultural tourism is an important direction of cross-border integration of cultural industries. Immersive experience plays a key role in the integration of culture and tourism, bringing unique travel experience to tourists. Some theme cultural towns let tourists participate in traditional handicraft production and folk festival performances by creating immersive folk culture experience activities, and deeply feel the local culture. In natural scenic spots, multimedia technology is used to build an immersive landscape, such as telling the historical legends of scenic spots through light projection at night, enriching the tourist experience.

Cultural and creative industries and multi-industry integration are also common cross-border forms. Cultural creation and manufacturing industry are integrated to develop creative products with cultural connotations, such as hand-made models based on historical figures. Cultural and creative industries are integrated with the education industry, and immersive research courses are introduced to enable students to learn knowledge in simulated historical scenes.

3.3. Cross-border integration on the immersive experience and cultural industry aesthetics

Cross-border integration enriches the form and content of immersive experience. The integration of resources and elements of different industries makes the immersive experience no longer limited to a single field. In the integration of literature and tourism, the combination of natural landscape and cultural stories adds rich scenes and plots to the immersive experience. At the same time, cross-border integration optimizes the technical application of immersive experience, and the technologies of various industries learn from each other, thus improving the quality and effect of

experience.

Cross-border integration brings new opportunities for cultural industry aesthetics. The aesthetic elements of different industries collide and merge with each other, creating novel aesthetic styles and forms. However, cross-border integration also brings challenges, and how to maintain the aesthetic characteristics of the cultural industry itself in the integration of multiple aesthetic elements is a problem that needs in-depth consideration.

4. Aesthetic innovation and cross-border integration path of cultural industry based on immersive experience

Digging deep into cultural resources is the basis of aesthetic innovation and cross-border integration. Cultural industry is rich in resources such as history, folk customs and art, and it needs professional research and analysis to extract core cultural elements. For example, to excavate the local traditional handicraft culture, we should not only understand the craft production process, but also explore the cultural implication and inheritance story behind it. Subsequently, these cultural connotations are effectively transformed into immersive experience content. For example, based on the traditional opera culture, an immersive opera experience hall will be built, and the audience will feel the charm of the opera personally through scene restoration and role-playing.

Tracking the development of cutting-edge technology is the key. Cultural industries should pay close attention to emerging technologies such as 5G, blockchain and brain-computer interface. The high-speed transmission of 5G can realize a smoother immersive live broadcast experience; Blockchain technology can guarantee the copyright and transaction security of cultural products; Brain-computer interface is expected to bring more immersive interaction. Table 3 shows the application expectation of some emerging technologies in immersive experience and aesthetic innovation of cultural industry:

Table 3 Expected Applications of Emerging Technologies in Cultural Industries

Emerging Technology	Expected Applications in Cultural Industries	Impact on Immersive Experiences and Aesthetic Innovation
5G	Supports high-definition, smooth transmission of immersive content, such as real-time panoramic live performances	Enhances experience smoothness, expands the scope of aesthetic dissemination
Blockchain	Safeguards cultural works' copyrights, enables transparent cultural product transactions	Boosts creators' enthusiasm, promotes the protection and circulation of aesthetic innovation achievements
Brain-Computer Interface (BCI)	Enables interaction based on brain signals, creates deeply immersive experiences	Revolutionizes interaction methods, creates new dimensions of aesthetic experiences

Building a cross-industry cooperation mechanism is the key. Cultural industry and science and technology, tourism, education and other industries should establish strategic alliances, project cooperation and other forms of cooperation. Culture and tourism industry cooperate to create an immersive town of cultural tourism, and jointly carry out project planning, operation and promotion. Industrial synergy mechanism can optimize the industrial ecological structure, realize the resource sharing and complementary advantages of all links in the industrial chain, and build a good industrial environment for the sustainable development of aesthetic innovation and immersive experience.

The cultural industry needs to clarify the types of professionals involved in aesthetic innovation and cross-border integration based on immersive experience, including academic talents in the field of cultural research, engineering talents in the field of technology development, artistic talents in the field of creative design and compound talents in the field of operation management. Exploring innovative talent training mode, universities and enterprises can carry out joint training, universities

provide theoretical knowledge teaching, and enterprises provide practical platforms to cultivate compound professionals.

5. Conclusions

This article focuses on the aesthetic innovation and cross-border integration of cultural industries based on immersive experience. On the theoretical level, it combs the relevant theories of immersive experience, cultural industry aesthetics and cross-border integration, and makes clear its connotation and elements. Furthermore, it reveals the close relationship between immersive experience and aesthetic innovation of cultural industry, and the important role of cross-border integration in it, adding new content to the theoretical system of cultural industry development.

From a practical point of view, the proposed paths such as strengthening the excavation and transformation of cultural connotation, promoting technological innovation and application, improving the coordinated development of industries and cultivating professional talents have strong practical guiding significance. Through deep excavation of cultural connotation and effective transformation, it can inject soul into immersive experience and enhance the aesthetic value of cultural industry. Actively promoting technological innovation and application can make use of emerging technologies to create a better immersive experience and provide technical support for aesthetic innovation. It is necessary to improve the coordinated development path of industries in order to promote resource sharing and complementary advantages among industries, and then create a good ecology conducive to the development of cultural industries. The cultivation of professional talents can provide intellectual guarantee for the continuous innovation of cultural industries.

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