

Research on the Implementation Mechanism of Digital Technology Empowering the Digital Dissemination of Jiangyou Culture

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Abstract

The rapid advancement of digital technology has profoundly transformed the paradigms and frameworks for disseminating China's exemplary traditional culture. Digital technology empowers the digital dissemination of Jiangyou culture, providing robust momentum to address the challenge of high dissemination costs. It enhances the scale and flexibility of cultural content production, stimulates audience engagement, expands interactive spaces, and pioneers immersive experiences and consumption scenarios for Jiangyou culture; the digital technology empowers the digital dissemination of Jiangyou culture, following the practical logic of algorithm driven, content innovation, user interaction, and diverse participation. In order to improve the efficiency of digital communication of Jiangyou culture empowered by digital technology, we should build a scientific decision-making mechanism, improve the precise matching mechanism of supply and demand, improve the mechanism of resource co-creation and sharing, strengthen the mechanism of cross-border integration and cooperation, and improve the guarantee mechanism of intelligent operation.

Keywords

Digital Technology; Empowerment; Jiangyou Culture; Digital Dissemination.

1. Presentation of Questions

The Decision of the Central Committee of the Communist Party of China on Further Comprehensively Deepening Reforms and Advancing Chinese Modernization, adopted at the Third Plenary Session of the 20th Central Committee, states: "It is imperative to strengthen cultural confidence, develop advanced socialist culture, preserve and promote China's fine traditional culture, accelerate adaptation to the rapid development of information technology, cultivate a large contingent of outstanding cultural talents, and stimulate the cultural innovation and creativity of the entire nation." [1] These important statements underscore the fundamental significance of traditional culture to national spirit and cultural confidence, charting the course for leveraging digital technology to advance the inheritance of China's outstanding traditional culture in the new era. At present, the rapid development of the new generation of digital technology represented by big data, AI, AR and so on has greatly expanded the ability of cultural content production and dissemination. "Digital technology provides the greatest ability to absorb, generate, store, process and disseminate various cultural elements so far." [2] The new media forms generated by digital technology have profoundly changed the dissemination pattern of traditional excellent culture, not only expanding the boundaries of media and reconstructing the dissemination links of traditional culture, but also triggering the intelligent transformation of the communication ecology of "all things are media and everyone participates". The deep integration of China's outstanding traditional culture with digital

technology has become an inevitable trend in the creative transformation and innovative development of cultural heritage.

Jiangyou is the historical name for Jiangxi Province. Jiangyou culture is a comprehensive cultural concept centered on Gan culture. In terms of types, it encompasses various forms such as academy culture, ceramic culture, and Nuo dance culture. Regionally, it includes Yuzhang culture, Lincun culture, Luling culture, and Xunyang culture.[3]As an important part of the Yangtze River culture and an important chapter of Chinese excellent traditional culture, Jiangyou culture has a long history and profound heritage. In the era of digital technology, the creative transformation and innovative development of Jiangyou Culture also need to be empowered by digital technologies. Through digital collection, knowledge reconstruction and multi-channel dissemination, we can explore the profound connotations of Gan Culture and carry forward Jiangxi's fine humanistic spirit. In this context, exploring the intrinsic value, practical logic and implementation mechanism of digital technology in enabling the digital dissemination of Jiangzhou culture holds significant academic value and practical significance. On the one hand, it aligns with the evolving trends of cultural dissemination in the digital age, offering fresh theoretical insights for the creative transformation and innovative development of China's outstanding traditional culture; On the other hand, the research closely follows the strategic goal of Jiangxi's "culturally strong province", which helps to improve the communication efficiency of Jiangyou culture and expand its influence with the help of digital technology, and provides a practical path for better promoting Chinese excellent traditional culture in the new era.

2. The Intrinsic Value of Digital Technology Empowering the Digital Dissemination of Jiangyou Culture

2.1. Economies of Scale: Digital Technology Resolves the "Cost Disease" of Jiangyou Cultural Dissemination

In 1960, American economist William Baumol proposed the "cost disease" theory to describe the predicament faced by service sectors such as culture and the arts, where costs continually rise due to slow technological progress.[4]The vigorous development of digital technology provides a new economic way to overcome this problem. Digital technology profoundly transforms the cultural production function and achieves large-scale replication of cultural content, greatly improving the efficiency of cultural production and significantly reducing the dissemination cost of unit content. From the perspective of marginal cost, although the initial production cost of digital content is relatively high, the marginal cost of replication is almost zero. This results in a scale economic effect that traditional media cannot match. Compared to costly traditional channels such as print, radio, and television, digital media and internet platforms significantly reduce the expenses associated with content production and distribution. For example, relying on digital platforms such as Tik Tok and Bili Bili, a large number of communication subjects can now create and share Jiangyou cultural content at a very low cost with only one intelligent terminal, breaking through time and space constraints to reach a large audience. The empowerment of digital technology has enabled the cultural and traditional fields to successfully overcome the bottleneck of "increasing investment without increasing output", achieving a continuous decline in the cost curve of disseminating excellent traditional Chinese culture, and injecting sustainable growth momentum into the dissemination of Jiangyou culture.

2.2. Supply Upgrade: Digital Technology Enhances the Scale and Flexibility of Jiangyou Cultural Content Production

The deep integration of digital technology has significantly expanded the supply boundaries and intensity of Jiangyou cultural products. On the one hand, large-scale digitization and intelligent processing have transformed Jiangyou historical materials scattered in archives, libraries and folk collections into searchable and computable digital content, completing the transition of Jiangyou cultural product supply from offline entity to online platform. For example, "Jiangyou Library" has launched a digital project since 2023, using 4K ultra high definition scanning technology, AI automatic punctuation system, and semantic annotation technology to build an open interface database. It has been opened to the public for free on the digital resource platform of Jiangxi Provincial Public Library, and readers can read it online without registration. It has also achieved multi library authorization, co construction, and sharing, significantly improving the scale and accessibility of high-quality content supply in Jiangyou culture.[5] On the other hand, the platform-based dissemination mechanism lowers the threshold for creating Jiangyou cultural content, giving rise to a new paradigm where Professional Generated Content (PGC) and User Generated Content (UGC) coexist. Short-form videos and social media platforms facilitate public participation and genre diversification, leading to a simultaneous increase in both the volume and frequency of cultural content production. Meanwhile, as a new production paradigm following PGC and UGC, AI-generated content (AIGC) significantly enhances the production efficiency and supply elasticity of Jiangyou cultural content through multimodal generation and scalable iteration[6], injecting sustained momentum into the secondary development, knowledge visualization, and contextual dissemination of Jiangyou culture.

2.3. Participate in Co-creation : Digital Technology Stimulates Audience's Initiative and Expands Interaction Space

Driven by platform algorithms and social interaction mechanisms, the digital dissemination of Jiangyou Culture presents a transition from the role of "audience user co creator": likes, comments, bullet comments, shares, and other behaviors are precipitated as computable feedback data, prompting creators to adaptively iterate and optimize around topic selection and narrative, forming a collaborative production mechanism centered on user feedback, with content tailored to segmented audience preferences and continuously optimized. Meanwhile, short-form video and live streaming technologies have significantly lowered the barrier to content creation. Through editing, dubbing, and thematic engagement, the public actively participates in secondary creation, facilitating the cross-platform dissemination of Jiangyou culture. Individual users have thus evolved into "nodal media" with substantial communicative capacity. Through the interaction of content, audience, and context, offline experiential settings and online communities achieve synchronized engagement. The immersive experience represented by Tengwang Pavilion's "Jiangyou Cultural Digital Experience Museum" translates the abstract Jiangyou cultural connotation into an operable experience process through immersive exhibition items such as interactive theater, digital person dialogue, and Zhuang You Jiangyou digital scroll, which significantly enhances the audience's presence and participation stickiness[7]. The "Cloud Tour Jiangxi" smart tourism platform has become a platform that integrates cultural and tourism resource promotion, tour booking, live streaming, event release, and intangible cultural heritage display, reducing the threshold for online audience access and participation, expanding the reach radius for cross regional and segmented audiences, and building a cross regional participatory communication channel[8]. As AIGC enters daily creation, the multi-modal generation capabilities of text, images, and audio-visual content are deeply integrated into daily expression practices, strengthening the public's ability for joint production, re-interpretation, and re-distribution, and promoting the transformation

of Jiangyou culture from “being disseminated” to “being jointly produced” in a broader digital public space.

2.4. Scene Innovation: Digital Technologies Pioneering Immersive Cultural Experiences and Consumption Scenarios in Jiangyou

In the era of digital technology, technology empowers the reshaping of the consumption scene and experience paradigm of Jiangyou culture. With the help of immersive technologies such as VR, AR, holography and naked-eye 3D, the classics and cultural relics of Jiangyou cultural literature are transformed into immersive interactive space, so that the audience can realize the transition from watching to interacting, from watching to being present in the cohesive experience journey of watching, playing, learning and purchasing. For instance, the “Jiangyou Culture Digital Experience Hall” at Tengwang Pavilion in Nanchang is based on the Jiangyou culture big data as its foundation. It incorporates digital technologies such as the integration of the metaverse into the artwork and motion recognition, and launches projects like “Digital Scroll of Jiangyou Tour”. Visitors can enter the artwork by “facing recognition”, freely traverse through the multi-screen visualization based on the thematic paths, and have conversations with “digital figures”, creating a new and profound cultural consumption experience in the present moment. At the physical attraction level, smart guided tours and VR immersion centers extend the temporal and spatial boundaries of the “I was here” experience, shifting narratives from linear guided tours to multi-path missions and social co-exploration. In the digital service scenario, the integrated platform of ‘Yunyou Jiangxi’ integrates booking, live broadcasting, activities and intangible cultural heritage dissemination into a public entrance, opens up the closed loop of ‘content-community-transaction’, and supports the regional digital cultural tourism ecology. At the same time, digital museums and cloud exhibitions provide normalized channels for cross domain access, fragmented learning, and secondary creation. With the help of AIGC’s multimodal content generation and visualization applications such as “cultural character star spectra”, they have spawned a new model of content as scene and interaction as consumption, promoting the continuous diffusion and value transformation of Jiangyou culture in the metaverse and various screens and terminals.

3. The Practical Logic of Digital Technology Enabling the Digital Dissemination of Jiangyou Culture

3.1. Algorithm-driven : To Achieve Precise Dissemination and Audience Expansion of Jiangyou Culture

In the era of digital technology, algorithm driven has become the core path to improve the accuracy of Jiangyou culture dissemination and audience coverage. Based on user profiles, content representations and behavioral data, the digital platform follows a multi-level recommendation process of “recall → rough screening → fine screening → re-screening”, and personalizes and matches the sub-topics such as Luying culture, Yuzhang cultural heritage, and Ganpo intangible cultural heritage according to the audience’s interests and situations. This significantly increases the click-through rate, completion rate and interaction depth of Jiangyou culture-themed content for the targeted audience. Compared to extensive, broad-based distribution, causal inference and contextual recommendations enhance the alignment between content, context, and motivation. This approach shortens the journey from initial exposure to effective engagement—such as reservations, visits, purchases, and sharing—while using closed-loop data to inform Jiangyou Culture’s creative development and operational strategies. The distribution of the algorithm also releases the ‘long tail effect’[9], so that minority issues get continuous exposure and secondary communication opportunities, driving artificial intelligence generation, professional production, user-generated collaborative

production and cross-platform diffusion ; the interest community formed around short videos, live broadcasts and topic communities reduces the cost of audiences access to Jiangyou culture and promotes the narrative translation of Jiangyou culture 's local symbols. Therefore, Jiangyou culture has achieved a transition from regional and phased dissemination to global and normalized visibility, while meeting diverse and differentiated needs, expanding the spillover impact of Jiangyou culture and enhancing cultural identity. At the same time, the algorithm-based personalized recommendation for Jiangyou cultural content is not risk-free. Popularity bias[10]and echo chamber effect [11] can easily lead to the convergence of Jiangyou cultural content, reducing the visibility and growth space of niche topics. Therefore, exploratory sorting should be adopted, with a minimum diversity requirement set. At the same time, tentative exposure of new content and initial support for new authors should be increased to balance accuracy and novelty, coverage and fairness, ensuring that while expanding the audience coverage, the public value and ecological resilience of Jiangyou culture are maintained.

3.2. Content Innovation: Driving Diversification and Contextualization in Jiangyou Cultural Production

Digital technology reshapes the content form and expression mode of Jiangyou culture. The creators collaboratively innovate in narrative structure, interaction mode and carrier form, so that the traditional Jiangyou elements are translated into the complex of digital Jiangyou content, interactive art and gamification narrative. By utilizing digital technologies such as video recording, audio recording, photography, scanning, and scene restoration, a systematic and standardized data collection and preservation of Jiangyou culture is carried out. Physical carriers and fragmented information are transformed into accessible digital data, and secure storage and backup are implemented. A digital cultural relic archive is built to support the long-term protection and inheritance of cultural relics. [12]The production concept of Jiangyou culture content has shifted from “content-centered” to “scenario-oriented”. It conducts contextualized design around the experiences of viewing, traveling, learning and shopping, forming a seamless journey: micro-videos and vertical-screen live broadcasts are disseminated in mobile fragmented scenarios to expand the visibility and encourage actual participation; long-duration and deeply narrative special videos are launched in reading communities to serve knowledge-oriented audiences. Leveraging VR/AR, glasses-free 3D, and digital twin technologies, we create immersive experience scenarios and virtual performances. By embedding Jiangyou stories within virtual exhibition halls and immersive experience units, we enhance visitors' sense of presence and establish clear memory anchors. For example, Tengwang Pavilion 's “Jiangyou Cultural Digital Experience Museum ”in the “ Zhuangyou Jiangyou Digital Picture Scroll ” and “ Digital Man Wang Bo ” projects to achieve “ painting interaction, scene navigation, instant sharing, ” and with “ Yunyou Jiangxi ” and other platforms linkage, through the appointment, live broadcast and intangible cultural heritage display, forming a “ content-community-transaction ” closed-loop.

AIGC and digital humans further broaden the expression dimensions and interactive depth of Jiangyou culture, support multimodal collaboration of “text image audio video”, significantly reduce the threshold for Jiangyou culture creation, stimulate collaborative production and cross platform diffusion of PGC and UGC, and promote the transition of Jiangyou culture from one-way dissemination to co creation and scenario based dissemination. At the same time, a mechanism for safeguarding the diversity of Jiangyou culture and a supporting mechanism for original content promotion were introduced. This was done to reduce the homogeneity in the production of Jiangyou cultural content and to continuously evaluate and optimize it based on indicators such as retention rate, full broadcast rate and reputation, in order to ensure the depth of expression and ecological sustainability of Jiangyou culture.

3.3. User Engagement: Enhancing Feedback on Jiangyou Cultural Dissemination and Improving Effectiveness

The digital platform reshapes the communication structure of Jiangyou culture, making Jiangyou culture shift from one-way output to dialogue and co-creation. Interactive forms such as comments, bullet comments, voting, live streaming, and topic challenges precipitate audience behavior into data-driven feedback, supporting creators to continuously calibrate and improve based on indicators such as audience viewing time, completion rate, second hop rate, and sharing comment ratio, forming a closed loop of "dissemination feedback improvement re dissemination". The integration of interactive Q&A sessions, collaborative script development, and pilot content testing within live-streaming scenarios enhances audience immersion and engagement metrics (e.g, dwell time, revisit rates), while simultaneously driving monetization conversions for Jiangyou cultural products and amplifying tourism-related traffic. Offline digital avatar tours, motion-sensing interactive exhibits, and immersive theaters synergize with online member communities and content libraries to form a three-dimensional, mutually reinforcing structure of "content-community-activities." The public creates secondary creations through editing, dubbing, collage, long graphics and podcasts to promote the fission of Jiangyou topics, promote cross-regional diffusion, and increase the visibility of public issues. To solve the echo chamber effect and content homogenization problem in the production of Jiangyou culture, diversity guarantee and support for new content launch are set up at the algorithm recommendation and platform operation levels, and continuous evaluation and calibration are carried out based on indicators such as retention, completion rate, coverage and novelty, achieving a closed-loop governance of "distribution evaluation improvement". Meanwhile, a holistic approach shall be adopted to balance the efficiency, equity, and public value in the digital dissemination of Jiangyou culture. Interaction data shall be incorporated into the performance evaluation of public cultural services, thereby driving the optimization of supply-side mechanisms and the branding of Jiangyou culture in a reverse-incentive manner. Simultaneously, we will establish a tiered user system with contribution-based incentives, introducing badges, points, creation funds, and a collaborative honor roll to cultivate core seed users. This will drive the sustained production and virtuous cycle of Jiangyou culture.

3.4. Diversified Participation : Collaborative Construction of Digital Communication Ecology of Jiangyou Culture

The digital dissemination of Jiangyou culture is based on the extensive participation and collaborative cooperation of multiple subjects, and builds a complete digital communication ecosystem. The practical logic of multi-party participation emphasizes that the government, cultural institutions, technology enterprises, traditional cultural inheritors, and the general public should work together to jointly promote the digital protection and dissemination of Jiangyou culture. [13] Digital technology leverages algorithmic tools and data mechanisms to precisely identify and instantly adjust to user preferences, propelling public cultural services from static allocation to dynamic responsiveness. This enables flexible reconfiguration of service content, formats, and delivery pathways, breaking free from the top-down supply path dependency caused by traditional institutional inertia [14]. It empowers all participating entities with greater involvement and voice, The government provides policy guidance and financial support while serving as a coordinator, integrating Jiangyou cultural resources with social forces for collaborative efforts. Cultural institutions (such as museums, libraries, etc.) provide orderly sharing and professional support, integrate Jiangyou digital resources and professional knowledge into the collaborative production system, and participate in the joint creation and dissemination of Jiangyou digital content ; Technology companies provide platform technology and channels to enhance the efficiency of digital distribution of Jiangyou Cultural products; Experts, scholars, and inheritors of intangible cultural heritage contribute

their professional wisdom and creative content;The general public participates in the creation of Jiangyou culture content through UGC (user-generated content) creation and community discussions, resulting in a situation where “everyone is a disseminator”. By leveraging digital technology to bridge barriers between departments and industries, and through complementary strengths among diverse stakeholders, Jiangyou culture has formed a cross-sectoral supply network for digital dissemination.This interactive cooperation mechanism ensures the innovation and diversity of Jiangyou cultural content supply, enhances the vitality of Jiangyou cultural digital communication system, and provides strong support for Jiangyou culture to move towards a broader digital space.

4. The Implementation Mechanism of Digital Technology Empowering the Digital Communication of Jiangyou Culture

4.1. Decision-oriented: Establishing a Scientific Governance Mechanism for Jiangyou Cultural Dissemination

Under the background of digital technology empowerment, the governance and strategy formulation of Jiangyou culture digital communication needs to form a closed-loop mechanism of “top-level planning-data-driven-cross-departmental collaboration-feedback optimization”. Government departments, as the decision-making hub, should align with the national cultural digitization strategy and the overall framework of “Digital China.” They should formulate implementation plans, standard systems, and security guidelines, coordinate the development of Jiangyou cultural data elements, funding, and platforms, and facilitate the integration of provincial and municipal resources in cultural tourism, cultural relics, libraries, and other Jiangyou sectors. Cultural institutions and communication managers need to have the ability to make data decisions, and dynamically adjust the selection of topics, genres, and channel placements for Jiangyou Culture based on user profiles, public opinion analysis, communication paths, and key touchpoints evaluation, in order to achieve precise allocation of Jiangyou Cultural resources. In terms of the data system, relying on the integrated cultural tourism data platform, the data collection, governance and sharing processes among provincial and municipal cultural tourism, cultural relics, libraries and scenic area platforms have been connected, covering audience behavior data, content resources and operation data, etc; establishing a unified data quality and authorization management system, implementing standardized data, validation and deduplication, and tiered authorization;strengthening the copyright protection of personal information and working to ensure the safety of sensitive data and the compliant use of intangible cultural heritage digital resources.

At the governance level, the government should play the role of a “platform coordinator”, promoting collaboration among government, industry, academia, research, and application through financial guidance, project incubation, and performance evaluation; conduct A/B control experiments and multi-objective optimization, and evaluate the implementation effect of the Jiangyou Cultural Communication Project based on indicators such as coverage rate, full-play rate, and conversion rate. Establish diversity and public value constraints to prevent popularity bias and echo chamber effects in the distribution of Jiangyou cultural content. This will achieve effective integration between top-down policy guidance and bottom-up data-driven approaches, thereby enhancing the digital dissemination efficiency of Jiangyou culture. Under the impetus of unified planning and overall coordination at the provincial level, relying on the integrated platform such as ‘Yunyou Jiangxi’, the weekly index Kanban and thematic evaluation model are set up, and the rolling review and emergency response plan are implemented for key projects. Improve the expert committee and public participation mechanism, absorb non-genetic inheritors, scholars and core users to co-govern and co-

evaluate, so as to realize the evidence, transparency and traceability of Jiangyou cultural communication matters.

4.2. Algorithm Scheduling: Establish a Precise Matching Mechanism for the Supply and Demand of Jiangyou Culture

The meta-signs such as materialization, behavior, and sensation enable the production of digital images through algorithmic expansion, allowing the meanings of cultural symbols to present a temporal and spatial fluidity form in the form of semantic clusters during the editing and reorganization process. [15] The key to the big data algorithm-based precise matching mechanism for Jiangyou cultural content supply and demand lies in achieving synergy among the demand side, supply side, and distribution side. Specifically, the demand side identifies and segments Jiangyou user groups based on behavioral data such as browsing, liking, dwell time, search history, and social relationships, thereby constructing user profiles and interest communities. The supply side establishes classification and metadata standards for Jiangyou digital resources, improves the thesaurus and label specifications, and forms a callable content material library. The distribution side adopts a multi-level algorithm of “recall → coarse sorting → fine sorting → rearrangement” to achieve precise matching between audience demand and content supply, taking into account relevance, timeliness, and diversity, and providing initial traffic and exploratory display for new content and accounts of Jiangyou Culture, alleviating the “Matthew effect”. Based on this, conduct diversion control experiments and causal attribution evaluations, continuously calibrate the feature weights and operational thresholds of the distribution algorithm, and build a “monitoring - feedback - optimization” closed loop to reduce the mismatch between Jiangyou culture content and the target audience, and reduce the repetitive supply of low-demand content.

To safeguard the public value and ecological resilience of digital dissemination for Jiangyou culture, it is essential to concurrently implement user privacy protection, establish copyright ownership and authorized usage for digital content and intangible cultural heritage resources, and enforce data quality governance throughout the entire “collection-management-sharing” process. A multi-objective evaluation system covering metrics such as coverage rate, completion rate, conversion rate, and user satisfaction should be established, enabling tailored supply for diverse audiences and scenarios. At the same time, the algorithm model is used to predict the time series of situational variables such as festival cycle and tourism season, generate content calendar and scheduling scheme, push the long tail themes such as Luling culture, Yuzhang context and Ganpo intangible cultural heritage to the subdivided population, and link offline venues and cultural tourism activities to achieve diversion. Ultimately, through a combination of refined supply and precise coverage, it not only expands the audience coverage of Jiangyou culture, but also enhances the visibility and cultural identity of niche issues.

4.3. Data Sharing: Improving the Mechanism for Joint Creation and Sharing of Jiangyou Cultural Resources

The digital dissemination of Jiangyou culture relies on the collaborative creation and sharing of data by diverse stakeholders. Adhere to the principle of government-led, institutional coordination, and social co-construction, build a unified metadata specification and copyright ownership and authorized information identification, and open up the whole process of “collection-cleaning-indexing-release” of collection, academic and folk Jiangyou cultural materials. Form a reusable data infrastructure platform through standardized open interfaces, and provide hierarchical authorization access under privacy protection and copyright compliance. In practice, the “Jiangyou Cultural Collection” has utilized AI automatic sentence segmentation and punctuation technology, 4K ultra-high-definition scanning technology, and semantic annotation technology to complete the digital collection, text verification, and

structured storage of Jiangyou cultural ancient books, and to achieve searchable publication. Free access is provided to public libraries within the province and the general public. The mini-program and database operate in parallel, offering a viable pathway for the orderly release and social sharing of public cultural data. The digital platform of 'Jiangyou Library' adopts an open interface structure and has been connected to the provincial public digital resource sharing platform, which is convenient for multi-library co-construction, thematic database construction, incremental expansion and academic tool access.

At the same time, relying on the "Cloud Tour Jiangxi" integrated cultural and tourism platform to gather user feedback and usage trajectories, providing data support for resource governance and thematic construction in Jiangyou. Encourage universities, publishing houses and libraries to jointly undertake the tasks of collating, indexing and reviewing. Encourage the public to upload local images, oral histories and traditional cultural heritage clips, which will be uploaded to the database after undergoing academic review, thus achieving data crowdfunding. Cross-institutional and cross-group aggregation of Jiangyou resources prevents redundant development, enhances the searchability and usability of Jiangyou cultural resources, and fosters an open, shared, continuously accumulating, and iteratively optimized Jiangyou cultural data ecosystem. At the same time, a long-term preservation and lasting identification strategy is set up, and an index system of update frequency, citation rate and open use degree is established to improve the transparency of Jiangyou cultural governance and the transformation and resilience of public value.

4.4. Main Collaboration: Strengthening the Cross Border Integration and Cooperation Mechanism of Jiangyou Culture

The digital dissemination of Jiangyou culture requires the collaborative efforts of multiple entities. Digital technology has expanded the scale of participation by various entities in the creation and consumption of Jiangyou culture. To avoid fragmented efforts and scattered resources, it is essential to establish a stable, cross-sectoral collaboration mechanism at the institutional level. This mechanism should foster institutionalized coordination among governments, cultural institutions, technology companies, universities, social organizations, and individual users. Under the mechanism of cross-border integration and cooperation, each supply subject performs its own duties and complements each other's advantages, so as to realize the sharing and collaborative innovation of Jiangyou cultural resources. The government provides policy and financial support, cultural institutions contribute content resources, technology companies provide technical support, universities provide intellectual support, social organizations expand communication channels, and individual users engage in user generated content creation and re creation around the theme of Jiangyou. At the same time, innovating the mode of resource allocation for Jiangyou culture, implementing a coordinated supply approach combining "public welfare orientation with market mechanism", and promoting socialized operation through government procurement of services. For example, the "Cloud Tour Jiangxi" platform adopts a model of corporate investment and operation with government procurement of services, integrating data from multiple departments to build a technology-driven smart tourism system.[16] Jiangyou Library is jointly implemented by publishing group, library and digital publishing enterprises to realize the open sharing and efficient utilization of Jiangyou cultural resources.[17]

In addition, clarify the rights and responsibilities of multiple stakeholders and establish an efficient organizational coordination mechanism. By signing strategic cooperation agreements and establishing joint working groups, the cooperative relationships among various entities are strengthened. The respective responsibilities and benefit distribution of each entity are clearly defined. For example, in the "Tengwang Pavilion Jiangyou Culture Digital Experience Center" project, multiple stakeholders worked with clear divisions of labor and coordinated operations:

publishing companies invested in and managed operations, cultural institutions provided content, and technology firms supplied the technical infrastructure. This collaboration successfully achieved a deep integration of Jiangyou culture with digital technology. This practice shows that a sound institutional arrangement and coordination mechanism can gather strong cross-border forces, promote the digital dissemination of Jiangyou culture, and build a new pattern of collaborative communication with government guidance and multi-subject participation in the digital era.

4.5. Platform Support: Establish a Sound Intelligent Operation Guarantee Mechanism for Jiangyou Culture

The digital dissemination of Jiangyou culture cannot be achieved without the intelligent operation guarantee mechanism of the cultural platform driven by digital technology. Build a unified digital culture platform, integrate the scattered Jiangyou cultural resources into a unified digital culture operation framework, and realize the intelligent management of the cultural platform through technology empowerment. Under the intelligent operation mechanism, big data, cloud computing, artificial intelligence, and other technologies run through the entire process of content collection, storage, distribution, and feedback on the platform. The platform adopts a modular and scalable technical architecture to support the storage and concurrent access of massive data, and uses knowledge graphs to associate historical figures, works, events, and other elements of Jiangyou culture, facilitating users to systematically explore the cultural context of Jiangyou culture; at the same time, it incorporates functions such as OCR text recognition, semantic analysis, intelligent search, and personalized recommendation, significantly enhancing the utilization efficiency and user experience of traditional Jiangyou cultural resources like ancient books. More importantly, digital technology platforms are creating immersive cultural experiences through cutting-edge technologies such as the metaverse and virtual interaction. Immersive communication mode reflects the “ubiquitous” connection between people, which is the leap and extension of the spatial dimension of traditional communication mode.[18] By creating immersive cultural experience scenarios, the transformation of Jiangyou culture from “data” to “story” can be achieved. By relying on a rich Jiangyou culture database, historical figures of Jiangyou can be shaped to interact with audiences across time and space, making static Jiangyou culture content come alive. The technology-driven platform operation mechanism ensures the smooth operation of the digital dissemination of Jiangyou culture. Digital platforms can continuously absorb new digital resources while optimizing user engagement and content dissemination through algorithmic iterations and functional upgrades, thereby creating a virtuous cycle where digital technology empowers the digital dissemination of Jiangyou culture.

5. Research Conclusion

Grounded in the national strategies of cultural digitalization and “Digital China” as well as Jiangxi Province’s overall agenda of building a “culturally strong province”, this study takes the digital-technology empowerment of Jiangyou culture’s digital communication as its core theme, and conducts a systematic analysis from three dimensions: value implications, operating mechanisms, and practical implementation. The findings indicate that the deep embedding of digital technologies has injected new growth momentum into the online presentation and dissemination of Jiangyou culture. From the perspective of economies of scale, platform-based and intelligent tools significantly compress the marginal costs of producing and disseminating Jiangyou cultural content, thereby alleviating the longstanding dilemma of “high costs and low outputs” in its communication. In terms of supply-side optimization, digital technologies lower the threshold for professional creation related to Jiangyou culture, expand the range of content producers and distribution channels, and thus enrich and diversify digital content while

enhancing its accessibility to audiences. Regarding changes in participation modes, technological empowerment breaks the one-way, top-down communication pattern of Jiangyou culture, gradually transforming passive recipients into active agents of co-creation and secondary dissemination, which in turn stimulates broader social co-creation dynamics. From the perspective of scenario expansion, digital tools such as virtual reality and immersive interaction continuously extend the experiential space and consumption contexts of Jiangyou culture, reinforcing audiences' sense of presence, level of engagement, and efficiency of value conversion.

At the practical level, the digital-technology empowerment of Jiangyou culture's digital communication follows a dynamic, cyclical process characterized by "algorithmic traction-content reconstruction-interaction deepening-collaborative participation." First, by optimizing recommendation and matching mechanisms, it enhances the precision with which Jiangyou cultural resources are aligned with target audiences, thereby building a data-based supply-demand matching system. Second, by dismantling data silos across platforms and institutions, it promotes the open sharing of Jiangyou-related cultural resources in the stages of collection, processing, and utilization, and helps form a content repository capable of continuous updating. Third, it strengthens coordination among government departments, cultural institutions, market actors, and social organizations, improves cross-actor co-production and collaborative-governance mechanisms, and provides organizational guarantees for the digital communication of Jiangyou culture. Fourth, relying on integrated digital platforms and technical infrastructure, it establishes a secure, controllable, and highly efficient intelligent support system, thereby enhancing the overall effectiveness of Jiangyou culture's digital communication at institutional, technological, and governance levels.

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- (3) Nanchang Normal University 2025 University-Level Research Project: "Mechanisms by Which Short-Video Platforms Enable the Digital Dissemination of Jiangyou Culture" (25XJZX14).

References

- [1] Central Committee of the Communist Party of China. (2024, July 21). Decision on further comprehensively deepening reform and promoting Chinese-style modernization. Retrieved October 3, 2025, from http://www.moe.gov.cn/jyb_xwfb/s6052/moe_838/202407/t20240722_1142205.html
- [2] Fu Caiwu. (2022). Digital technology as a methodology for high-quality cultural development: A theory of technological embedded path evolution. *People's Tribune · Academic Front*, 45(23):22-31.
- [3] Chen Li. (2024). Theoretical framework, realistic logic and practical path of digital communication of Jiangyou Culture. *Journal of Nanchang Normal University*, 45(1): 77-81.
- [4] Jiang Xiaojuan. (2021). Technology and culture in the digital age. *Social Sciences in China*, (08):4-34+204.
- [5] Ddjiangxi. (2025, August 5). Jiangxi in the "pocket": The "miniaturization" and "rebirth" of Jiangyou Library. Retrieved from <http://www.ddjiangxi.com/system/2025/08/05/020950290.shtml>

- [6] Zhu Huanghe, Ling, Xuewu. (2025). Morphological representation, logical path and governance strategy of ideological risks of generative artificial intelligence. *Journal of Jiangxi Normal University (Philosophy and Social Sciences Edition)*, 58(4):67-77.
- [7] Zwszcb. (2023, June 7). Digital writes a new chapter for Jiangyou: The opening of China's first Jiangyou Culture Digital Experience Hall. Retrieved October 2, 2025, from <https://www.zwszcb.cn/xinwendongtai/81.html>
- [8] Ministry of Culture and Tourism of the People's Republic of China. (2022, April 24). The number of users of the "Cloud Tour Jiangxi" platform exceeds 10 million. Retrieved October 2, 2025, from https://www.mct.gov.cn/whzx/qgwhxxlb/jx/202204/t20220428_932727.htm?utm_source
- [9] Li Longfei, Zhang Guoliang. (2022). Formation mechanism and governance path of the "information cocoon" effect in the algorithm era: From the perspective of information ecology theory. *E-Government*, (9): 51-62.
- [10] Shen Yangtai, Qi Jianglei, Ding Hao. (2025). Research on theme-aware enhanced publication recommendation based on transfer learning. *Data Analysis and Knowledge Discovery*, 9(1): 145-153.
- [11] Wen Hongyu, Hao Haiguang. (2025). The problem of "traffic first" on short video platforms and its solutions. *Theoretical Exploration*, (4):70-77.
- [12] WenFeng'an, Zhang Jiajing. (2025). Digital and intelligent technology empowers the inheritance and innovation of excellent traditional Chinese culture. *Hebei Academic Journal*, 45(5):21-27.
- [13] Liao Xiaoqin, Hu Deqing. (2025). Value, risks and optimization strategies of AI algorithm empowering the digitalization of excellent traditional Chinese culture. *Dongyue Tribune*, 46(6): 156-163.
- [14] WangYong. (2025). High-quality development of public cultural services driven by new-quality productive forces: Mechanism of action, practical dilemmas and solutions. *Journal of South west Petroleum University (Social Sciences Edition)*. Retrieved from <https://link.cnki.net/urlid/51.1719.C.20250917.1651.002>
- [15] LiYan, ZhangJian. (2025). Digital imagery: Creative transformation of traditional Chinese cultural imagery under technology empowerment. *Journalism and Writing*, (7):63-72.
- [16] Ministry of Culture and Tourism of the People's Republic of China. (2020, January 15). "Cloud Tour Jiangxi" smart tourism platform launched. Retrieved October 3, 2025, from https://www.mct.gov.cn/wlbphone/wlbydd/xxfb/qglb/jx/202001/t20200115_850337.html
- [17] Ifeng Jiangxi. (2025, April 17). Making ancient books "within reach": The launch of the first batch of digital achievements of Jiangyou Library. Retrieved October 3, 2025, from <https://jx.ifeng.com/c/8ibKSbJW8ef>
- [18] Cheng Huawei. (2024). Research on the digital communication path of excellent traditional Chinese culture. *Tianfu New Theory*, (1): 146-152.