Meta-Universe Empowers Huaihe Culture Dissemination and Management

Dan Wu[1,2]

[1]Business Administration, Woosong University, Daejeon, South Korea
[2]School of Arts, Fuyang Normal University, Fuyang, China
Email: 502927582@qq.com

Abstract

The meta-universe stands as a paradigmatic embodiment of emerging digital technologies and cultural trends, representing the ultimate digital medium that seamlessly intertwines the present and the future, the tangible and the virtual. It serves as a catalyst for boundless human imagination and exploration across various domains, including infrastructure, virtual economy, social interaction, and educational reform. This paper delves into the potential applications of the meta-universe within the realm of Huaihe cultural communication and management. Specifically, the focus is on constructing virtual cultural scenes and implementing gamified communication strategies. Additionally, attention is given to the industrial empowerment derived from virtual digital cultural collections, the innovation of cultural communication formats, and the collaborative creation and sharing of virtual cultural education initiatives. The goal is to probe the possibilities of elevating the Huaihe cultural communication paradigm, enhancing its effectiveness within the meta-universe. Key areas of exploration encompass the development of virtual cultural scenes, the gamification of communication, the utilization of virtual digital cultural collections for industrial empowerment, innovative forms of cultural communication, and collaborative efforts in virtual cultural education. The overarching objective is to advance the Huaihe cultural communication paradigm within the dynamic landscape of the meta-universe, optimizing its overall effectiveness.

Keywords

Meta-Universe, Huaihe Culture, Gamified Communication, Cultural Education

1. Introduction

The concept of the metaverse made its debut in the 1992 American science fic-

tion novel Snow Crash, where characters coexisted with virtual entities in virtual spaces using VR equipment (Stephenson, 1992; Yu, 2021). In 2018, the film "Top Gamer" envisioned a virtual game universe named "Oasis," representing a figurative manifestation of the metaverse. In 2021, Facebook rebranded to Meta, signaling its commitment to developing the metaverse and creating a new digital virtual world across socialization, gaming, work, and education. In essence, the metaverse integrates various technologies, including artificial intelligence (AI), extended reality (XR), and blockchain. It relies on virtual interactive interfaces and devices, encompassing crucial elements like identity, social connections, immersion, low latency, diversity, ubiquity, economy, civilization, etc. (Zhang, Dou, & Ren, 2022). It epitomizes the future convergence of internet elements such as the internet, virtual reality, immersive experiences, industrial internet, cloud computing, and digital twins. Essentially, it represents "the future fusion of Internet, virtual reality, immersive experience, industrial Internet, cloud computing, and digital twins." (Yu & Geng, 2022). The concept of a meta-universe, in essence, involves establishing a parallel universe using digital technology. This digital realm offers individuals the freedom to create beyond the constraints of the natural universe. Moreover, it facilitates a more comprehensive understanding and utilization of the natural universe through exploration within the digital counterpart (Huang & Cao, 2022).

In this burgeoning research field, scholars have actively delved into understanding the metacosmos—what it is, why it merits emphasis, and how China can navigate its trajectory in various application scenarios. Noteworthy investigations span science and technology (Wang et al., 2022), the economy (Yuan, 2022), education (Guo et al., 2022a; Hu & Yu, 2022), and social governance (Gao, & Sui, 2022). Within the domain of journalism and communication, the focus is on harnessing metaverse technology in media (Chen & Huang, 2022; Zheng Manning, 2022). This exploration centers on the significance and value of the metaverse as a transformative "medium" connecting diverse worlds. It probes the dynamic relationships between humans and other humans, humans and media, and media and society. In the realm of cultural communication, attention is directed toward metacosmic content production and its application in cultural tourism.

Huaihe culture encompasses a diverse array of cultural elements within the Huaihe River Basin. This regional culture is marked by its emphasis on basin culture, particularly centered around water conservancy practices. It draws influence from Confucianism and Taoism, forming a distinctive cultural identity that sets it apart from the cultures of the Anhui River and Huizhou. In Huaihe culture dissemination studies, researchers initially unearth Huaihe cultural resources and spiritual connotations, constructing a knowledge system for Huaihe culture. Subsequently, they focus on scrutinizing dissemination strategies and challenges across different media types, seeking novel avenues for dissemination. Taking the meta-universe as the prospect for the next-generation situational

field, this paper explores the enhancement of the existing communication paradigm of Huaihe culture in the meta-universe. The exploration encompasses cultural games, cultural and creative industries, cultural communication, and cultural education, aiming to unveil new possibilities for Huaihe culture communication within the dimensions of the evolving meta-universe.

2. Meta-Universe & Game: Scene Building and Gamification Cultural Experience

The China Game Industry Report for 2022 reveals that the Chinese game user base reached 664 million in 2021. Within the top 100 mobile game revenue products, the role-playing & self-created IP category claimed the largest share. Notably, metaphysical/magical fantasy, cultural fusion, and modern themes emerged as the most popular thematic elements. Games extend beyond entertainment and leisure, finding applications across various societal domains. Particularly noteworthy is the adoption of functional games and the implementation of "gamification," (He & Li, 2021), a practice involving the extraction of features and mechanisms from games. This approach entails creating specialized game scenes or incorporating game elements into non-game contexts, encouraging active user participation through the engaging and immersive nature of games.

For instance, consider the ancient-style simulation and management handheld game "Jiangnan Hundred Scenes." In this mobile game, players delve into the backdrop of Ming Dynasty Jiangnan region cities, including Yingtianfu (today's Nanjing City), Suzhoufu, Hangzhoufu, Songjiangfu (today's Shanghai City), adopting roles as residents with varying grades and identities. Players engage in activities such as building construction, layout planning, operational endeavors for financial gain, and arranging daily life. The historical characters and scenes within the game are meticulously grounded in history, seamlessly intertwined with cultural elements like painting and calligraphy, musical instruments, gardens, and intangible cultural heritage. Leveraging creative extensions of traditional festivals, living customs, and online/offline promotion of cultural tourism landscapes, the game fabricates the "Hundred Scenic Worlds of Jiangnan." This virtual realm offers a blend of immersive experiences and tangible cultural influence.

As a form closely aligned with the meta-universe, games have the capacity to extend across various scenarios encompassing economy, culture, and history. Players can immerse themselves in a virtual world, assuming virtual identities, and establish their own identities and social relationships in a space that combines immersion and diversity. Drawing inspiration from this, the innovative communication of Huaihe culture can explore two avenues.

Firstly, the design and planning of a multi-temporal simulation and experiential mobile game could be undertaken. This game could divide time and space into ancient, modern, contemporary, and future scenarios across various regions

of Anhui. Players would have the freedom to access any virtual scenario based on their interests, preferences, and chosen identity. For instance, in the ancient Huizhou scene, the layout could include Huimo landscapes, historical scenery, and authentic reconstructions of real remains (such as Chaohu's underwater city and the water world, Fuyang Wenfeng Pagoda). The architectural patterns, natural ecology, and real-world counterparts would be meticulously integrated. Historical figures would be positioned in alignment with corresponding historical phases, interwoven with poems, songs, folk skills, local opera, living customs, and culinary specialties. This approach allows players to experience "character entry" and "real-time follow," fostering a first-person immersive cultural experience. In modern scenes, the focus could be on scene restoration and memory evocation, featuring elements like a virtual rural bazaar and agricultural production activities. Through game-like participation, planning layouts, and simulated socialization, players can engage in interactive experiences whether physically present or not.

Secondly, engaging designs such as WeChat applets, mobile interactive products, embedded games, and VR/AR/MR real-life experiences can serve as gateways to broaden users' gamification experiences. Simultaneously, efforts can be directed towards "transforming users' gaming behavior into users' gaming social capital as well as valuable content messages." (Yu & Su, 2021). Exploring social communication features and promotion strategies within gaming scenarios can act as a bridge to connect with a broader meta-universe ecology.

3. Meta-Universe and the Virtual Digital Cultural Collections: Navigating the Blue Ocean

In the current era, expediting the advancement of the digital economy, fostering the profound integration of the digital economy with the tangible economy, and establishing internationally competitive digital industry clusters are pivotal for national economic growth. The metaverse, functioning as a significant platform facilitating synergy between the virtual realm and the real society, is emerging as a driving force for the global digital economy and the evolution of the digital technology industry. It presents boundless possibilities for new economic domains, the construction of novel infrastructure, the emergence of fresh occupations, and the creation of new jobs.

Virtual digital cultural collections, rooted in the NFT (Non-Fungible Token) framework, have garnered notable attention. Devised by Dieter Shirley, the founder of CryptoKitties, the world's pioneer blockchain game, in 2017, NFT serves as the fundamental data unit on the blockchain digital ledger. Each NFT designates a distinctive digital asset, be it a painting, sound, film, in-game item, or any other form of creative work. In the hands of consumers, it materializes as a digital model, an image, and a string of code, exhibiting traits of verifiability, uniqueness, indivisibility, and traceability.

In early 2022, CCTV collaborated with the Hubei Provincial Museum and

Tencent Group to introduce a limited edition chime clock digital collection, which garnered a substantial following. Similarly, the Anhui Museum employed 3D modeling of its cultural relics collection, harnessing digital technology to release three digital collectibles based on the design of cultural artifacts. These items were swiftly acquired upon their online debut, addressing the limitations of offline sales and bolstering cultural and tourism consumption. This approach also augmented the online dissemination and promotion capabilities of cultural and creative products.

The establishment of virtual digital cultural collections within the meta-universe framework, anchored in decentralized blockchain networks to secure ownership of cultural and creative works, holds profound significance. This approach facilitates easier validation of work rights for the general public, thereby significantly enhancing the vibrancy of the digital cultural and creative market and standardizing copyright protection for such works. The Huaihe River Basin, abundant in historical and cultural resources, plays a crucial role in expressing regional values and preserving traditional culture. In the realm of local cultural and creative economy, it is imperative to both innovate the concept and shape the developmental trajectory of the meta-universe, reinforcing the tangible with the virtual. Simultaneously, active measures should be taken in the creation of virtual digital cultural products, extracting value from traditional cultural intellectual property, fostering digital collection trading platforms, promoting the sharing of meta-visual scenes, and standardizing digital collection trading processes. These efforts aim to achieve seamless integration between offline and online realms and bridge the real-virtual gap within the cultural and creative industries. Furthermore, local enterprises can leverage cutting-edge technology research and development to establish a robust and high-quality content system, creating an optimal environment for creators. This strategic approach allows for the effective expansion of original cultural tourism, cultural blogging, and non-heritage industries through the standardized operation of digital collectibles industries, projects, and distribution platforms.

4. Meta-Universe & Communication: Many Possibilities for the Integration of Science and Technology and Art

The "14th Five-Year" Development Plan for Radio, Television, and Audiovisual Networks underscores the transformative impact of technologies such as 5G, big data, cloud computing, and blockchain on the public opinion ecosystem, media landscape, and communication modalities. In this new era, the focal point of our efforts is the proactive promotion of cutting-edge technologies, including big data, AI, and VR/AR, to unlock creative possibilities and delve into the depths of content production.

In 2021, Henan TV demonstrated its pioneering spirit by breaking new ground with "Night Banquet in Tang Palace." Subsequently, the network produced a series of short feature films that strategically aligned with traditional

Chinese festivals, seamlessly integrating science and technology with culture and art. Employing XR, holographic photography, digital imagery, and other synthesis technologies, Henan TV elevated traditional culture into a visually captivating presentation that transcended generations, time, and spatial boundaries, while reshaping discourse systems. This innovative approach yielded outstanding communication effects, marking a successful foray beyond conventional paradigms.

The basis for all the technical, social, and market value of the metaverse derives from its core media properties (Dai, 2022). The advent of the meta-universe era signifies a monumental shift, propelling humanity beyond the confines of the digital communication era into a realm characterized by multidimensional and transdimensional communication. This evolution gives rise to "a novel form of multidimensional and transdimensional information dissemination, collectively shaped by the real world, human interaction, media production, and intelligent algorithms." (Kuang, 2022). Within this framework, the virtual sense of presence, digital interactivity, and polymorphism converge to accentuate the creative prowess of cultural achievements, artistic excellence, historical richness, and innovative thinking. The result is a more three-dimensional, authentic, and all-encompassing cultural landscape (Fan & He, 2021). Advancements in Internet technology have ushered in a new media landscape, epitomized by platforms like WeChat, Weibo, and short videos, capable of establishing rapid information linkages. This facilitates cultural resonance within virtual scenes, and the experiential communication format of the meta-universe is poised to expedite this phenomenon. The continuous evolution of media technology and the innovative communication forms introduced by the meta-universe are leveling the playing field for mainstream media, commercial outlets, and self-media. This convergence not only resets the starting line but also opens up expansive opportunities for exploring capabilities and leveraging complementary advantages across the media spectrum.

The media serve as the crucial conduit between individuals and their various social relationships. Technological and conceptual advancements introduced by new media have the potential to revolutionize the dynamics of these connections. This transformation enhances the manner in which people engage with society, broadening both the resources and the space available to encapsulate human values, personalities, and lifestyles. Simultaneously, emerging media entities can adopt a "priori" and "leader" role in modes of thinking, operational strategies, technology innovation, and platform development. These media outlets serve as catalysts for activating and integrating diverse cultural elements, expanding the realms of cultural dissemination. Their objective is to encourage broader participation in cultural dissemination practices, involving ordinary individuals and fostering an organic and complementary cultural ecosystem. Collaborating with other media outlets, these efforts collectively form an integrated and complementary meta-communication pattern.

In the realm of Huaihe culture dissemination, traditional mainstream media, such as TV stations, can leverage their resource and policy advantages to strategically prioritize the establishment of virtual characters, virtual live rooms, and virtual IP operations. This focus aims to deeply cultivate the application of the meta across a broader spectrum of scenarios, including cultural variety shows, IP films, and TV dramas. Through such initiatives, there is a concerted effort to optimize content supply and assert value leadership.

5. Meta-Universe & Knowledge: Collaborative Creation, Sharing, and Governance of Virtual Cultural Resources

In the post-epidemic era, the surge in online education and virtual academic exchanges has ushered in significant conceptual and practical transformations in the realm of education. Technologies like XR and AI have reshaped the existence of knowledge, redefined learning scenarios and spaces, and fundamentally altered the methodologies for teaching, assimilating, and sharing knowledge (Guo, Yuan, Guo, & Li, 2022b). In the domain of exhibition and knowledge dissemination, advanced technologies such as giant projection, panoramic roaming, and somatosensory interaction, among other digital display and system integration tools, enable the recreation of scenes and enhance narrative optimization in a tactile, sensory, and visual manner. This approach facilitates a profound understanding of complex concepts and operations for viewers.

To unlock the diverse potential of the meta-universe in cultural resource sharing, comprehensive efforts are required across platform construction, knowledge transfer, knowledge sharing and storage, and knowledge innovation. In platform construction, the development of both formal and informal immersive teaching and interactive environments within the virtual world is crucial. This development should leverage 5G networks, algorithms, virtual reality immersive devices, and relevant software and applications (Hua & Huang, 2021).

In the realm of knowledge transfer, explicit knowledge like text, audio, and video materials, literature, and books should be seamlessly integrated into virtual space through virtual reality technology. Additionally, a virtual simulation system can be employed to depict abstract tacit knowledge, enhancing learners' experiential understanding. For instance, consider the educational activities surrounding the national intangible cultural heritage "Five-Animal Opera." Through holographic projection in virtual space, knowledge resource builders can visually demonstrate the tangible physical and mental benefits gained from practicing the Five-Animal Opera, providing learners with a profound understanding of its significance.

Within the domain of knowledge sharing and storage, organizing scholars and students in the same virtual space for group learning is beneficial. Documenting specific virtual scenarios and sharing them across different private meta-universes helps create unhindered paths for instantaneous, circulatory, fissionary, and inter-temporal knowledge dissemination. This approach contributes

to the establishment of a knowledge-sharing meta-universe.

Lastly, in cultural knowledge innovation, coordinated efforts among diverse virtual knowledge resource builders are essential for reconstructing meta-universe knowledge resources. Encouraging knowledge creation groups to co-create, share, and co-govern facilitates the efficient flow of cultural and educational resources within the virtual community. For example, addressing the imbalanced distribution of cultural and educational resources can involve integrating local cultural education characteristics into the meta-universe. Cross-disciplinary and cross-regional educational resources can stimulate different knowledge groups to contribute to the innovative development of traditional culture, fostering real-time information flow, sharing, and vision building.

6. Conclusion

The concept of the meta-universe has sparked boundless reflections across infrastructure construction, virtual economy, game paradigms, social scenes, cultural communication, educational reform, and the resurgence of human communication subjectivity. This perspective aims to foster the "cultivation" and "empowerment" of the integration of the real and the virtual, strengthening the tangible with the intangible to realize Huaihe culture. It seeks to achieve the "resurrection" and "reproduction" of Huaihe culture classics, transcending the two-dimensional plane and entering multi-dimensional space. Additionally, it aspires to "break the wall" and "cross borders" between diverse forms of art, technology, and platforms. The process of "breaking barriers" and "cross-border" collaboration among various art and technology forms and platforms holds significant promise for enhancing the overall influence and gathering capacity of Huaihe culture. Despite challenges during this exploration, the meta-universe emerges as a transformative lens through which Huaihe culture can evolve and flourish across dimensions.

Nevertheless, during the exploratory phase of the meta-universe, challenges persist in the realms of data information security, personal privacy infringement, applicability, and cultural misconceptions. Of particular concern is the improper mining and acquisition of data, encompassing details such as the user's geographic location, voice, face, social relations, and habits. This unrestricted capture of personal information may compel individuals to unwittingly relinquish their ethical rights and interests in the pursuit of convenience, thereby introducing contradictions and problems. It is imperative to underscore these ethical considerations and actively seek strategies to mitigate and address them.

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Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

References

Chen, C.-F., & Huang, J.-S. (2022). The Redefinition of "News": The Application of Meta-Universe Technology in the Media. *Journalism, No. 1,* 55-63.

Dai, Y. C. (2022). Meta-Universe: Media Properties, Evolutionary Paths and Governance Logic. *National Governance, No. 2,* 21-26.

Fan, H., & He, J. Y. (2021). Prospects of Metacosmos in the Field of National Image Communication—A Review of the Symposium on "Metacosmos and National Image Shaping and Communication". *External Communication, No. 12,* 60-63.

Gao, Q. Q., & Sui, X. Z. (2022). The Ontological Breakthrough of Dialectical Metacosmos and Its Public Sphere Implications. *Journalism University, No. 6,* 49-61+120-121.

Guo, Y. J., Li, S., Yuan, Y. M., & Jiang, L. (2022a). Library Service Model under the Metacosmic Perspective: From Virtual-Real Separation to Virtual-Real Integration. *Library and Intelligence, No. 3,* 104-110.

Guo, Y. J., Yuan, Y. M., Guo, Y. R., & Li, Z. F. (2022b). Research on Virtual Education Knowledge Flow Mechanism under Meta-Universe Perspective. *Intelligence Science, 40,* 3-9+24.

He, W., & Li, Y. (2021). A Review of Digital Game Research in China in 2020. *Literary Theory and Criticism, No. 3,* 135-145.

Hu, C.-Y., & Yu, C.-L. (2022). Connotation, Practice and Inspiration of Korean Educational Meta-Universe. *Reading River Journal, No. 3,* 99-110+174-175.

Hua, Z. X., & Huang, M. X. (2021). Teaching Field Architecture of Educational Meta-Universe, Key Technologies and Experimental Research. *Modern Distance Education Research, 33,* 23-31.

Huang, X. R., & Cao, X. P. (2022). The Technological Nature and Philosophical Significance of the Metacosmos. *Journal of Xinjiang Normal University (Philosophy and Social Science Edition), No. 3,* 119-126.

Kuang, Y. (2022). The Construction of Meta-Universe Multidimensional Transdimensional Information Dissemination Pattern under the Perspective of Mainstream Media. *China Editorial, No. 2,* 17-22.

Stephenson, N. (1992). *Snow Crash.* Penguin Random House.

Wang, W. X. et al. (2022) A Review of Metacosmic Technologies. *Journal of Engineering Science, 44,* 744-756.

Yu, G. M., & Geng, X. M. (2022). Metacosmos: An Ecological Picture of the Future of Mediatized Society. *Journal of Xinjiang Normal University: Philosophy and Social Science Edition, 43,* 37-45.

Yu, K. M. (2021). The Evolutionary Logic of Future Media: Iteration, Reorganization and Upgrading of "Human Connection"-From "Scene Era" to "Meta-Universe" to "Mind World" in the Future. From "Scene Era" to "Meta-Universe" to the Future of "Heart World". *Journalism, No. 10,* 54-60.

Yu, K. M., & Su, K. W. (2021). Gamification Mechanisms of Communication: Operational Logic, Scale and Direction—A Fresh Approach to Future Communication Paradigms. *New Observations on Media Convergence, No. 5,* 12-17.

Yuan, Z. (2022). A Chinese Program for Monetary Governance in the "Meta-Cosmos"

Space. *Journal of Shanghai University (Social Science Edition), No. 2,* 17-28.

Zhang, H. Z., Dou, W. H., & Ren, W. J. (2022). Meta-Universe: Scenario Imagination of Embodied Communication. *Journalism, No. 1,* 76-84.

Zheng, M. N. (2022). News Products in the Meta-Universe Perspective: Social Motives, Practice Patterns and Conceptual Changes. *Chinese Editorial, No. 2,* 76-81.