

Research on the Communication Strategy and Influence of Chinese Cultural Symbols in Public Administration in the Era of Digital Media

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Abstract

The rapid advancement of digital technologies has positioned digital media as a pivotal platform for cultural dissemination and public governance. This study investigates the communication strategies and impacts associated with Chinese cultural symbols within the digital media landscape, with particular attention to the ways in which digital technologies facilitate innovative cultural representation and broaden the international reach of traditional Chinese culture. Employing a case study approach, the research examines three representative domains, namely digital museums, digitally mediated cultural programmes, and the digital preservation of intangible cultural heritage. The “Digital Palace Museum” initiative serves as the principal case for exploring the mechanisms through which digital technologies reshape the creation, transmission, and interpretation of cultural symbols. The findings reveal a substantial evolution in museum-related media coverage. During the period from 1949 to 1966, conventional news reports constituted 78.1% of museum reporting, whereas in the new era of socialism with Chinese characteristics, the proportion of thematic and feature-oriented coverage increased to 35.6%. This shift reflects a broader transition from event-

centred reporting towards more comprehensive and analytical forms of cultural communication. Furthermore, digital cultural productions exemplified by “Tang Palace Banquet” generated exceptional public engagement, accumulating approximately 2.5 billion topic views and exceeding 3 billion online clicks. These outcomes demonstrate the effectiveness of digital platforms in strengthening cultural recognition and expanding cultural influence. The Palace Museum’s “Digital Forbidden City” initiative further illustrates the transformative potential of cultural digitalisation. Through the integration of virtual reality (VR) technologies and international collaborative partnerships, the project has expanded public access to cultural resources while enhancing the global visibility and influence of Chinese cultural heritage. Collectively, these findings contribute theoretical insights into the digital transformation of cultural communication and provide empirical evidence to support the development of public policies for cultural dissemination. Ultimately, the study highlights the strategic role of digital media in fostering the sustainable preservation, transmission, and international promotion of China’s outstanding traditional culture.

Keywords: Digitalization, Digital Museum, Management, Cultural Symbol, Communication Strategy.

Introduction

In the contemporary digital era, advances in digital media technologies have fundamentally reshaped the processes, channels, and forms of

cultural communication. In China, continuous progress in information and communication technologies has elevated digital media from a simple communication platform to a strategic instrument for cultural preservation, public governance, and social development. By enabling traditional cultural symbols to be reinterpreted and presented through innovative digital formats, emerging technologies have fostered a distinctive digital cultural ecosystem that supports both cultural continuity and contemporary relevance (Martínez-Caro et al., 2020). Given China's extensive historical legacy and rich cultural heritage, integrating outstanding traditional culture with modern digital technologies has become a critical priority for both cultural communication and public management.

The ongoing digital transformation is characterised by advances in wireless digital transmission, the integration of LED displays with electronic sensing technologies, the convergence of full-projection and imaging systems, and the incorporation of human-computer interaction with virtual reality (VR) technologies. Collectively, these developments have substantially enhanced the speed, quality, and accessibility of information dissemination while creating more engaging, interactive, and diversified cultural experiences (Grover et al., 2022; Proksch et al., 2024). For instance, the deployment of 5G networks enables high-definition, low-latency broadcasting of large-scale cultural events, facilitating real-time audience engagement and improving interactive participation. Likewise, sophisticated LED display technologies deliver compelling visual experiences that capture audience attention and increase the overall appeal of cultural exhibitions and performances (Trushkina et al., 2020).

These technological innovations have also accelerated the digital transformation of museums, cultural programmes, and intangible cultural heritage (ICH). Museums have evolved beyond their conventional role as repositories of historical artefacts into dynamic digital platforms that actively promote cultural engagement. Through the application of VR, AR, and related immersive technologies, digital museums provide interactive exhibition environments that make cultural narratives more accessible and meaningful for diverse audiences (Zhen et al., 2021). Similarly, digital cultural programmes have revitalised traditional Chinese culture by combining innovative audio-visual storytelling with multiple online communication platforms, thereby extending

cultural participation to broader audiences. The digital preservation of ICH has likewise benefited from internet-based technologies and digital media, which have strengthened connections between younger generations and traditional cultural practices while expanding the reach and continuity of heritage transmission (McKellar et al., 2024).

Among the most influential examples of cultural digitalisation is the Palace Museum's "Digital Forbidden City" initiative, which represents a benchmark for digital cultural communication in China. By integrating advanced digital technologies with traditional cultural resources, the project has established a comprehensive digital cultural ecosystem that facilitates wider access to heritage assets and encourages greater public participation. Its effectiveness stems from the seamless integration of technology, interactive engagement, and cultural content, enabling audiences to experience cultural heritage in more immersive and meaningful ways while simultaneously enhancing the reach and impact of cultural communication (Butt et al., 2024; Tuukkanen et al., 2022).

Against this backdrop, the present study investigates the communication strategies and influence of Chinese cultural symbols within the context of public management during the digital media era. It examines how digital technologies are applied to cultural communication and evaluates their contribution to preserving and revitalising traditional Chinese culture. Drawing upon case studies involving digital museums, cultural programmes, and the digital preservation of ICH, the research identifies the mechanisms through which digital technologies facilitate cultural innovation and sustainable heritage transmission. In addition, the Palace Museum's "Digital Palace Museum" project is examined as a representative case to illustrate successful practices in digital cultural communication and to provide practical insights for other cultural institutions seeking digital transformation.

As globalisation and digitalisation continue to reshape cultural exchange, cultural communication faces both unprecedented opportunities and significant challenges. Balancing technological innovation with the preservation of cultural authenticity has become an essential consideration for policymakers, cultural institutions, and public administrators. By addressing these issues, this study seeks to provide a deeper understanding of effective communication strategies

for Chinese cultural symbols in the digital age, support the international dissemination and recognition of China’s outstanding traditional culture, strengthen cultural confidence, and contribute to sustainable social and cultural development.

Evolution of Digital Media Technology

Wireless Digital Transmission: The New Cornerstone of Large-Scale Events

Wireless digital transmission technologies, particularly the emergence of 5G networks, have created new opportunities for the organisation and delivery of large-scale events. Their high bandwidth, ultra-low latency, and reliable connectivity enable the real-time transmission of high-definition multimedia

content, significantly improving communication efficiency and audience experience. Compared with conventional wired transmission systems, wireless technologies offer greater operational flexibility by removing physical cable constraints, thereby supporting more dynamic event environments and enhancing interactive engagement (Anglani et al., 2023). Within this technological framework, digital content is no longer confined to a single display platform but can be synchronously distributed across multiple devices while enabling real-time interaction between audiences and digital content. These capabilities contribute to more immersive, engaging, and impactful cultural experiences (Junaedi et al., 2023). The evolution of video transmission technologies is illustrated in Figure 1.

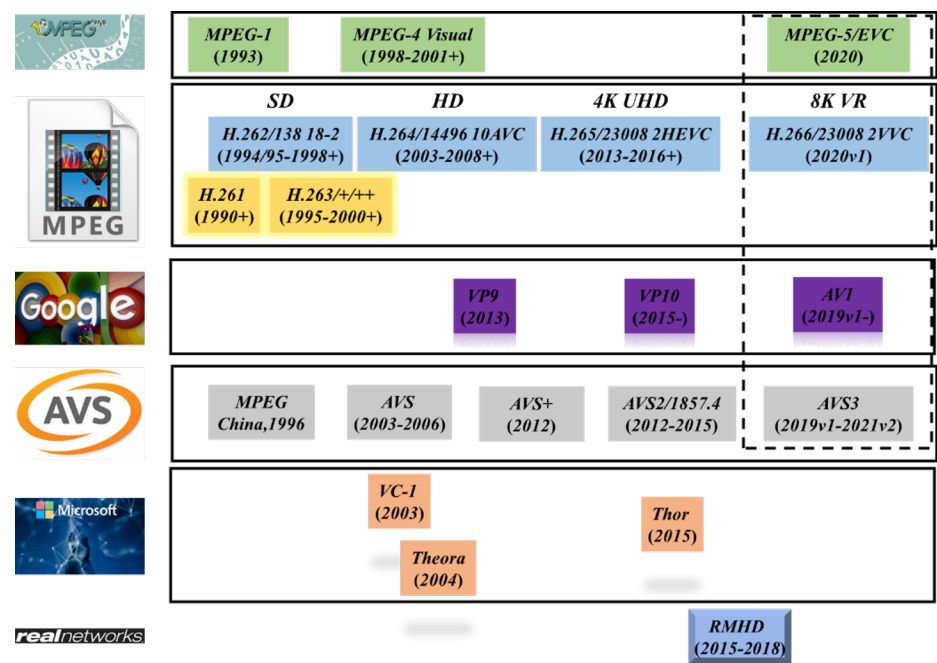


Figure 1: Video Coding Development.

The Combination of LED and Electronic Sensing Technology

The rapid expansion of digital art and place-based promotional strategies has significantly increased the demand for advanced visual communication technologies, driving the widespread adoption of LED display systems across diverse settings. From large commercial complexes to exhibition spaces in smaller organisations, LED displays have become an essential medium for information dissemination

and brand promotion. Their ability to deliver vivid, high-resolution digital imagery enables audiences to interpret promotional content quickly while effectively conveying key organisational messages. In major cultural events, such as the Spring Festival Gala, the deployment of ultra-large LED screens has transformed conventional stage design by extending visual space, enhancing audience immersion, and showcasing China’s technological achievements (Leso et al., 2023).

Regardless of scale, LED display systems create powerful visual experiences through dynamic

imagery and real-time internet-based control, allowing stage content to respond instantly to performance requirements. These capabilities support more diverse forms of artistic expression, strengthen visual appeal, and enrich narrative presentation, thereby improving audience engagement, comprehension, and cultural identification. Consequently, LED technology has become a fundamental component of contemporary large-scale cultural events, where visual communication plays a central role in delivering memorable audience experiences.

The application of digital media art within large-scale events extends beyond display technologies to encompass the comprehensive integration of multiple design elements. Successful event production relies on the coordinated interaction of symbolic design, multidimensional visual presentation, lighting systems, colour schemes, audio technologies, performance props, suspension and stage replacement mechanisms, costumes, and make-up. Digital media art therefore represents a holistic creative process that unifies spatial and temporal visual expression while continuously evolving to reflect broader social and technological

developments (Gfrerer et al., 2021; Massi et al., 2020).

By integrating visual space, temporal dynamics, sound, colour, texture, movement, and interactive effects, digital media art provides audiences with rich, immersive, and multisensory experiences. Adopting an audience-centred perspective, contemporary stage design follows an integrated systems approach in which every individual component contributes to the overall performance rather than functioning independently. This emphasis on unity strengthens the interdependence of design elements, enabling them to complement one another and collectively maximise both artistic quality and functional effectiveness (Wrede et al., 2020). Recent technological advances have further expanded the application of digital media art in large-scale cultural events, making it an increasingly important area of research and practice. In particular, the integration of LED lighting with electronic sensing technologies has introduced new possibilities for intelligent, responsive, and immersive stage environments, representing one of the most significant innovations in modern event production. The overall system framework is presented in Figure 2.

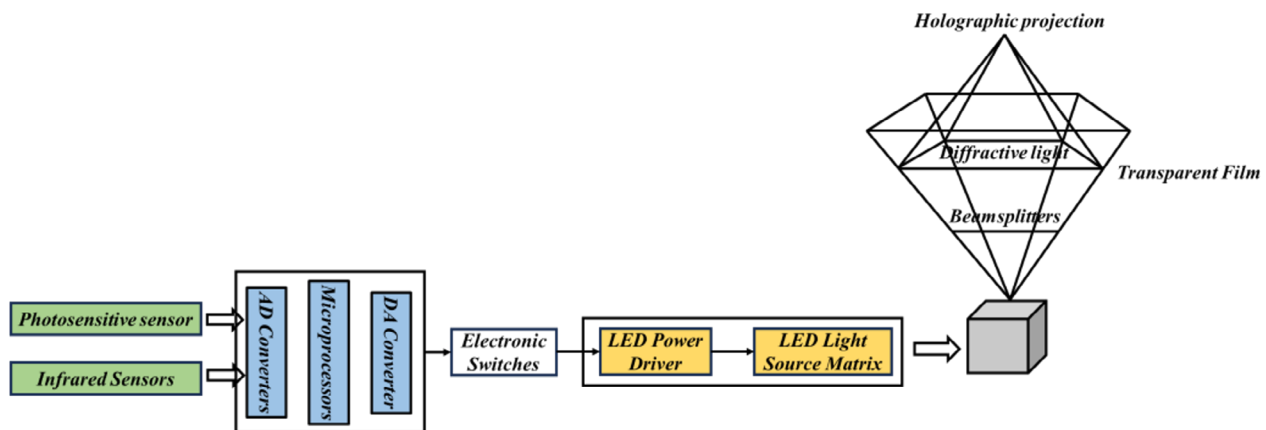


Figure 2: Sensor and LED Lighting System Frame Diagram.

The Combination of Full Projection Technology and Image Technology

Unlike conventional stage production systems, contemporary digital media platforms employ a unified central control architecture in which media servers coordinate the entire operational workflow. These servers integrate and process data from multiple input sources while performing advanced video-processing functions, including image segmentation,

layering, compositing, and other digital rendering techniques. Such capabilities continuously optimise visual quality, improve image realism, and enhance the overall viewing experience by delivering more dynamic and engaging presentations. The ongoing convergence of digital and optical technologies has further transformed digital media art, making the integration of holographic projection and advanced imaging technologies a defining feature of contemporary artistic production. This technological

fusion provides artists with innovative tools for redefining the relationship between physical and virtual spaces, enabling the creation of immersive visual environments that transcend the limitations of traditional media.

The foundations of holographic technology can be traced to the 1960s, when advances in laser technology accelerated its development. Holography operates by exploiting light-wave interference to record both the amplitude and phase information reflected from an object. During reconstruction, this information reproduces highly accurate three-dimensional images, including depth perception and viewing parallax from multiple perspectives, thereby generating visual representations that closely resemble the original physical objects (Cichosz et al., 2020). Recent technological progress has extended digital imaging beyond conventional three-dimensional visualisation towards fully interactive and immersive experiences. Modern holographic systems support 360-degree, multi-angle, and multidimensional image presentation, allowing audiences to interact directly with digital artworks rather than simply observing them. This enhanced level of interactivity strengthens audience engagement, enriches artistic appreciation, and creates a powerful sense of presence, enabling viewers to experience virtual environments as though they were physically immersed within the visual scene.

Combination of Human-Computer Interaction Technology and Virtual Reality Technology

The continuous advancement of media-space technologies has significantly broadened the creative possibilities of digital media art. Rather than remaining passive observers, audiences are now able to navigate digital environments, explore artistic content freely, and engage with works from multiple perspectives. VR technologies exemplify this transformation by enabling users to enter simulated artistic spaces where they can interact directly with digital content. Such immersive experiences strengthen emotional engagement, enrich aesthetic appreciation, and allow audiences to establish deeper personal connections with artistic works.

Despite these advantages, the increasing interactivity enabled by media-space technologies also introduces several conceptual and practical challenges. Audience participation in the creative

process can generate multiple interpretations of a work, potentially altering or diluting the creator's original artistic intent. Moreover, individual differences in perception, prior experience, and behavioural preferences may result in highly varied interactive experiences, with different users constructing distinct interpretations and responses to the same digital environment (Wrede et al., 2020). Technical considerations further influence user experience, as the reliability, responsiveness, and stability of digital systems directly affect audience satisfaction. System malfunctions or poorly implemented interactions may disrupt immersion and reduce the effectiveness of digital communication.

Consequently, media-space technologies are fundamentally redefining the relationship between audiences and artistic works by transforming viewers from passive recipients into active participants and, in some cases, co-creators of cultural experiences. While this evolution promotes artistic innovation and enhances audience engagement, it also requires careful coordination between technological capabilities, creative design, and communication objectives. Achieving an appropriate balance between immersive interactivity and the preservation of artistic authenticity is essential to ensuring that digital experiences remain meaningful without compromising the original intent of the work. Such balance enables media-space technologies to continue driving innovation in digital media art while fostering stronger and more meaningful connections between audiences and cultural content.

At present, VR head-mounted displays are increasingly deployed in large-scale cultural events (see Figure 3). Among immersive visualisation technologies, the Cave Automatic Virtual Environment (CAVE) system represents one of the most influential stereoscopic projection platforms. Initially developed for scientific visualisation and industrial design applications, the CAVE system integrates high-resolution stereoscopic projection, multi-channel image synchronisation, three-dimensional computer graphics, audiovisual technologies, and motion-sensing systems to create fully immersive three-dimensional environments. This integrated technological framework provides users with realistic spatial experiences and has become an important platform for advanced visual communication and interactive cultural presentation.

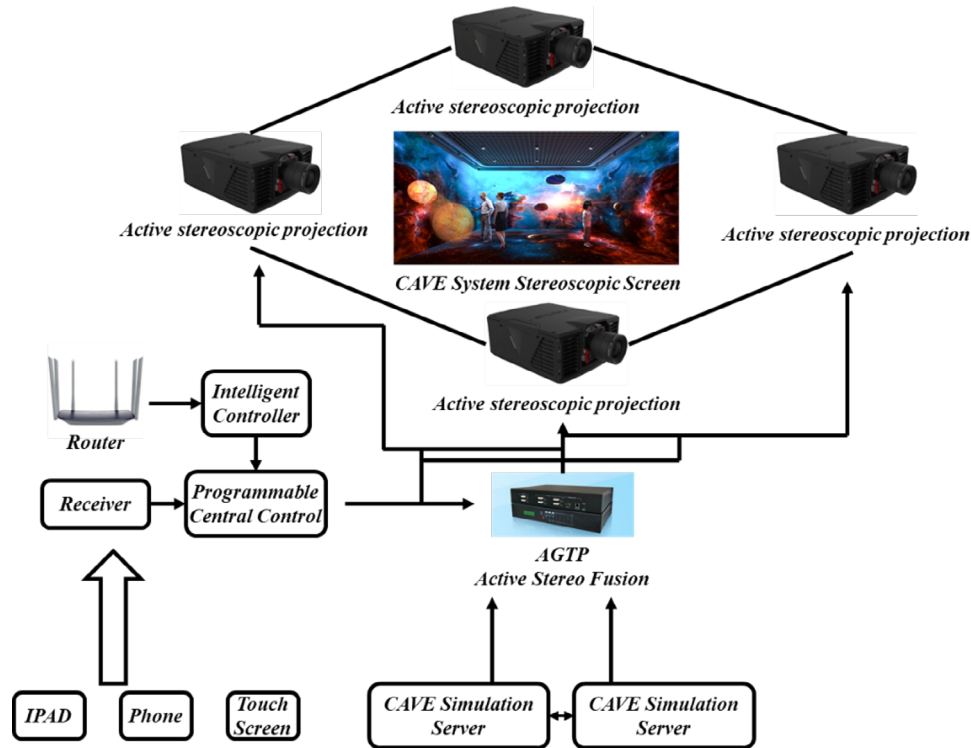


Figure 3: Flow Chart of CAVE Virtual Simulation Large-Screen Fusion System Solution.

Chinese Cultural Symbols Number Expression Types

The digital presentation of China's outstanding traditional cultural symbols is primarily realised through three approaches: the digital exhibition of museum collections, the digital production of cultural programmes, and the digital preservation of intangible cultural heritage (ICH). These digital initiatives revitalise traditional culture by disseminating cultural knowledge, reconstructing historical narratives, and presenting cultural heritage in engaging and accessible formats. As a result, they stimulate public cultural memory, attract widespread social attention, and encourage greater awareness of cultural heritage conservation. More importantly, digital communication enhances public understanding and appreciation of China's outstanding traditional culture, thereby strengthening cultural identity, reinforcing cultural confidence, and promoting the sustainable transmission of cultural heritage across generations.

Digital Display of Museum Collections

The rapid advancement of digital technologies has transformed virtually every aspect of daily life, including cultural preservation, education, and

public engagement. Museums have consequently evolved beyond their traditional role as repositories for artefacts and artworks to become dynamic platforms for cultural education, communication, and knowledge dissemination. This transformation has strengthened their role as important destinations for cultural learning and recreational activities, attracting increasingly diverse audiences (Santos et al., 2023). Compared with conventional museums, digital museums overcome many of the physical and operational limitations associated with traditional exhibition models. Rather than focusing primarily on collections, they adopt a visitor-centred approach that emphasises audience engagement, personalised experiences, and interactive participation. This shift enables museums to respond more effectively to the demands of the digital era while accommodating diverse visitor preferences and contemporary modes of cultural consumption.

The technological changes accelerated by the COVID-19 pandemic further highlighted the importance of digital transformation within museum operations. By integrating advanced digital technologies, museums have expanded beyond physical exhibition spaces to offer virtual and hybrid experiences that complement their conventional

functions. These digital exhibition models provide greater accessibility, richer interpretive content, and more immersive visitor experiences, thereby enhancing the overall effectiveness of cultural communication. The growth in the number of museums is presented in Figure 4. Likewise, changes

in the frequency of museum-related reports across different historical periods provide an indication of the evolving significance of museums within public discourse. An increase in reporting generally reflects greater public attention and a stronger institutional role in cultural communication.

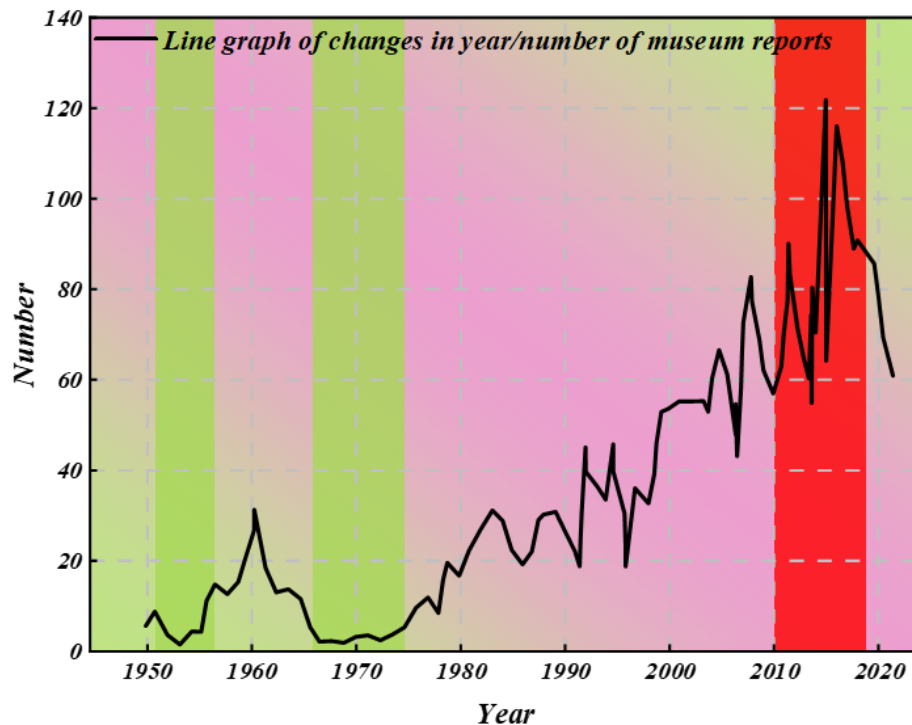


Figure 4: Line Chart of the Number of Museum Reports from 1949 to 2022.

The advancement and widespread adoption of digital technologies have fundamentally transformed information exchange and reshaped the communication strategies employed by museums. Traditional museum communication, which largely relied on passive and one-way information delivery, has evolved into an immersive, interactive, and audience-centred model. By integrating advanced digital technologies, museums have revitalised cultural innovation, enabling visitors to experience immersive environments, multisensory interactions that blend virtual and physical elements, and realistic reconstructions of historical settings and characters.

Contemporary digital museums increasingly employ VR technologies to develop three-dimensional digital cinemas and utilise 360-degree holographic projection systems to merge virtual and real-world experiences. These technologies generate highly realistic visual environments that blur the distinction

between physical and digital spaces, providing audiences with richer visual content and more engaging, interactive viewing experiences. Such immersive exhibition environments strengthen the connection between visitors and cultural artefacts, allowing audiences to explore historical and cultural narratives more deeply while enhancing the effectiveness of cultural communication through direct experiential engagement. Driven by digital transformation, museum exhibition design has shifted from conventional artistic presentation towards intelligent, networked, and technology-enabled cultural experiences. This transition has encouraged the development of a wide range of innovative “culture + technology” digital products that align with the evolving demands of the digital era and support more effective preservation, interpretation, and dissemination of cultural heritage (Table 1).

Table 1: Lists of Some Digital Museums.

Name	Digital Exhibition Hall	Cultural Creation
The Forbidden City	Thematic Digital Experience Exhibition	Daily Forbidden City
Henan Museum	Great China, Zezhong Built the Capital	Online Archaeology
Chengdu Museum	Chinese Leather Shadow Exhibition	Terracotta Warriors

Digital Creation of Cultural Programs

China's outstanding traditional culture embodies thousands of years of historical development and provides a rich foundation for contemporary media production and cultural communication. Within today's audio-visual communication environment, traditional cultural elements are increasingly reinterpreted through innovative digital narratives and creative multimedia formats, allowing them to integrate more effectively into modern social contexts. This transformation supports both the creative reinterpretation and innovative development of traditional culture while making its historical significance and cultural values more accessible to wider audiences (Cichosz et al., 2020).

The rapid advancement of digital technologies has further reshaped the communication of traditional Chinese culture, extending cultural expression well beyond conventional television broadcasting. Contemporary digital platforms now support diverse forms of audio-visual storytelling that combine

advanced production techniques with interactive digital media. Representative examples include “Digital Forbidden City”, “National Treasure”, “Tang Palace Banquet”, “Lantern Festival Wonderful Night”, and “Mid-Autumn Festival Wonderful Tour”, all of which demonstrate the effective integration of digital technologies into cultural production and dissemination (Table 2).

These influential digital cultural programmes have made substantial contributions to the preservation, revitalisation, and transmission of China's outstanding traditional culture. By combining technological innovation with compelling audio-visual storytelling, they have strengthened cultural communication, promoted mainstream cultural values, reinforced national identity, and expanded public engagement with traditional heritage. Consequently, they have emerged as distinctive and influential examples of digital cultural communication, illustrating the transformative role of digital media in preserving and promoting Chinese cultural heritage in the digital era.

Table 2: “Chinese Festivals” Series Programs.

Name	Year	Representative Programs
Spring Festival	2021-2023	Tang Palace Night Banquet
Institution	2021-2023	The Battle of the Stars
Qingming	2021-2023	The Ching Ming Guests
Dragon Boat Festival	2021-2022	The Lillies
Tanabata	2021-2022	Dragon Gate King Kong
Mid-Autumn Festival	2021-2022	The Fireworks of the World

The digital production of cultural programmes has capitalised on the opportunities created by media convergence, strategically integrating multiple communication platforms to expand the reach and impact of traditional Chinese culture. By leveraging the advantages of digital media, producers have combined innovative storytelling, high-quality audio-visual production, and cross-platform dissemination to engage diverse audiences and enhance cultural communication. By the end of 2022, “Tang Palace Banquet”, a landmark programme celebrating Tang Dynasty culture in Henan Province, had achieved remarkable online success. The programme generated

widespread public discussion, consistently ranked among the most popular online topics, accumulated approximately 2.5 billion topic views, and received more than 3 billion online clicks. Its popularity remained strong through the Lantern Festival Gala, encouraging Henan Satellite TV to launch the “Chinese Festivals” programme series as a continuation of its successful cultural communication strategy (Hylland et al., 2024).

Subsequent productions, including “Dragon Boat Festival Adventure” (2022), comprising six chapters and seven performances over 57 minutes, and “Mid-Autumn Festival Adventure” (2022), featuring

six chapters and thirteen performances over 75 minutes, further demonstrated the effectiveness of this approach. The “Chinese Festivals” series was designed around audience viewing preferences, employing concise, story-driven content and diversified digital communication channels to maximise accessibility and engagement. By incorporating traditional festival rituals into contemporary digital narratives, these programmes created effective platforms for cultural

sharing and public participation. Through compelling storytelling and immersive audio-visual presentation, they communicated the cultural values and spiritual significance associated with traditional festivals while strengthening emotional connections between audiences and national heritage. This approach stimulated collective cultural memory, reinforced national identity, and contributed to the sustainable transmission and revitalisation of traditional Chinese culture (Table 3).

Table 3: The Effect of Digital Technology in the Creation of Cultural Programs.

Name	Digital Technology	Hits	Dissemination Effect
Dragon Boat Adventure	Short Video	Over 200 Million	Enhancement of Social Identity
National Treasure	Digital Animation, Cross-Media Communication	Over one Billion	Raise Awareness of Cultural Preservation
Fantastic Night of Lights	Panoramic Live Streaming	Over 300 Million	Enhance Audience Immersion

Digital Inheritance of Intangible Cultural Heritage

China has actively advanced the integration of digital technologies into the preservation and transmission of intangible cultural heritage (ICH). Since 2015, the Ministry of Culture and Tourism has implemented a nationwide digital preservation programme that employs multimedia technologies to systematically document thousands of nationally recognised ICH inheritors. These digital records have facilitated the preservation, research, utilisation, and public sharing of valuable cultural resources, thereby strengthening the long-term sustainability of ICH conservation. Furthermore, the extensive reach of the internet and digital media has enabled the establishment of online ICH exhibition platforms that reduce the generational gap between young people and traditional cultural practices by encouraging broader awareness, participation, and engagement (Longo and Faraci, 2023).

The importance of digital communication became particularly evident during the period of routine COVID-19 prevention and control, when internet-based platforms ensured the continued accessibility of ICH resources despite restrictions on physical gatherings. Through online exhibitions, live-streamed demonstrations, and interactive discussions,

audiences were able to experience and appreciate the richness of traditional cultural practices regardless of geographical location, significantly expanding the reach of cultural communication. Contemporary ICH museums increasingly utilise advanced digital technologies, including virtual reality (VR), augmented reality (AR), and three-dimensional holographic projection, to transform conventional exhibitions into immersive and interactive cultural experiences. These technologies effectively “activate” heritage exhibits by recreating authentic cultural environments in which visitors can engage with traditional practices in dynamic and meaningful ways.

Digital platforms allow audiences to virtually attend folk performances, observe the creation of traditional handicrafts such as paper-cutting, and participate in culturally significant events, including Uyghur wedding ceremonies, thereby experiencing the authenticity of living cultural traditions beyond the constraints of physical space. By integrating immersive technologies with heritage preservation, digital transformation has fundamentally redefined the exhibition and dissemination of intangible cultural heritage. This technological evolution has enhanced visitor engagement, strengthened cultural education, and created new opportunities for the preservation, promotion, and sustainable transmission of ICH in the digital era (Table 4).

Table 4: Lists Part of the Intangible Cultural Heritage Digitalization.

Workplaces	Project	Type	Technical Means
Sichuan	Leather Shadow, Shu Embroidery	Traditional Handicraft	VR, AR, 3D
Guizhou	Horsetail Embroidery, Dong Songs	Folk Art, Traditional Handicrafts	VR, Human-Computer Interaction
Xiangxi	Hanging Foot Wooden Buildings, Miao Flower Picking	Folk Art, Traditional Handicrafts	VR, AR, Human-Computer Interaction

Case Study on the Development of “Digital Palace Museum” in the Palace Museum

The development of the “Digital Palace Museum” is founded on continuous innovation in management practices, exhibition methods, and digital application development. As a result, digital infrastructure has become the fundamental resource supporting the preservation, management, and dissemination of the Palace Museum’s cultural heritage. The emergence of big data as a strategic asset has accelerated digital transformation across multiple sectors, and the Palace Museum has similarly relied on information technologies to strengthen cultural conservation and public engagement. Supported by continuously updated national policies, its digital systems have undergone regular optimisation, with new functions introduced to improve operational efficiency and service quality. To enhance institutional management, the Palace Museum has progressively standardised its digital governance framework. Information-based management systems have been established for cultural relic circulation, archival administration, ancient architecture conservation, and visitor information management, creating an integrated operational platform that supports efficient resource management while reducing redundant system development and unnecessary duplication of effort. This comprehensive digital infrastructure has significantly improved the efficiency and standardisation of museum operations.

Building upon its digital collection resources, the Palace Museum has also developed an integrated cultural sharing platform that broadens public access to cultural knowledge and academic resources. By consolidating diverse digital heritage assets into a unified platform, the museum promotes data sharing, interdisciplinary research, educational activities, and cultural exchange among both domestic and international audiences. Furthermore, the establishment of standardised database specifications and management protocols has ensured the systematic advancement of digital preservation initiatives. These practices are supported by operational and maintenance procedures aligned with internationally recognised ISO quality management standards, providing a stable foundation for the museum’s long-term digital development.

Through sustained technological innovation and

systematic institutional reform, the Palace Museum has successfully established a mature digital operational ecosystem that continues to strengthen its capacity for cultural preservation and communication. The evolution of digital communication within the Palace Museum can be observed through changes in reporting categories, including news, communication, feature stories, special reports, commentaries, and related formats (Figure 5). During the periods 1949–1966 and 1966–1978, news reports dominated museum coverage, accounting for 78.1% and 88.9% of total reports, respectively. This pattern indicates that museum communication during the early stages of socialist construction and the subsequent period of developmental stagnation primarily focused on factual reporting and historical documentation.

Following 1978, although news remained the predominant reporting format, the proportions of newsletters, feature articles, special reports, and review-based publications increased noticeably. This shift reflects the gradual diversification of museum communication and the growing emphasis on broader interpretative and analytical perspectives. Notably, review articles reached their highest proportion during this period, accounting for 5.7% of all reports, suggesting that media organisations increasingly incorporated evaluative perspectives and institutional interpretations into museum-related communication.

In the new era of socialism with Chinese characteristics, the communication landscape experienced a more substantial transformation. News reporting no longer represented the dominant format, while special reports became the most prevalent category, accounting for 35.6% of total coverage. This transition demonstrates an increasing emphasis on comprehensive, thematic, and in-depth reporting that highlights museum development, cultural preservation, and institutional innovation. At the same time, the relatively balanced distribution among news, communication, feature stories, and special reports indicates a more diversified and mature digital communication framework.

Despite these changes, commentary articles, which most explicitly express media perspectives and editorial positions, remained limited throughout all four historical periods. Rather than directly communicating ideological viewpoints, media organisations have generally shaped public perceptions by constructing collective cultural and historical memory through diverse reporting formats. This

indirect communication strategy has enabled museums to strengthen public understanding of cultural heritage

while encouraging broader social engagement with China's historical and cultural legacy.

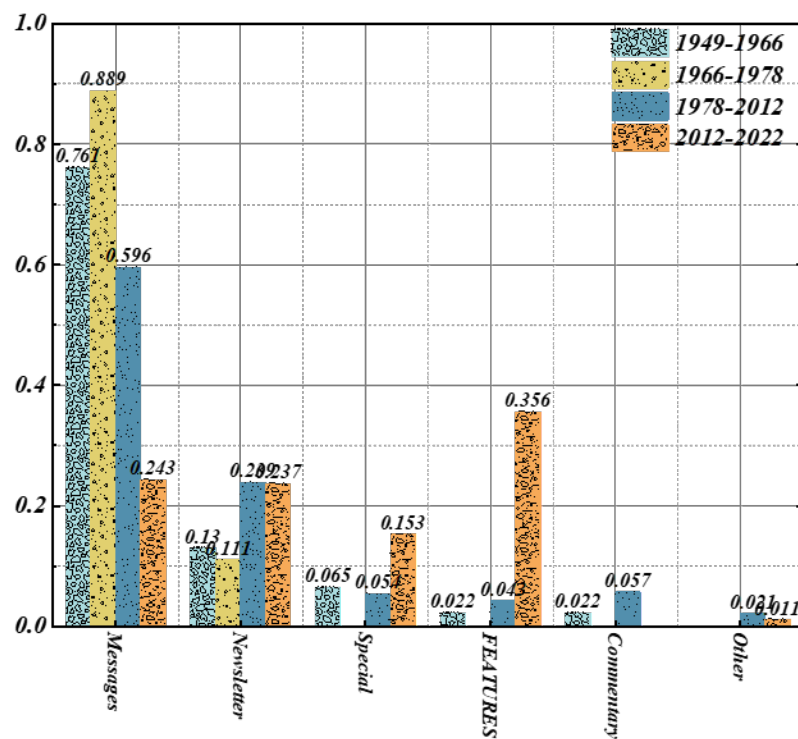


Figure 5: News Reports in Different Periods.

Take “Technology + Interaction + Culture” as the Foothold

The development framework of the “Digital Palace Museum” is centred on the integrated concept of “technology + interaction + culture”, with these three components collectively shaping its digital communication strategy. Rather than functioning independently, technological innovation, interactive engagement, and cultural interpretation operate as complementary elements that support the preservation, presentation, and dissemination of cultural heritage. Technology serves as the foundation of the “Digital Palace Museum” and provides the infrastructure upon which its digital transformation is built. Future development should continue to emphasise the effective application of emerging technologies by evaluating their practical suitability rather than adopting them solely because they represent the latest technological trends. This principle ensures that technological innovation remains purpose-driven and aligned with the museum’s cultural mission. Looking ahead, the integration of AI is expected to further expand the

capabilities of the digital platform, enhancing content management, personalised visitor experiences, and intelligent cultural services.

Technology also underpins multiple forms of interaction, including human-computer, machine-to-machine, and visitor-to-visitor communication, thereby creating richer and more engaging cultural experiences. Since 2010, the “Digital Palace Museum” has increasingly focused on immersive virtual environments, launching a series of digital exhibitions that employ VR technologies to establish interactive spaces for cultural exploration. These immersive environments enable visitors to communicate directly with one another while simultaneously interacting with digital cultural content through advanced human-computer interfaces. Although technology and interaction provide the mechanisms for engagement, the ultimate objective of this development model remains the effective communication of cultural values.

A common misconception surrounding the digital preservation of cultural heritage is the assumption that technological sophistication alone

guarantees successful cultural communication. In reality, digital reproduction that lacks meaningful cultural interpretation often provides only temporary sensory stimulation, leaving audiences with limited understanding of the historical and cultural significance of the exhibited content. Technology and interactive design therefore function as facilitators rather than substitutes for cultural interpretation. Only when supported by rigorous, authentic, and well-contextualised cultural narratives can digital technologies fulfil their educational and communicative potential.

Throughout the “technology + interaction + culture” framework, cultural value remains the central organising principle. Digital cultural products have generated an expanding market for cultural production and consumption by offering audiences diverse forms of engagement that accommodate different interests and preferences. Whether through augmented reality (AR) and VR exhibitions of Palace Museum collections, dedicated mobile applications, or digital recreations developed in the form of interactive games and animations, the “Digital Palace Museum” consistently reinterprets and re-encodes cultural heritage in engaging and accessible ways. This approach promotes the creative transformation and innovative development of traditional Chinese culture while preserving its historical authenticity.

In recent years, the Palace Museum has further strengthened this strategy through collaborations with game developers to create large-scale digital experiences inspired by imperial history and traditional Chinese culture. One representative example is the puzzle-solving mobile game “Painting Zhen · Fine Brush Thousand Mountains”, developed in partnership with NetEase. Such collaborations illustrate how digital entertainment can be integrated with cultural education to enhance public engagement, broaden the dissemination of cultural heritage, and encourage greater appreciation of China’s outstanding traditional culture.

Take “Internal Integration + External Cooperation” as the Fulcrum

The development model of the “Digital Palace Museum” is characterised by the integration of multiple disciplines, professional expertise, and technological approaches while actively fostering collaboration with a broad range of external stakeholders. This multidimensional strategy has strengthened the

museum’s capacity for cultural preservation, technological innovation, and public engagement. Internally, the Palace Museum combines advanced digital technologies with traditional conservation techniques to support the restoration, documentation, and scholarly investigation of cultural relics. Its interdisciplinary research teams bring together specialists from diverse academic and professional backgrounds, allowing expertise from different fields to be integrated into collaborative research initiatives and the development of emerging areas of cultural heritage studies. In addition to technological and disciplinary integration, the museum employs multiple communication approaches, including digital exhibitions, interactive experiences, educational platforms, games, and cultural entertainment, thereby redefining the contemporary museum as a multifunctional cultural institution.

Externally, the Palace Museum has moved beyond a development model based solely on internal resources by establishing extensive partnerships with universities, research organisations, technology companies, and other social institutions. Through cross-sector collaboration, it has introduced advanced digital technologies, expanded applied research, and encouraged wider social participation in the preservation and dissemination of Palace Museum culture. Since 2003, the Palace Museum has collaborated with the Digital Application Research Institute for the Cultural Assets of the Palace Museum to introduce internationally advanced digital technologies that support the conservation and digital presentation of its collections. These collaborative efforts have resulted in a series of virtual reality (VR) projects, including “The Forbidden City”, “The Palace of the Son of Heaven”, “The Three Great Halls”, and “The Hall of Mental Cultivation”, which provide immersive digital experiences of significant historical sites.

In 2008, the Palace Museum partnered with IBM to launch the “Forbidden City beyond Time and Space” technological innovation project. As the primary cultural content provider, the museum supported the development of an internet-based virtual tour built upon a three-dimensional digital model of the Forbidden City’s architectural complex. The platform combined virtual exhibitions, online community functions, and game-based interaction, creating a comprehensive digital environment for cultural exploration. Further interdisciplinary collaboration was established in 2010 through a

partnership involving the Palace Museum, Peking University, and Microsoft Research Asia to develop the immersive audio-visual project “Riverside Scene at Qingming Festival”. Drawing upon extensive research into traditional Chinese painting appreciation, the project utilised Microsoft’s ICE and Silverlight technologies to create an original digital presentation that reflected the scattered-perspective composition characteristic of the historic artwork. This initiative demonstrated an effective integration of research, education, and technological innovation, highlighting the value of collaboration among cultural institutions, academia, and industry.

Subsequent collaborations further expanded the museum’s digital cultural ecosystem. The Palace Museum authorised NetEase to develop the mobile game “Drawing True · Fine Brush Thousand Mountains”, inspired by the celebrated painting “A Thousand Li of Rivers and Mountains”, thereby combining cultural education with interactive digital entertainment. In 2016, the museum established a strategic partnership with Tencent to jointly promote several “Culture × Technology” initiatives. The sustained cooperation between the two organisations over the following three years significantly advanced digital cultural innovation and opened new pathways for the preservation, communication, and creative transformation of China’s cultural heritage.

Break Down Barriers With “Internet Advantage”

In advancing the preservation and dissemination of its cultural heritage, the Palace Museum has progressively adopted a community-oriented development philosophy for the “Digital Palace Museum”. This approach seeks to establish stronger connections among digital products, remove barriers between users and cultural resources, and promote interaction among diverse audiences. By integrating cultural content, service functions, and public needs into a unified digital ecosystem, the museum has created a collaborative community that enhances cultural participation and strengthens public engagement.

The “Digital Palace Museum” aims to maximise the value of its expanding digital cultural resources by integrating multiple platforms into a unified cultural ecosystem. By combining cultural services, social interaction, and digital resource sharing within an online–offline environment, it extends cultural communication beyond traditional museum boundaries

and broadens public access to cultural knowledge. As a multifunctional digital platform, it delivers content through websites, mobile applications, social media, and immersive technologies such as VR and AR, enabling interactive learning, greater public participation, and enhanced accessibility to cultural heritage. The platform follows a development strategy that prioritises the construction of individual digital services before establishing connections among them, creating an integrated network of cultural products supported by social interaction. This interconnected architecture allows information providers, administrators, researchers, and the general public to exchange, access, and utilise cultural information efficiently regardless of time or location. As a result, the platform significantly enhances the sharing, management, and utilisation of cultural resources.

Structurally, the “Digital Palace Museum” community comprises eight core functional modules: social interaction, cultural exhibition, information dissemination, visitor guidance, academic exchange, public education, leisure and entertainment, and e-commerce. Together, these interconnected functions have transformed the traditional museum model by shifting cultural provision from a venue-based service to an integrated digital experience embedded in everyday life. Through this community-centred approach, the Palace Museum has enabled its cultural heritage to become more accessible, engaging, and relevant to the public, allowing the culture of the Forbidden City to be experienced naturally as part of contemporary lifestyles.

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Conclusion

This study systematically examines the communication strategies and influence of Chinese cultural symbols in public management from the perspective of digital media evolution. The findings demonstrate that digital technologies have fundamentally transformed cultural communication by strengthening cultural governance, enhancing public participation, and promoting cultural identity. Museum

communication has shifted from predominantly news-based reporting (78.1% during 1949–1966) to more thematic and analytical coverage, with special reports accounting for 35.6% in the new era of socialism with Chinese characteristics, reflecting a transition from one-way information delivery to interactive, knowledge-oriented communication. Digital cultural programmes have also expanded the reach of traditional Chinese culture, as illustrated by “Tang Palace Banquet”, which generated more than 3 billion online views, highlighting the role of technologies such as 5G and AR in increasing audience engagement and global cultural influence. Likewise, the Palace Museum’s “Digital Palace Museum” project demonstrates the successful integration of “technology + interaction + culture” through the application of 3D modelling, VR, and interactive digital platforms developed in collaboration with organisations including IBM, Microsoft, and Tencent, thereby improving cultural preservation, resource sharing, and public engagement. Overall, the study underscores the strategic importance of digital technologies in cultural governance and recommends strengthening digital cultural infrastructure, promoting cross-sector collaboration, and expanding the application of emerging technologies such as AI, big data, and blockchain to establish a more intelligent, efficient, and sustainable cultural communication system while enhancing the global dissemination and long-term vitality of China’s outstanding traditional culture.

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