

Field Reconstruction and Collaborative Governance: Modern Transformation of the Activation and Utilization of Urban Red Cultural Heritage in the Era of Digital Intelligence

-- A Study Based on Guangzhou as the "Source of Revolution"

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Abstract: Against the dual backdrop of the in-depth implementation of the national cultural digitization strategy and the modernization of the governance system, red cultural heritage, as a key carrier of urban collective memory and an important space for political socialization, faces the epochal proposition of transforming from "static protection" to "dynamic inheritance." The rapid development of digital intelligence technology has provided technological empowerment for this transformation, but it has also triggered profound structural changes in the existential state and communication field of heritage. As the source of the modern Chinese democratic revolution and a pioneer of reform and opening up, Guangzhou possesses extremely unique and rich red cultural resources. However, under the traditional administrative-led governance model, it still faces deep-seated contradictions such as "data islands" caused by low digitization levels, "meaning fracture" triggered by obsolete narrative methods, and "subject absence" resulting from insufficient social participation. Based on Pierre Bourdieu's sociological "Field" theory and the "Collaborative Governance" theory of modern public management, this paper constructs an analytical framework of "Technology-Field-Governance." The study deeply analyzes how digital intelligence technology acts as a "meta-medium" to promote the transformation of red culture from a closed physical field to a virtual-real symbiotic composite field through the virtual extension of physical space, the embodied reorganization of social relations, and the semantic reconstruction of historical meaning. The paper further points out that simple technological embedding is insufficient to solve the inheritance crisis; it is necessary to transcend technological determinism and build a multi-subject collaborative governance pattern featuring "government meta-governance, university knowledge supply, enterprise technological innovation, and public presence participation." Finally, the paper proposes specific paths such as establishing a blockchain-based trusted data space, an integrated innovation ecosystem of industry-academia-research-application, and a localized emotional identification network, aiming to provide theoretical support and institutional solutions for Guangzhou to polish the brand of "Source of Revolution" and realize the modern transformation of red cultural heritage activation and utilization.

Keywords: Field Reconstruction, Collaborative Governance, Digital Intelligence Empowerment, Red Cultural Heritage, Source of Revolution, Guangzhou, Modernization of Governance.

1. Introduction

1.1. Research Background: The New Mission of Cultural Heritage in the Era of Digital Intelligence

Red cultural heritage is the historical imprint left by the Chinese people under the leadership of the Communist Party of China during the magnificent course of revolution, construction, and reform. It constitutes the brightest and most profound background of the Chinese national spiritual spectrum. It is not only an objectively existing material remain but also a spiritual carrier for condensing social consensus, maintaining national identity, and continuing the red bloodline. Since the 18th National Congress of the Communist Party of China, General Secretary Xi Jinping has given important instructions on the protection and utilization of red resources multiple times, emphasizing: "Make good use of red resources, carry forward red traditions, and pass on the red gene." [1] This discourse elevates the protection and

utilization of red cultural heritage to the strategic height of national cultural security and the construction of the national spiritual home.

Currently, human society is accelerating into the "Era of Digital Intelligence" represented by technologies such as big data, cloud computing, artificial intelligence (AI), virtual reality (VR), and blockchain. Digital technology is no longer merely an auxiliary tool but is increasingly becoming a key force in reorganizing global factor resources, reshaping the global economic structure, and changing the global competitive landscape. In the cultural field, the "Opinions on Promoting the Implementation of the National Cultural Digitization Strategy" issued by the General Office of the CPC Central Committee and the General Office of the State Council clearly proposes to "promote the deep integration of culture and technology, and join forces to tackle key common technologies for cultural digitization." This strategic deployment marks a new stage of digital, networked, and intelligent development for the protection and utilization of China's cultural heritage. Digital intelligence technology

offers unprecedented opportunities for the "activation" of red cultural heritage—making vanished architecture "reborn" through digital twins, letting historical figures "return" through holographic projection, and "reproducing" historical scenes through immersive interaction.

However, while technology brings opportunities, it also brings immense challenges. The intervention of digital intelligence not only changes the storage and dissemination methods of information but also profoundly reshapes the relationships between people and history, people and space, and people and society. The traditional heritage governance model, based on physical entity protection and unidirectional display, is no longer adequate to meet the public's demand for high-quality, highly interactive, and immersive cultural experiences in the era of digital intelligence. How to understand the reconstructing effect of digital intelligence technology on the "field" of red cultural heritage? How to maintain the bottom line of historical truth amidst technological changes? How to construct production relations adaptable to new productive forces through institutional innovation, thereby achieving the modernization of red cultural heritage governance capabilities? These questions have become the focus of attention for both the academic and political circles.

1.2. Problem Awareness: The Unique Tension of Guangzhou as the "Source of Revolution"

Guangzhou, as a famous historical and cultural city with a history of over 2,200 years, is also a heroic city with a glorious revolutionary tradition. From being the source of the modern democratic revolution to an important stage for the early activities of the Communist Party of China, and then to a pioneer of reform and opening up, Guangzhou gathers 136 various red sites. The Site of the Third National Congress of the CPC, the Guangzhou Peasant Movement Institute, the Guangzhou Uprising Memorial Hall, the Site of the All-China Federation of Trade Unions, the Site of the Canton-Hong Kong Strike Committee... these scattered red landmarks constitute Guangzhou's unique "Red Gene Bank."

However, in long-term field research and theoretical observation, we have found a distinct "tension" in the activation and utilization of Guangzhou's red cultural heritage: on the one hand, the richness and uniqueness of resource stock, possessing irreplaceable historical assets like "Three Firsts" (the Third National Congress, the Peasant Movement Institute, the Guangzhou Uprising); on the other hand, the limitation of dissemination traffic and inefficiency of conversion rates. Compared to red tourism destinations like Yan'an and Jinggangshan, the national influence of Guangzhou's red culture does not match its historical status. A deeper contradiction lies in the fact that the traditional administrative-led governance model appears inadequate when facing massive, heterogeneous, and dynamic red data. Bottlenecks restricting the release of the value of Guangzhou's red cultural heritage include "data islands" caused by departmental segmentation, "hollow narratives" caused by technological piling, and "subject absence" caused by poor channels for social participation.

Based on this, this paper attempts to introduce Pierre Bourdieu's "Field" theory and the "Collaborative Governance" theory of modern public management to construct an interdisciplinary analytical framework. We view Guangzhou's red cultural heritage as a "field" undergoing

drastic changes, analyze how the exogenous variable of digital intelligence technology triggers the reconstruction of capital, habitus, and relations within the field, and further explore how to smooth out the impact of technological changes through the construction of collaborative governance mechanisms to achieve the modern transformation of red cultural heritage activation and utilization. This is not only a theoretical summary of the practice in Guangzhou but also an exploration of the universal laws of urban cultural heritage governance in the era of digital intelligence.

2. Theoretical Framework and Analytical Perspective

2.1. Field Theory: Reconstruction of Capital and Habitus in Digital Intelligence Space

Pierre Bourdieu's Field Theory provides powerful tools for understanding the social attributes of cultural heritage. Bourdieu believes that a field is a network or configuration of objective relations, where the relations between various positions are determined by the amount and structure of capital (economic capital, cultural capital, social capital, symbolic capital) possessed by their occupants [2].

In the traditional field of red cultural heritage, physical space is the boundary of the field (such as the walls of a memorial hall), official authority is the dominant symbolic capital, and visiting/touring is the main social habitus. However, the intervention of digital intelligence technology has caused a "liquefied" reconstruction of this field:

Dissolution and Reorganization of Field Boundaries. The Internet has broken the walls of physical space, constructing a "cloud field." Red cultural heritage is no longer confined to specific geographical coordinates but is dispersed across the global network via bitstreams. This trend of "decentralization" makes the boundaries of the field blurred and open.

Transformation and Appreciation of Capital Forms. In the digital intelligence field, data has become a new type of capital (data capital). Originally static cultural relic archives, once digitized and incorporated into a knowledge graph, transform into flowable, reusable, and value-added production factors. Meanwhile, user attention (traffic) transforms into new social capital, influencing the dissemination efficiency of heritage.

Iteration and Conflict of Habitus. Traditional bodily habitus such as "quiet observation" and "paying respect" are being impacted by digital habitus accustomed to by the younger generation, such as "bullet screen interaction," "immersive role-playing," and "virtual check-ins." This game between new and old habitus constitutes the internal tension of the red culture field in the era of digital intelligence.

2.2. Collaborative Governance: Institutional Logic for Coping with Complex Public Affairs

Collaborative Governance emerged in the 1990s as a transcendence of traditional public administration (rule) and New Public Management (competition). Ansell and Gash defined it as: A governing arrangement where one or more public agencies directly engage non-state stakeholders in a collective decision-making process that is formal, consensus-oriented, and deliberative and that aims to make or implement public policy or manage public programs or assets [3].

Introducing collaborative governance theory into the field of red cultural heritage has strong pertinence:

Plurality of Governance Subjects. The activation and utilization of red cultural heritage involve multiple fields such as cultural relic protection, tourism development, ideological education, and urban planning. A single government department cannot take full responsibility.

Complexity of Governance Goals. It is necessary to adhere to political orientation (social benefits), consider market operations (economic benefits), and satisfy public aesthetics (cultural benefits). Balancing these multiple goals requires negotiation and compromise among multiple subjects.

Technicality of Governance Means. The high technical threshold of digital transformation determines that the government must rely on the intellectual support of universities and the technological supply of enterprises.

Therefore, the framework of "Field Reconstruction and Collaborative Governance" proposed in this paper aims to reveal that: digital intelligence technology has triggered structural changes in the heritage field (technical logic), which inevitably requires the governance structure to evolve from monocentric to polycentric (institutional logic). The dialectical unity of the two constitutes the core driving force for the modern transformation of red cultural heritage.

3. Reality Examination: Analysis of the "Island Effect" in the Activation and Utilization of Guangzhou's Red Cultural Heritage

Although Guangzhou has invested significant resources in the protection and development of red cultural resources, it still faces a significant "Island Effect" in the process of moving towards digitalization and intelligence due to lagging institutional mechanisms.

3.1. Data Islands: Resource Fragmentation under Administrative Barriers

Data is a fundamental strategic resource in the digital intelligence era. However, Guangzhou's red culture data currently remains in an awkward state of "possessed but unusable."

Segmentation of Management System. The property rights of Guangzhou's red sites are complex, belonging to different systems such as the Municipal Publicity Department, the Municipal Bureau of Culture, Radio, Television and Tourism, the Municipal Bureau of Veterans Affairs, the Municipal Federation of Trade Unions, the Municipal Youth League Committee, as well as various district governments and universities. For example, the Site of the First National Labor Congress is managed by the Federation of Trade Unions, while the Martyrs' Cemetery nearby is managed by the Bureau of Veterans Affairs. Each unit establishes databases based on its own administrative functions, lacking unified planning.

The "Tower of Babel" of Data Standards. In the digitization process, due to the lack of a city-wide metadata standard, data formats, classification codes, and storage interfaces adopted by various units are different. Some use image scanning, some use text entry, and some perform 3D modeling. This lack of standardization leads to the inability to achieve interconnection between different databases and the inability to build a red culture knowledge graph across departments and venues.

Conservative Mindset of Data Opening. Out of considerations for data security, copyright protection, or departmental interests, many units holding core archival data are unwilling to share data. This results in a large number of precious historical materials sleeping in servers, unusable by research institutions or cultural and creative enterprises, forming tight "data smokestacks."

3.2. Narrative Islands: Decontextualization under Technological Alienation

In some red culture digitization projects, an alienation tendency of "technology for technology's sake" has appeared, leading to "islands" at the narrative level.

Technological Piling and Hollow Content. Some venues blindly pursue cool technologies like VR and holographic projection, investing large amounts of funds in hardware equipment while neglecting the deep excavation of display content and script design. The result is often: advanced equipment playing content that is still rote textual recitation with pictures, or roughly made virtual animations lacking historical verification. The audience cannot obtain deep spiritual nourishment after brief sensory stimulation.

Fragmentation of Historical Context. As the "Source of Revolution," Guangzhou's red history has strong continuity and correlation. For example, without the establishment of the Whampoa Military Academy, there would be no subsequent Eastern Expedition; without the mass base of the Canton-Hong Kong Strike, there would be no outbreak of the Guangzhou Uprising. However, existing digital narratives often focus on single events or single figures, lacking a macro vision of grand history. This decontextualized fragmented display severs the causal chain between historical events, making it difficult for the audience to understand Guangzhou's unique status and overall contribution to modern revolutionary history.

3.3. Subject Islands: Institutional Obstruction of Social Participation

Although the slogan of "participation by the whole society" has been shouted for many years, at the practical operational level, social forces still face many invisible barriers entering the field of red culture.

"Wall Effect" of University Think Tanks. Guangzhou has many universities with a large number of experts in party history and digital humanities researchers. However, university research results often stop at academic journals or campus lecture halls, making it difficult to transform them into social public cultural products. There is a lack of normalized cooperation mechanisms between universities and red venues, leading to the coexistence of "idle academic resources" and "content scarcity in venues."

"Short-term Behavior" of Market Entities. Due to the lack of a clear profit model and intellectual property protection mechanism, technology enterprises participating in red culture digitization often do so to undertake government engineering projects. After project delivery, due to the lack of long-term operational and maintenance funds, many digital products (such as Apps, Mini-programs) quickly become "zombie platforms," unable to sustain iterative updates.

"Aphasia State" of Public Participation. In the existing governance system, the public is mostly defined as passive educatees. They lack channels to participate in red culture content production (UGC), evaluation feedback, and supervision management. This unidirectional communication

mode makes it difficult for red culture to truly integrate into the daily life of citizens and to stimulate folk cultural creativity.

4. Field Reconstruction: Revolution of Space, Relations, and Meaning under Digital Intelligence Empowerment

To break the aforementioned "Island Dilemma," we must deeply understand the reconstruction logic of digital intelligence technology on the field of red cultural heritage. This reconstruction is not patchwork but a comprehensive revolution involving space, relations, and meaning.

4.1. Spatial Field Reconstruction: From "Physical Walls" to "Virtual-Real Symbiosis"

Digital intelligence technology reshapes the spatial form of red cultural heritage by dissolving physical distance, constructing a multidimensional folded composite field.

Mirror Space of Digital Twins. Utilizing high-precision 3D laser scanning and photogrammetry technology to establish millimeter-level digital twins for core heritage sites like the Site of the Third National Congress of the CPC. This is not only a permanent archive of physical entities but also provides a data foundation for future restoration research and virtual display. The "Never-Ending Red Museum" built in the cloud breaks the limitations of opening hours and capacity of physical venues, achieving instant access on a global scale.

Superimposed Space of Augmented Reality. Through AR and LBS technology, historical information is "stitched" into modern urban space. For example, in historic districts like Beijing Road and around the Peasant Movement Institute in Guangzhou, citizens wearing AR glasses or scanning with mobile phones can see historical images superimposed on the real street view—the marching crowds of 1927, the slogans of that time. This overlap of "here and now" with "then and there" breaks the boundaries between museums and the city, turning the entire city of Guangzhou into an open red museum, realizing "the city as an exhibition hall."

Presence Space of the Metaverse. Utilizing VR and holographic technology to build a high-fidelity Metaverse Red Block. In this purely virtual space, vanished historical buildings (such as the Xiguayuan Square before it was bombed) can be restored, and large-scale historical events that cannot be performed in reality can be reproduced. Experiencers enter through digital avatars to obtain an immersive presence experience beyond reality [4].

4.2. Relational Field Reconstruction: From "Unidirectional Gaze" to "Embodied Empathy"

A field is not only physical space but also a collection of social relations. Digital intelligence technology changes the interactive relationship between subject and object, and between subjects.

Embodied Interaction of Intersubjectivity. In traditional red education, the audience often gazes unidirectionally at the Other (historical figures) as a "viewer." In the digital intelligence field, through Role-Playing Games (RPG) and interactive narratives, the audience transforms into a "participant." For example, in an immersive study tour about

the "Guangzhou Uprising," the experiencer plays an ordinary soldier in the uprising army, facing the choice between life and death. This embodied participation makes history no longer cold knowledge but emotional memory closely connected to individual life experience, establishing a profound empathetic relationship.

Emotional Community of Social Connection. Utilizing social media, bullet screen technology, and digital communities to build online communities focusing on Guangzhou's red culture. Originally atomized visitors gather, communicate, and share in the cloud. Through online activities like "Cloud Sweeping of Tombs" and "Red Story Relay," an emotional community based on shared value identification is formed. This horizontal social connection greatly enhances the social mobilization ability and dissemination stickiness of red culture.

4.3. Meaning Field Reconstruction: From "Fragment Collage" to "Semantic Network"

Meaning is the core of the field. Digital intelligence technology reconstructs the meaning generation mechanism of red culture through the structured processing of data.

Semantic Weaving of Knowledge Graphs. Utilizing Natural Language Processing (NLP) and Knowledge Graph technology to semantically extract and associate red data scattered in various documents, archives, and cultural relics. Taking "Time-Space-Person-Event" as core dimensions, construct a multimodal knowledge graph of Guangzhou's red culture. For example, the system can automatically associate Zhou Enlai's residence, published articles, participated meetings, and related interpersonal networks during his time in Guangzhou. This reticular knowledge structure weaves isolated fragments into a web of meaning, revealing the internal logic and complex texture of historical development.

Living Narrative of AIGC. Utilizing Artificial Intelligence Generated Content (AIGC) technology to innovate the expression forms of red stories. AI can automatically generate micro-expressions, voices, and even dialogues of historical figures based on historical materials, making martyr's letters "speak" and black-and-white photos "colored." This technology-empowered narrative not only restores historical details but also endows history with warmth and life, realizing a leap from "piling of historical materials" to "generation of value."

5. Collaborative Governance: Institutional Innovation for Activation and Utilization of Red Cultural Heritage in the Era of Digital Intelligence

The reconstruction of the field inevitably requires adaptive changes in the governance system. The model relying solely on the government to "do it all" is no longer sustainable; it is necessary to build a new pattern of multi-subject collaborative governance featuring "government leadership, university support, enterprise collaboration, and public participation."

5.1. Government: From "Omnipotent Operator" to "Meta-Governor"

Under the collaborative governance framework, the government's role should shift from a specific project

executor to a rule maker, platform builder, and direction guide (Meta-governance).

Top-level Design and Standard Supply. Led by the Publicity Department of the Guangzhou Municipal Party Committee, establish a cross-departmental "Joint Conference System for Digitalization of Red Cultural Resources," coordinating departments of party history, culture and tourism, archives, education, etc. The primary task is to formulate a city-wide unified red culture data standard system, including data collection specifications, metadata standards, API interface protocols, etc., to clear technical obstacles for breaking data islands.

Public Platform and Infrastructure Construction. The government should lead the construction of the "Guangzhou Red Culture Digital Cloud Brain" or "Red Resource Big Data Center" as the convergence hub for city-wide red data. This platform should have public welfare attributes and provide basic data services to society to avoid duplicate construction.

Institutional Incentives and Bottom-line Regulation. Issue the "Measures for Promoting Social Forces to Participate in the Utilization of Red Cultural Resources in Guangzhou," clarifying copyright ownership, revenue distribution, and tax incentive policies for digital products. At the same time, establish a strict content review mechanism and ideological security assessment mechanism to ensure the correct political orientation of digital dissemination of red culture [5].

5.2. Universities: From "Ivory Tower" to "Wisdom Engine"

Universities should break down walls and transform academic resources into social service capabilities, becoming the intellectual engine for red culture digitalization.

Full-chain Knowledge Supply. The Schools of Marxism and Schools of History in universities should be deeply involved in the entire life cycle of digitalization projects. At the front end, they are responsible for historical verification and value excavation to ensure accuracy and thoughtfulness; at the middle end, they participate in script creation and narrative design; at the back end, they carry out effect evaluation and theoretical research.

Talent Cultivation via Industry-Education Integration. Relying on the construction of "New Liberal Arts," promote the cross-integration of majors like Digital Humanities and Cultural Industry Management. By establishing "Red Culture Digital Creative Laboratories," organize students to participate in practical projects such as red cultural creative design and VR content development, supplying composite talents who understand both party history and technology to the industry [6].

5.3. Enterprises: From "Party B" to "Partner"

Change the traditional government procurement service model and establish a government-enterprise cooperation mechanism for benefit sharing and risk sharing.

Technological Innovation and Scene Application. Encourage technology enterprises (such as leading local enterprises in Guangzhou like NetEase and Tencent) to leverage their technological advantages to develop underlying technologies and application scenarios suitable for red culture dissemination. For example, developing new formats such as 5G-based cloud performing arts and blockchain-based digital collectibles (NFTs).

Marketized Operation and Hematopoietic Mechanism. Introduce professional cultural tourism operating companies

to conduct market-oriented operations of red digital platforms. Explore the model of "free basic services + paid value-added services," such as developing paid deep study courses, red cultural creative peripherals, and personalized digital souvenirs. By enhancing their own hematopoietic function, achieve sustainable development of red culture dissemination [7].

5.4. Public: From "Audience" to "Prosumer"

In the era of digital intelligence, the public is not only a consumer but also a producer (Prosumer). Folk cultural creativity should be fully stimulated.

Crowd-creation Mechanism of UGC Ecosystem. Build an open "Red Memory Crowd-creation Platform," encouraging citizens to upload red old objects, old photos, and oral history videos inherited by their families. Carry out activities like "I Speak for Guangzhou Red Landmarks" and "Red Story Short Video Competition" to let ordinary people become narrators and disseminators of red culture.

Voluntary Service and Social Supervision. Establish a "Digital Red Guardian" volunteer team to participate in online data proofreading, error correction, and maintenance. Simultaneously, unblock public feedback channels and establish social evaluation mechanisms to force the improvement of red culture digital service quality.

6. Path Outlook: Moving Towards Deep Integration of "Digital Intelligence + Humanities"

Based in Guangzhou and looking to the future, the activation and utilization of red cultural heritage should adhere to the unity of technological logic and humanistic logic, walking a path of modern transformation with Chinese characteristics.

6.1. Establish a "Trusted Red Culture Data Space" Based on Blockchain

Data confirmation and sharing are the cornerstones of collaborative governance. It is suggested to explore the establishment of a "Guangzhou Red Culture Trusted Data Space" based on consortium blockchain technology.

Data Asset Confirmation. Utilize the tamper-proof and timestamp characteristics of blockchain to confirm and register digital assets such as red archives and cultural creative designs, generating unique Decentralized Identifiers (DIDs).

Smart Contract Allocation. Automatically execute data usage authorization and revenue distribution through smart contract technology. For example, when an enterprise uses museum data to develop cultural creative products and obtains revenue, the smart contract automatically transfers a certain percentage of the revenue to the museum, thereby solving the problem of profit distribution and incentivizing data sharing [8].

6.2. Create an Integrated Innovation Ecosystem Alliance of "Industry-Academia-Research-Application"

Relying on Guangzhou's advantage as the core engine of the Guangdong-Hong Kong-Macao Greater Bay Area, establish the "Guangzhou Red Culture Digital Intelligence Innovation Industry Alliance."

Cross-border Collaboration Platform. The alliance absorbs

government departments, universities and institutes, technology enterprises, cultural and museum venues, and investment and financing institutions. Regularly hold "Red Hackathons" and "Digital Cultural Creative Expos" to promote the cross-border flow and efficient allocation of technology, capital, content, and talent.

Tackling Common Technologies. Organize alliance members to carry out joint research on common problems in red culture digitalization (such as high-fidelity restoration of historical scenes, construction of multimodal knowledge graphs), forming technical standards and solutions with independent intellectual property rights [9].

6.3. Construct a Localized Emotional Identification Network to Forge the City's Soul

Technology is ultimately the means; value identification is the end. Digital construction should always return to the scale of "people."

Warm Connection of Micro-narratives. Beyond grand narratives, pay more attention to the revolutionary history of ordinary people, establishing connections between red history and individual family history and community development history. For example, develop a "Find My Red Genealogy" application, allowing citizens to query the origin of their family or community with Guangzhou's revolutionary history.

Digital Reshaping of Sense of Ritual. Utilize digital technology to reshape commemorative rituals. For example, on Tomb-Sweeping Day and Martyrs' Day, create a solemn and sacred urban atmosphere through forms like city-wide linkage light shows and AR cloud sweeping, making red culture a spiritual totem and emotional bond shared by Guangzhou citizens [10].

7. Conclusion

The advent of the era of digital intelligence has opened a new chapter full of imagination for the protection and inheritance of urban red cultural heritage. This is not only a technological innovation but also a profound cultural governance revolution. The expansion from physical fields to digital fields and the transformation from unidirectional management to collaborative governance are inevitable paths to realize the modern development of red culture.

For Guangzhou, polishing the business card of "Source of Revolution" requires not only increased technological investment but also institutional innovation and social mobilization. We must clearly recognize that technology can restore historical scenes but cannot replace the warmth of history; algorithms can push precise information but cannot replace value judgment. Only by adhering to the deep integration of "Digital Intelligence + Humanities" and building a collaborative governance system with the participation of government, universities, enterprises, and the public, can we link the red pearls scattered across the Ram

City into a chain and weave them into a net in the cloud. Let those stirring revolutionary stories shine with new brilliance of the times under the empowerment of digital intelligence technology, becoming a spiritual force inspiring generation after generation to move forward. This is not only a tribute to history but also a responsibility for the future.

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References

- [1] Xi Jinping. Make good use of red resources, inherit the red gene well, and pass on the red country from generation to generation [J]. Qiushi, 2021(10): 4-18.
- [2] Pierre Bourdieu, Loïc Wacquant. An Invitation to Reflexive Sociology [M]. Translated by Li Meng, Li Kang. Beijing: Central Compilation & Translation Press, 1998: 133-134.
- [3] Ansell, C., & Gash, A. Collaborative Governance in Theory and Practice [J]. Journal of Public Administration Research and Theory, 2008(04): 543-571.
- [4] Wang Jianjun. Research on the Theoretical Framework and Practical Path of Digital Governance of Red Resources in the New Era [J]. Journal of Inner Mongolia Normal University (Philosophy and Social Sciences Edition), 2025, 54(02): 5-11.
- [5] Qi Yongliang, You Xuedan. Research on Digital Integration and Dissemination of Red Cultural Resources [J]. Digital Communication World, 2025(04): 192-194.
- [6] Zhu Ming. Analysis of the Inheritance and Innovation Path of Red Culture in University Ideological and Political Education Models under AI Empowerment [J]. China Military Conversion, 2025(09): 204-206.
- [7] Zhai Yanxia, Shen Hejiang. Research on High-Quality Development of Red Tourism in Revolutionary Old Areas Empowered by New Quality Productive Forces — Based on TOE Theory Perspective [J]. Resources Development & Market, 2025(05): 66-72.
- [8] Song Xiuhui, Sun Jian. Research on the Optimization of Red Cultural Resource Education Path in Higher Vocational Colleges under the Background of Vocational Education Digital Transformation [J]. Qin Zhi, 2025(04): 82-84.
- [9] Xie Hongyang, Li Shu. Communication Strategy of Liaoning Red Culture Digital Resources from the Perspective of "Intelligent" Media Affordance [J]. Science Technology and Industry, 2025, 25(07): 190-196.
- [10] Cao Lu. Exploration of the Path of Integrating Red Cultural Resources into University "Big Ideological and Political Courses" in the Digital Age [J]. China Military Conversion, 2025(08): 109-111.