

Research on Innovative Paths and Feasibility of Short Videos of Hunan Intangible Cultural Heritage Based on DeepSeek AIGC

Honglei Zhu¹, Rizhen Luo^{2,*}, Yiming Zhu³

^{1,2}School of Languages and Cultures, Hunan Institute of Technology, Hengyang 421002, Hunan, China

³School of History and Ethnology, Qiannan Normal University for Nationalities, Duyun 558000, Guizhou, China

*Correspondence Author

Abstract: *This paper explores the inheritance dilemmas of Hunan intangible cultural heritage in the AI era, pointing out problems such as homogeneous content and insufficient attraction to Generation Z. It proposes an innovative communication scheme for short videos of Hunan intangible cultural heritage based on DeepSeek AIGC technology, which breaks traditional barriers and provides a theoretical reference for the dynamic inheritance of regional intangible cultural heritage empowered by AI.*

Keywords: DeepSeek; AIGC; Intangible cultural heritage short videos; Hunan Intangible Cultural Heritage.

1. CURRENT STATUS AND BACKGROUND OF SHORT-VIDEO COMMUNICATION OF HUNAN INTANGIBLE CULTURAL HERITAGE

1.1 Practical Dilemmas in the Inheritance of Hunan Intangible Cultural Heritage

The inheritance of Hunan Intangible Cultural Heritage (ICH) is confronted with a severe discontinuity crisis. National-level ICH inheritors are aging prominently, with a serious lack of successors, and some projects are on the verge of extinction. Among the 76 national-level ICH inheritors in Hunan, the average age is approximately 65 years old, and 8 have passed away. Only 7 inheritors remain for the unique skill of double-sided full-different embroidery in Hunan embroidery, all of whom are over 65 years old. Moreover, 32 ICH items, including the construction techniques of Tujia stilted buildings, have not received any new inheritor applications for three consecutive years [1].

1.2 Digitalization of ICH and the Wave of Short Videos

Digital technologies have broken the geographical barriers of ICH, reaching a wide audience through fragmented communication. Digital recording preserves ICH skills and historical scenes, promoting their living communication. Platform support has further enhanced the communication efficiency and market value of ICH [2].

1.3 Cultural Consumption Characteristics of Generation Z

In ICH consumption, Generation Z focuses on personalized expression and interactive participation, preferring content that integrates tradition and modernity. Meanwhile, they pursue emotional resonance and cultural identity. Short videos of ICH with high interactivity and strong emotional appeal are more beneficial to the communication and consumption behaviors of young people [2][3].

1.4 New Opportunities Brought by AI Technology (Especially AIGC)

By leveraging natural language processing and computer vision technologies, AIGC optimizes the production process of ICH short videos. It can not only restore cultural scenes and assist creation to simplify the creation process and enhance accessibility, but also construct interactive short videos, realizing the innovative integration of cultural symbols and modern styles. Consequently, it attracts young people and broadens the boundaries of ICH communication [2].

2. SCHEME DESIGN AND ADVANTAGE ANALYSIS OF DEEPSEEK AIGC EMPOWERING SHORT VIDEOS OF HUNAN INTANGIBLE CULTURAL HERITAGE

The DeepSeek large model boasts excellent natural language understanding and text/code generation capabilities. Moreover, it reserves video generation interfaces in line with the development trend of multimodal technology, providing technical support for the creation of intangible cultural heritage (ICH) content. Combining practical cases of its empowerment in ICH digitalization and short-video creation, this part analyzes the logic and path of technical application, and further designs a communication scheme adapted to Hunan ICH to enhance its appeal to Generation Z. Specific cases are as follows:

2.1 Digitalization Case of Jianyi Turing Paper-Cutting ICH

Jianyi Turing is the first generative paper-cutting cultural and creative product in China developed based on DeepSeek private deployment. It can realize the intelligent generation and efficient creation of paper-cutting patterns through keyword instructions, completing the automatic transformation of ICH skills from text descriptions to digital works, and providing a standardized reference paradigm for the intelligent and digital creation of ICH [4][5].

2.2 AI Empowerment Project Case of Fujian Yunxiao Culture

Taking DeepSeek large model as the core technical support, the AI Empowerment Project of Fujian Yunxiao Culture has built a large model laboratory for regional culture, created diverse forms of digital content such as AI short videos, dialect virtual anchors, and VR/AR immersive experiences, realized the systematic and digital transformation of local cultural assets, and provided a replicable and practical path for the integrated communication between technology platforms and cultural content [6].

2.3 Specific Process Design

1) Preparatory Stage: Consolidating Technical Foundation and Content Standards

First, complete the localized adaptation and fine-tuning of the DeepSeek model, and build a special corpus for Hunan Intangible Cultural Heritage (ICH). Integrate ICH documents such as Hunan embroidery and Tujia brocade, as well as oral materials from inheritors, and introduce preference data of Generation Z audiences. Define the compliance boundaries of content generation to prevent over-entertainment creation. Second, formulate four standardized instructions: basic constraints, scene narration, localized interaction, and promotion of niche ICH. Standardize creation themes, cultural core values, and discourse systems through structured prompts. Drawing on contextualized and empathetic narrative experience, we ensure the cultural accuracy and academic standardization of model outputs.

2) Mid-term Implementation Stage: Intelligent Generation and Content Iterative Optimization

First, automatically generate short video shooting scripts, lines, communication tags and topic content through DeepSeek AIGC. Through multiple rounds of iteration to refine narrative details, enrich cultural connotations and standardize citation annotations, so as to achieve differentiated innovation of content. Furthermore, the model is adopted to accomplish the design of cover copy and audio-visual frameworks. By integrating both local scenes and youth IP linkage elements in accordance with the aesthetic characteristics of Generation Z, it provides adaptive support for both on-location shooting and post-production.

3) Later Improvement Stage: Audio-visual Adaptation and Iterative Optimization of Communication Review

Firstly, on-site shooting and video editing are completed in accordance with intelligent scripts. Subtitle annotations and interactive guidance copies are generated via DeepSeek AIGC. Interactive elements adapted to the viewing habits of Generation Z are added, taking into account the local characteristics of Hunan and audience acceptance to enhance localized emotional resonance.

Secondly, multi-platform content distribution is conducted. The model is used to generate platform-specific

communication scripts. Communication data and audience feedback are collected in real time.

Thirdly, user behavior data are fed back to support model training and instruction optimization, so as to construct a closed-loop mechanism of “Creation – Dissemination – Feedback – Iteration” and continuously improve the communication effectiveness of short videos of Hunan intangible cultural heritage for Generation Z.

2.4 Analysis of Theoretical Advantage

Combining the technical characteristics of DeepSeek AIGC, the communication demands of short videos of Hunan intangible cultural heritage, and existing research results, this study analyzes the theoretical advantages from four dimensions: efficiency, innovation, precision, and sustainability. Each dimension is supported by literature, balancing academic rigor and practicality. The details are as follows:

1) Efficiency Advantages: Based on DeepSeek AIGC technology, the efficient and mass production of short videos of Hunan intangible cultural heritage can be realized. It greatly lowers the creation threshold and shortens the production cycle, providing convenient participation for Generation Z and intangible cultural heritage enthusiasts, and expanding the creators and communication scope.

2) Innovation Advantages: With the multimodal integration capability of AIGC, it breaks through the problems of monotonous forms and homogeneous content in traditional communication of intangible cultural heritage, promotes the integrated innovation of intangible cultural heritage with national trends and new media, reconstructs the narrative logic, and provides new ideas for content innovation.

3) Precision Advantages: Using the data analysis and semantic understanding capabilities of AIGC, it grasps the aesthetic preferences and reception habits of Generation Z, generates content in line with the discourse system of young groups, achieves accurate connection between cultural expression and audiences, and improves communication effectiveness.

4) Sustainability Advantages: AIGC technology supports the construction of a digital material library and standardized templates for Hunan intangible cultural heritage, enabling long-term preservation, recycling and dynamic updating of relevant resources. It forms a complete inheritance mechanism and provides a feasible model for the long-term development of digital inheritance of intangible cultural heritage.

3. CHALLENGES AND SOLUTIONS

3.1 Risk of Cultural Connotation Distortion

AIGC-generated content merely presents superficial symbols of intangible cultural heritage and fails to effectively convey its core cultural connotation. A collaborative framework integrating intangible cultural heritage knowledge system and AI can be constructed, combined with authoritative historical materials and inheritance experience, to establish a rigorous review mechanism and ensure the authenticity and integrity of heritage content.

3.2 Challenge of Technology Integration and Implementation:

Difficulties of adaptation exist between AI-generated content and live-action production. A phased human-machine collaboration model can be implemented, where AI completes creative design and script writing, while professional teams undertake filming and post-production processing, thus realizing effective integration of technology and creation.

3.3 Risk of Ethics and Copyright Ownership:

The vague copyright definition of AIGC triggers intellectual property disputes. It is essential to clarify the tool attribute of AI, regulate the use of materials and confirmation of copyright, and safeguard the legitimate rights and interests of the inheritors of intangible cultural heritage.

3.4 Insufficient Sustained Interest of Generation Z:

Generation Z is prone to aesthetic fatigue. Using AI for rapid content iteration and creating serialized, interactive,

and gamified content can continuously enhance the long-term attraction to young audiences.

4. CONCLUSION

Focusing on the practical dilemmas of traditional communication of Hunan intangible cultural heritage, such as content homogenization, lack of interactivity and insufficient attraction to Generation Z, this study constructs an innovative communication scheme for short videos of Hunan intangible cultural heritage enabled by DeepSeek AIGC, and systematically demonstrates its technical feasibility, practical operability and cultural adaptability. Relying on the four advantages of efficiency, innovation, precision and sustainability, the scheme forms a digital communication path with both theoretical innovation and practical value, verifying the application value of AIGC technology in the dynamic inheritance of regional intangible cultural heritage. Theoretically, this study addresses the deficiencies in existing research and improves the theoretical framework of regional intangible cultural heritage communication. Practically, it reduces the creation cost and lowers the application barriers to facilitate technology popularization, which further promotes the digital promotion of intangible cultural heritage and the cultivation of youth cultural identity. At present, this study only completes the framework design and feasibility analysis, without systematic development and practical implementation. In the future, the research can be further deepened from three aspects: technology optimization, model construction and practice implementation, so as to improve the long-term inheritance mechanism.

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Author Profile

Honglei Zhu (born 1982), male, from Nanyang, Henan Province. He is a faculty member at the School of Languages and Cultures, Hunan Institute of Technology.

Rizhen Luo (born 2005), female, from Yongzhou, Hunan Province. She is an undergraduate student (Class of 2023) majoring in translation at the School of Languages and Cultures, Hunan Institute of Technology.

Yiming Zhu (born 2003), female, from Nanyang, Henan Province. She is an undergraduate student (Class of 2022) majoring in Ethnology at the School of History and Ethnology, Qiannan Normal University for Nationalities.