AIGC+VR Empowers the Transformation of Three-Dimensional Dynamic Reading Mode: Its Normative Paradigm and Risk Prevention and Control

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Abstract

The AIGC+VR three-dimensional dynamic reading model is an important practical direction in the construction of smart libraries. A systematic exploration of its connection mechanism, application paradigms, potential risks, and governance strategies can help advance smart library construction to a new level. Through theoretical review and practical analysis, this paper finds that the AIGC+VR three-dimensional dynamic reading model breaks through the temporal-spatial limitations and single-threaded narrative structure of traditional VR reading models, and can optimize readers' reading experience through real-time scene switching, spatial reconstruction, and other means. At the same time, this model is also accompanied by potential risks such as imaging distortion misleading readers and reader privacy leakage. The paper proposes targeted governance strategies from multiple dimensions, including strengthening prevention and control systems, adhering to a service-oriented stance, defining copyright ownership, clarifying responsible entities, and reinforcing value guidance.

Full Text

【User ・Service】

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Abstract The AIGC+VR three-dimensional dynamic reading mode is an important practical direction in the construction of smart libraries. A systematic discussion of the linkage mechanism, application paradigm, potential risks, and governance strategies of this mode will help advance smart library construction to a new level. Through theoretical review and practical analysis, this article finds that the AIGC+VR three-dimensional dynamic reading mode breaks through the temporal-spatial limitations and single-threaded narrative nature of traditional VR reading modes, and can optimize readers' reading experience through real-time scene switching, spatial reconstruction, and other means. At the same time, this mode is also accompanied by potential risks such as image distortion misleading readers and leakage of reader privacy. From multiple dimensions—including building a solid prevention-and-control system, adhering to a service-oriented stance, agreeing on copyright ownership, clarifying responsible subjects, and strengthening value guidance—the article proposes targeted governance strategies.

[**Keywords**] AIGC; VR; three-dimensional dynamic reading mode; smart library; risk prevention and control

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Introduction

The "*14th Five-Year Plan*" *for Cultural Development* issued by the General Office of the CPC Central Committee and the General Office of the State Council clearly proposes improving the level of digitization of public culture and building a smart library system and a national public culture cloud[1]. In the current construction of smart libraries, university libraries are carrying out library virtual reality (VR) services in different ways—that is, providing readers with intelligent interactive services through technologies such as artificial intelligence and virtual simulation[2]. Among them, VR reading can transform planar textual content into dynamic scenes surrounded by a virtual three-dimensional environment, realizing a shift from traditional two-dimensional reading to three-dimensional immersive reading[3]. With devices such as Oculus Touch controllers and smart head-mounted displays, readers can engage in immersive reading, greatly enhancing the reading experience.

Empowered by artificial intelligence generated content (AIGC) technology, an "AIGC+VR three-dimensional dynamic reading mode" has emerged. This mode refers to the use of VR technology to present book content in three dimensions while supporting readers in real-time interaction based on visualized scenes and intelligent terminals; relying on AIGC technology, intelligent devices are driven to instantly generate new content scenarios according to readers' personalized needs, ultimately realizing the reproduction and reconstruction of knowledge through human–machine collaborative co-creation. Reading is no longer a static, one-way visual activity; the modal integration of VR and AIGC is leading to a reading experience characterized by dynamic generation and human–machine interaction. At the same time, the AIGC+VR three-dimensional dynamic reading mode also entails many potential risks. Taking the AIGC+library VR virtual reading mode as its research object, this article systematically explores the linkage mechanism, application scenarios, and potential risks of this reading mode, and puts forward corresponding risk governance measures in a targeted manner.

1 The Linkage Mechanism Between AIGC and the VR Reading Mode

VR technology originated earliest in the United States. In 1989, Jaron Lanier, founder of VPL Research, proposed the concept of "Virtual Reality," which set off a wave of VR technology research in the United States. It was first applied in fields such as national defense, military industry, aviation, medicine, and machinery, and later expanded to areas including animation, film and television, and libraries. At that time, libraries were still at a superficial exploratory stage in the use of virtual reality technology, mainly achieving display effects through simple combinations of VR devices[4]. With the widespread application of artificial intelligence technologies such as ChatGPT and DeepSeek, AIGC+VR three-dimensional dynamic reading has gradually emerged. AIGC and VR devices have become important structural elements for realizing VR reading functions. Within VR space, intelligent terminals make real-time dynamic adjustments centered on readers' movement trajectories, greatly improving the sense of experience in VR reading.

Readers, as the core subjects of reading, can complete the acquisition and continued creation of knowledge with the assistance of AIGC. This is specifically manifested in three links: element integration, scene switching, and spatial reconstruction. Through element integration, VR reading can realize the three-dimensional presentation and scenario-based construction of book content; after AIGC empowers VR reading, it accelerates the speed of element integration and promotes the real-time realization of scene switching; under the human–machine collaboration mode, instantaneous and coherent scene switching further···

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further promoted spatial reconstruction and knowledge renewal; and in the process of spatial reconstruction, various elements are also further integrated. The process is shown in Figure 1.

Text in the figure: Center: "AIGC+VR reading model." Upper node: "Element integration–knowledge transmission" ; left node: "Scene switching–knowledge association" ; right node: "Spatial reconstruction–knowledge renewal." Arrows: "Dynamic scene switching"; "Three-dimensional presentation"; "Creative spatial reconstruction." Related labels: "Single-threaded knowledge acquisition model"; "Closed-loop knowledge internalization process" ; "Limited VR images" ; "Real-time dynamically generated VR scenes" ; "Unrepresented subjective space" ; "Readers' creative expression."

Figure 1 Connection mechanism between AIGC and the VR reading

model

1.1 AIGC-Empowered VR Reading: Element Integration and Transformation of Knowledge Acquisition Models

The application of VR technology can present book content in the form of three-dimensional images, but readers still have not escaped the role positioning of passively receiving knowledge; only with the advent of the AIGC+VR era of three-dimensional dynamic reading has the knowledge acquisition model shifted from a single-threaded mode to a closed-loop one.

In traditional library construction and reading models, knowledge transmission relies on elements such as books, library services, and readers. Among them, books and the like are the infrastructural elements of the library, library services are functional elements, and readers are the core subject elements.[5] The input of knowledge and information depends on the core subject of reading—the reader—and the process of acquiring and internalizing knowledge is single-threaded. With the emergence of generative models such as GAN and Diffusion, AI can already generate highly realistic 3D human body movements. This three-dimensional virtual imaging technology has gradually been applied to the field of reading, giving rise to the VR reading model. Books are the "scripts" of VR images. Compared with the traditional reading model using paper texts as the medium, VR reading realizes a leap from reading planar text to viewing three-dimensional spatial scenes; at this point, the basic carrier of reading also shifts from books to VR devices. VR reading can transform book content into a three-dimensional panoramic presentation for readers, but it still has not changed the single-threaded knowledge acquisition model in which readers independently receive knowledge and complete internalization.

After AIGC technology is synchronously introduced into VR reading, readers can obtain precise assistance from AIGC in the core link of information intake.[6] By watching VR images and carrying out real-time human–computer interaction with an AI assistant, readers can complete a closed-loop knowledge acquisition process of "receiving knowledge—knowledge internalization—information output—knowledge deepening," thereby upgrading the reading experience from passive information reception to active participation and dynamic deepening.[7] Empowered by AIGC, the speed of virtual imaging is greatly improved, and intelligent terminals can integrate diverse content elements and instantly generate three-dimensional images according to readers' personalized instructions, making the process of knowledge internalization and output explicit.

1.2 AIGC-Empowered VR Reading: Real-Time Scene Switching and Intelligent Image Generation

From the perspective of VR reading image generation, the functions of AIGC have already become fully evident. With powerful computing and rendering capabilities, AIGC can generate multiple selectable image schemes for different perspectives. Compared with the linear arrangement of shots in traditional images, multiple images generated by AIGC can be combined through "stitching technology" into a 360-degree panoramic shot, thereby presenting a three-dimensional, dynamic cinematic space.[8] In AIGC-empowered VR images, the VR space dynamically adjusts in real time around the reader's movement trajectory. AIGC can not only generate VR images for readers to watch, but can also deeply participate in the entire process of three-dimensional reading. By dynamically responding to readers' interactive behaviors, it realizes real-time intelligent switching of VR scenes, upgrading the reading experience from one-way visual reception to two-way dynamic adaptation. Reading is not only a process of absorbing knowledge and information; it also triggers the human brain's subjective processing of textual information—including both transforming scenes described in words into three-dimensional concrete cognition and developing associations based on such three-dimensional scenes. The VR reading model has, to a certain extent, helped readers complete the construction of an initial three-dimensional impression of a scene; subsequent associations, however, require embedding an AI assistant in the VR reading model and using AIGC to complete real-time scene construction.

1.3 AIGC-Empowered VR Reading: Spatial Reconstruction Based on Readers' Subjective Consciousness

Time and space are the carriers of the endowments of all resources.[9] According to the theory of the triadic dialectic of space, space includes physical space, social space, and representational space.[10] The traditional VR reading model has already achieved the three-dimensional transformation of textual content and can transform the representational space depicted by the author in a book into visible three-dimensional scenes. However, readers' spatial imagination is often not constrained by the reading text or by VR images converted from that text. Because readers differ in personal interests, emotional experiences, and knowledge reserves, when facing the same text or VR image, they will create in their minds different subjective spaces that have not yet been represented. Empowered by AIGC, through real-time dynamic human-computer interaction, the vague space existing in readers' subjective consciousness will gradually become clear, and may even be transformed, through readers' creative expression, into a new representational space. The important significance of AIGC-empowered VR reading lies in its ability to stimulate readers to complete spatial reconstruction and knowledge renewal through the real-time generation of VR space; this process itself is a process of knowledge innovation.

2 Application Paradigms of the AIGC+VR Three-Dimensional Dynamic Reading Model

The VR three-dimensional reading model has brought about a major innovation in reading paradigms, effectively making up for the shortcomings of traditional planar reading, such as an insufficient information-processing mechanism and a single sensory channel for receiving information. On this basis, the AIGC+VR three-dimensional dynamic reading model further enriches and improves the library' s VR reading experience.

2.1 Breaking Through Spatiotemporal Limits and Enhancing the Reading Experience

In an information age marked by explosive growth in knowledge and soaring volumes of information, it is difficult for readers to immerse themselves in every classic work. VR reading can guide readers into the worlds constructed by classic works through vivid narration and dynamic scenes.[11] However, in the traditional VR reading model, readers mainly "watch passively," and the content and scenes in VR images are also limited to the contents of the book. AIGC can not only transform VR reading from one-way reception into two-way communication through real-time interaction, but can also generate cross-scenario, cross-textual, and cross-modal content.[12] For example, the digital textbook construction project for the *Virtual Simulation Tutorial in History* by the Visual Historiography Laboratory of Beijing Normal University has already been able to realize dynamic restoration of historical scenes and real-time feedback through language interaction. When readers enter a VR historical scene to consult related historical books, the system provides background sound effects and character actions adapted to the scene; when readers pause at a certain section of content, it automatically triggers a mechanism for supplementing the corresponding scene with details, further enhancing the sense of immersion in reading.[13]

2.2 Optimizing Resource Allocation and Realizing Value Co-creation

Under the traditional model, library resources and services are uniformly allocated by the library, and readers can only seek services that meet their own needs on the premise of complying with the existing resource-system architecture. With the technological empowerment of AIGC+VR, readers and libraries are no longer in a relationship of managers and the managed.[14] By analyzing information such as readers' borrowing records, reading preferences, and age, AIGC can construct user profiles and then match readers in a targeted way with accessible and highly personalized VR content.[15] For example, the "Smart Museum of Chinese Musical Instruments" at the Library of the China Conservatory of Music has already exhibited dozens of virtual instruments. Users can not only view the instruments in 360-degree panorama, but can also consult detailed information such as the development history and production techniques of the instruments.

2.3 Strengthening Human-Computer Interaction and Supporting Scientific Research Exploration

With the technological empowerment of AIGC+VR, the reading model shifts from static to dynamic, and information reception changes from a single visual mode to multidimensional reception through vision, hearing, and touch. This dynamic and interactive reading model opens a new era for learning and scientific research exploration in science and engineering. In the context of reading medical professional literature, the Medical Library of Fudan University Library has launched various projects, including medical VR experience games, AR displays of human-organ models, and 3D-mouse simulations of clinical operations. In operations with a strong sense of space, such as three-dimensional modeling, dynamic modeling can be completed based on readers' instructions on the basis of VR display, and human–computer collaboration makes the AIGC+VR reading model an interactive activity with a certain degree of creativity. AIGC+VR can also support experimental-technology design in the new liberal arts; the National Experimental Teaching Demonstration Center for Literature at Nankai University has already attempted to use multiple kinds of VR experimental teaching software in instruction.[16] In the reading of ancient books and literary and artistic books, large language models (LLMs) and VR can reproduce the situations in texts in three-dimensional form. On the basis of virtual situations, readers can rely on AIGC to improvise around research objects such as the evolution of relevant words and expressions and the extension of artistic conception, transforming "flashes of inspiration" in academic conception into immediate scenario-based presentation.

3 Potential Risks of the AIGC+VR Three-Dimensional Dynamic Reading Model

While the AIGC+VR three-dimensional dynamic reading model brings readers a vivid and highly creative reading experience, it also entails potential risks in terms of operational technology, the legal level, and value orientation.

3.1 Imaging Distortion in AIGC+VR and Misleading Readers' Cognition

After AIGC empowers the VR reading model, it can improve readers' reading experience and stimulate their imagination and creativity through real-time interaction and scene switching. However, when VR devices and AIGC are insufficiently compatible, technical failures such as lagging and sudden crashes are likely to occur, undermining the continuity of the immersive experience and reducing readers' reading efficiency. In the early stage of establishing the AIGC+VR reading model, distortion in the details of VR scenes and loopholes in models may mislead readers. In the process of imaging VR readers for disciplines such as geography and biology, if problems of disordered spatial logic arise, they will directly interfere with readers' construction of core cognition, such as geographical spatial relations and biological structural systems. For professional readings such as medical acupuncture, which impose stringent requirements on precision, if the accuracy of VR modeling fails to meet professional standards, it will not only affect readers' standardized training in key skills such as practical operating procedures and spatial positioning, but may also create hidden safety risks in actual operation due to deviations in information transmission.

3.2 Exclusive Customization in AIGC+VR and Leakage of Reader Privacy

AIGC+VR can customize exclusive library VR experiences for readers. In the process of generating personalized experiences, it is necessary to collect sensitive information such as readers' borrowing records, behavioral preferences, and voice data. Collecting and using readers' personal information without their authorization may constitute infringement. For example, a reading software program in Shenzhen shared reader data through cooperation with a third party without obtaining readers' voluntary authorization, thereby infringing readers' personal privacy and ultimately bearing corresponding tort liability [see: Civil Judgment No. (2019) Jing 0491 Minchu 16142, Beijing Internet Court].

3.3 Human-Machine Co-created Results and Copyright Disputes

Under the AIGC+VR reading model, both the materials referenced in the process of AI-generated VR images and the content generated may give rise to copyright disputes. The generated content of VR images does not come solely from artificial intelligence; it usually also refers to user-generated content (UGC) and professionally generated content (PGC).[17] AIGC empowerment accelerates the efficiency of three-dimensional modeling. In the process of generating VR scenes, AI may use copyright-protected images, audio, and other materials without authorization, thereby giving rise to intellectual-property disputes. For example, when a company was entrusted by a library to build a "Cloud Library Network," it used a certain sound recording product without permission for commercial purposes. Using such materials with disputed ownership to create AI-generated content may constitute infringement [see: Civil Judgment No. (2020) Yue 0192 Minchu 36894, Guangzhou Internet Court]. In addition, when readers and AI engage in real-time interaction that goes beyond the original reading content, the collision between readers' creativity and AI intelligence will generate original VR content.

content; at present, there is still no clear standard for defining the copyright ownership of such original content—whether it belongs to the library, the AI developer, or the reader.

3.4 Poor Human-Machine Interaction, Giving Rise to Infringement Disputes

VR devices have a relatively high operational threshold. After they are integrated with AIGC interaction functions, elderly readers and groups unfamiliar with technology may not only find them difficult to use because of complex operations, but may also damage equipment through repeated operational errors, thereby giving rise to questions concerning liability for damages. Under the AIGC+VR model, immersive experiences and real-time visual and tactile impacts may cause physical discomfort in some readers. Elderly readers and readers with underlying diseases, in particular, may experience symptoms such as dizziness and accelerated heart rate while wearing VR devices, which creates considerable challenges for library management. There was once a player who, while experiencing a VR horror game at a VR amusement venue, fell and was injured after being frightened. The court held that the operator had failed to fulfill its obligation to ensure personal safety and ordered it to bear corresponding tort liability. See: Civil Judgment No. (2019) Hu 01 Min Zhong 7689 of the Shanghai No. 1 Intermediate People' s Court. To avoid similar disputes, when promoting the AIGC+VR three-dimensional dynamic reading model, libraries should provide necessary risk warnings and clearly allocate responsibilities.[18]

3.5 Differences in Human-Machine Values, Intensifying Digital Bias

The deep involvement of AIGC weakens the service functions of libraries and librarians. Under the AIGC+VR reading model, not only does the generation of VR images depend on AIGC, but the entire process through which readers experience VR reading is also guided by AI assistants. Even readers' subsequent cross-textual and cross-scenario knowledge extension is completed with AI assistance. However, excessive reliance on AI and the VR content it generates can give rise to many problems. First, AI lacks the capacity for value discernment. If the AI training data itself contains bias, discriminatory content involving gender, region, and other factors may appear in VR scene presentation and virtual-assistant responses. Excessive reliance on AIGC may weaken the library' s functions of cultural selection and value guidance. Second, the technical operation of VR devices is a challenge for elderly readers and groups unfamiliar with technology. Differences in literacy regarding the use of networks and technical equipment will make the digital divide more evident in reading,[19] which runs counter to the original intention of libraries' inclusive services.[20]

4 Risk Governance for the AIGC+VR Three-Dimensional Dynamic Reading Model

In response to the above-mentioned problems—namely, distorted imaging misleading readers, leakage of readers' personal privacy when customized exclusive VR images are created, copyright disputes arising from co-created works by readers and AI, infringement disputes caused by improper human-machine interaction, and digital bias intensified by value differences—integrated governance should be advanced from multiple dimensions, including consolidating prevention and control systems, upholding a service-oriented position, agreeing on copyright ownership, clarifying responsible parties, and strengthening value guidance.

4.1 Consolidating the Prevention and Control System and Improving the Accuracy of VR Imaging

To prevent VR imaging distortion from misleading readers, libraries need to build a prevention and control system around three core links: setting error thresholds, establishing review mechanisms, and providing guidance services.

First, VR imaging distortion is an objectively existing technical challenge: the higher the imaging accuracy and the lower the required error threshold, the higher the technical cost of VR imaging. From the perspective of library management, differentiated error thresholds should be set for different service scenarios and different collection resources. For example, academic research support resources should have lower error thresholds to ensure the accuracy of professional knowledge; the accuracy requirements for VR images used in popular-science education and cultural exhibitions may be moderately relaxed. On the basis of clearly defined error thresholds, libraries should require suppliers to provide imaging-accuracy testing reports that meet the relevant requirements.

Second, before AIGC + VR equipment is put into use, a dual mechanism of "technical review + disciplinary review" should be established: technical personnel should examine the operational stability of the equipment and the situation of imaging distortion, while subject librarians should combine their professional knowledge to assess the academic rigor of the resources.[21] At the same time, explanations of common manifestations of distortion should be posted in VR experience areas, so as to popularize among readers the principles of VR imaging and the library' s distortion-control standards for resources, and to guide readers to lower their expectations of an "absolutely real" experience.

Finally, when readers use AIGC+VR equipment, libraries should assign dedicated librarians or volunteers to provide services such as equipment debugging and usage guidance, inform readers of the optimal experience distance, device-wearing norms, and techniques for avoiding distortion, and improve the stability of VR imaging through service support.[22]

4.2 Upholding a Service-Oriented Position and Protecting Readers' Personal Privacy

To address the difficulty of information leakage in the process by which AIGC+VR customizes exclusive VR experiences for readers, the problem should be solved from two dimensions: information collection and information use.

On the one hand, when collecting readers' personal information, libraries should adhere to the principles of "minimum necessity" and "informed consent" ; these two principles have both legal basis and jurisprudential grounding. The principle of minimum necessity means that libraries must not collect unnecessary personal information unrelated to the generation of personalized exclusive VR images, and that the benefits achieved by collecting a given item of information must outweigh the risks borne by readers in surrendering that information. The principle of informed consent means that the collection of personal information should be subject to the consent of the readers themselves. The reason for observing the principle of informed consent is that, in the modern legal order, except in circumstances of lawful deprivation, any disposition of a rights holder' s interests must be made with the consent of the rights holder; otherwise, it constitutes illegal deprivation or unauthorized disposition, and the actor should bear corresponding liability for compensation.[23] As an important matter affecting readers' rights and interests, reader information may be used only after authorization has been obtained from the reader. On the other hand, a library' s use of readers' personal information must comply with the requirement of "reasonable use." "Reasonable use" means that readers' sensitive information may be transmitted only between the library' s internal AIGC modeling system and VR rendering system, and may be used only to generate personalized VR images—such as recommending digital exhibitions on related themes based on readers' borrowing histories, or adjusting the difficulty of scene interaction and the mode of content presentation according to readers' behavioral preferences. It is strictly prohibited to use the relevant data for advertising push, commercial analysis of user profiles, or third-party

non-service uses such as data sharing.

4.3 Clarify Copyright Ownership and Build a Mechanism for Preventing and Avoiding Infringement

The copyright disputes that arise in the AIGC+VR reading model mainly fall into two categories: first, infringement of others' intellectual property rights through the use of unauthorized materials; second, the issue of copyright ownership over VR images co-created by readers and AI. These two types of disputes should be resolved at two levels: eliminating the sources from which infringing acts arise, and clearly defining ownership of rights in advance.

To avoid intellectual-property disputes caused by the use of unauthorized materials, libraries should establish compliant material repositories. Such repositories should contain at least three types of resources: materials for which the library owns the copyright, materials under legitimate authorization, and materials in the public domain. In the process of using AI to generate VR images, the use of unreviewed materials outside the compliant material repository should, in principle, be prohibited. In cross-text and cross-scenario transformations, where it is indeed necessary to use special materials outside the compliant repository, written authorization from the rights holder should be obtained in advance. The sources and authorization information for all materials must be retained in records to ensure that infringing acts are traceable and that non-infringing acts can be self-certified.

For original VR content generated through the collision of readers' creativity and AI intelligence, libraries should clarify copyright-ownership rules in advance by means of agreements. The copyright of general VR resources shall belong to the library, while readers shall be permitted to use them for non-commercial purposes; the copyright of personalized experience resources shall be jointly owned by the library and the reader; and the copyright ownership of jointly developed content shall be stipulated through a dedicated agreement, while ensuring that the library enjoys long-term rights of use.

4.4 Clarify Responsible Parties and Improve the Risk-Prevention System

Libraries and readers may each become subjects of infringement liability. With regard to situations in which readers damage VR equipment through improper use, as well as situations in which libraries fail to fulfill relevant warning obligations and thereby cause readers to suffer bodily harm during the reading process, a risk-prevention system should be built across the stages of prior accident prevention, timely mitigation during an incident, and post-incident assumption of responsibility.

In AIGC+VR experience areas, libraries should clarify the correct methods for using VR equipment through display-board popularization of knowledge, proper guidance by librarians, and other means[24]. At the same time, they should inform readers of usage behaviors that may cause serious equipment damage. If a reader, despite knowing the requirements for preventing equipment damage, still uses the equipment in a manner that is seriously likely to cause damage and thereby causes damage, the reader shall bear liability for the damage.

Before readers begin the AIGC+VR experience and use the relevant equipment, a dedicated librarian should explain the correct method of use to them. It is recommended that readers with underlying diseases avoid such activities as much as possible; if they wish to experience them, they must sign a risk-notification statement and do so under the accompaniment and supervision of an adult family member. In addition, the experience area should be equipped with an emergency stop device to prevent situations in which, after readers develop symptoms of discomfort, they are still unable to terminate the continuous sensory stimulation caused by VR equipment.

4.5 Strengthen Value Guidance and Optimize the Human-Machine Interaction Model

Libraries bear the functions of disseminating knowledge and providing value guidance. In the AIGC+VR reading model, the creative functions of AI can be greatly brought into play, and may even, to a certain extent, substitute for traditional functions such as librarian guidance and library publicity and education; however, machines do not possess the ability to identify values, nor can they convey humanistic care. In the process of building smart libraries, it is necessary, from the height of top-level design, to exercise macro-level control over value-screening mechanisms and mechanisms for shaping the humanistic image of libraries[25].

To strengthen the humanistic orientation, libraries need to establish the core principle of "human leadership + AI assistance," making clear that AIGC+VR is only a tool that assists libraries in generating VR content and providing personalized services for readers[26]. For groups unfamiliar with technology, such as elderly readers, libraries should assign dedicated technical-service specialists to provide one-on-one, hands-on guidance services[27]. At the same time, libraries should work with technology developers to create an extremely simplified interactive interface, remove redundant functions, and make it convenient for technology-unfamiliar groups to complete the VR experience through simple operations, so that readers can feel warm humanistic care in library services rather than a cold, mechanical device experience[28].

To avoid inappropriate content such as gender or regional discrimination appearing in VR scenes generated by AIGC, libraries should improve content-screening mechanisms and form review teams composed of "subject librarians + ethics specialists + reader representatives from diverse backgrounds." These teams should conduct preliminary screening of AI training datasets, remove data containing biases such as gender or regional prejudice, prevent AIGC from citing discriminatory content at the source, and fully bring into play the library' s function of value guidance[29].

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The Normative Paradigm and Risk Prevention of AIGC+VR Empowering the Transformation of Three-Dimensional Dynamic Reading Mode

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Abstract The AIGC+VR three-dimensional dynamic reading mode represents an important practical direction in the construction of smart libraries. A systematic exploration of its connection mechanism, application paradigm, potential risks, and governance strategies can help elevate smart library construction to new heights. Through theoretical review and practical analysis, the article finds that the AIGC+VR three-dimensional dynamic reading mode breaks through the spatiotemporal limitations and linear narrative of traditional VR reading modes, enhancing readers' reading experience through real-time scene switching, spatial reconstruction, and other methods. At the same time, this mode also carries potential risks, such as imaging distortion that may mislead readers and the leakage of reader privacy. Based on the analysis of its application paradigm and potential risks, the article proposes targeted governance strategies from multiple dimensions, including building a comprehensive prevention system, upholding service-oriented principles, establishing copyright ownership, clarifying responsible entities, and strengthening value guidance.

Keywords AIGC; VR; Three-dimensional dynamic reading mode; Smart library; Risk prevention and control