The Application Trend and Emotional Interaction of AI Virtual Anchors in the Era of Intelligent Media

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Abstract. With the rapid development of artificial intelligence technology, AI virtual anchors are gradually becoming popular as an innovative form of media. For traditional anchors, the existence of artificial intelligence virtual anchors will bring them severe challenges, including style solidification and emotional limitations, as well as social acceptance and moral and ethical issues. From the theoretical perspective of media availability, analyze the technical interpretation of artificial intelligence virtual anchors from three aspects: application, emotional interaction, and development. Proposed a qualitative change in the integration of AI technology and content, reshaped the intelligent production process of media content, and proposed targeted integration development measures to effectively promote the innovative development of the media industry in the era of artificial intelligence.

Keywords: AI Plus Virtual anchor; Application dissemination; Emotional interaction

1   Introduction

With the rapid rise of virtual digital humans in the context of artificial intelligence, the media industry is constantly exploring new media formats and forms of communication driven by technology. The Internet of Things is gradually advancing towards media for all, and virtual digital humans represented by artificial intelligence virtual anchors (AI virtual anchors) have become a major emerging form in the field of digital communication.

Virtual anchors, as an emerging phenomenon, have not yet formed systematic academic achievements. In recent years, they have gradually become a hot topic in the academic community. Regarding the construction of virtual anchor relationships. Zhang R.Y. (2020) [1] studied the ethical issues that may arise in virtual space communication activities through participatory observation of virtual broadcasters' interactions in virtual communication scenes. In terms of research on virtual anchor roles. Zhao Y.(2023) [2] believes that virtual digital humans refer to those who exist in the virtual world, with artificial intelligence technology as the technical logic, and have multiple human characteristics, including virtual anchors and virtual hosts. Hilbert Bruce Z

(2018) [3] analyzed the motivation of users to participate in live streaming interactions on the Twitch platform. In terms of the virtual anchor industry and applications, Fan X.W. (2021) [4]focused on the application of virtual anchors in live streaming e-commerce, and combined with the current application status, proposed corresponding suggestions in terms of anchor image, behavior, and content.

Overall, the research on virtual anchors in academia is still lagging behind. There is a certain gap between the understanding of virtual anchors and the development of virtual anchors in reality, especially the insufficient understanding of the current development of local virtual anchors in China. In addition, most research still shackles virtual anchors to the single identity of online anchors. However, there is still relatively little research on AI virtual anchors in news communication, and there is still some research space for this topic.

2 Application Analysis of AI Virtual Anchors in the era of Intelligence

2.1 Mature Emerging Technologies Provide Applications

Virtual anchors cannot do without the support of technology, from character design to terminal presentation. Generally speaking, anime virtual anchors can continue to be divided into live2D and Live3D styles; Super realistic virtual anchors can continue to be divided into a combination of virtual and real elements and a pure CG style. Among them, the biggest difference between live2D and 3D lies in the three-dimensional shape of the paper. Although live3D is also a anime style paper writer, due to the different technology production, the model is more controllable than 2D.

2.2 Expanding Application Scenarios that Break the Constraints of Time and Space

As a product of digital technology, virtual anchors have unique advantages that distinguish them from live streamers. Firstly, it has strong plasticity and can often possess multiple professions and identities to match different types of news programs. Secondly, it can achieve rapid scene switching and broadcasting, as well as instant traversal, overcoming time and space limitations and ignoring difficulties caused by special climate, transportation, and communication conditions. According to data from iMedia Consulting, as shown in Figure 1. In 2024, the core market size of China's virtual human industry was 33.92 billion yuan, and the surrounding market size driven by virtual idols was 478.53 billion yuan. Virtual idols have strong plasticity in content and peripheral product output, and can continuously develop new explosive points according to the trend of the times. Therefore, the continuity of industry growth is strong, and they will maintain a stable growth trend in the future.
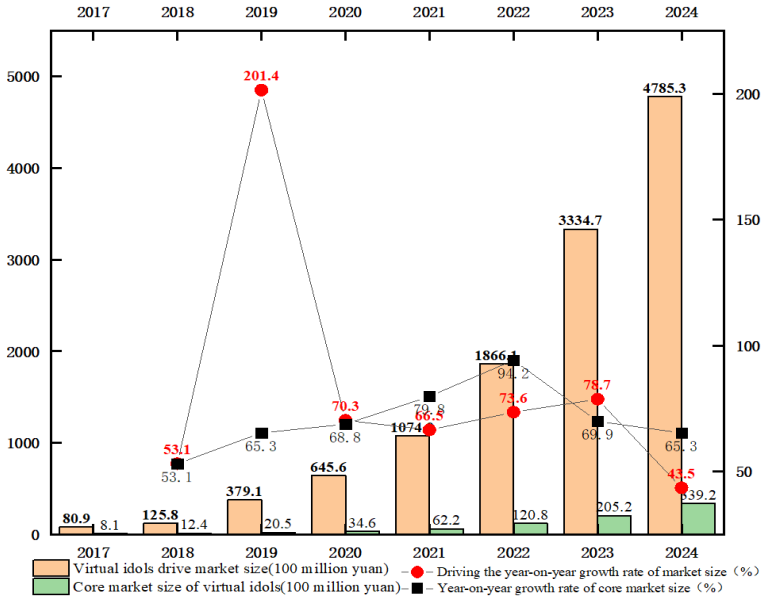
Fig. 1. Core Market and Labor Market Size of Chinese Virtual Idols from 2017 to 2024.

2.3 Expanding Applications that Break the Constraints of Time and Space

When analyzing the usage and satisfaction of domestic virtual anchor audiences, a questionnaire was distributed online, focusing on the Bilibili virtual anchor zone, virtual anchor online fan communities, including QQ and WeChat communities, and NGA player communities. 227 valid survey questionnaires were distributed. According to the survey questionnaire results (Figure 2.), the proportion of students is the highest, with a total of 121, reaching 53.07%. The data is consistent with the above situation, that is, the audience of virtual anchors has a high overlap with the ACGN audience, with a majority of young audiences. In addition to the student group, Internet practitioners also account for 14.91%, and are also distributed in other industries. Watching virtual anchors, posting bullet comments, producing creative works, and participating in fan communities has been a new form of entertainment that has received support and attention from the domestic ACGN community since 2018. There has also been a phenomenon of small-scale popularity, such as A-SOUL member Jiaran's cover work "Meow Poisoning", which received 12.433 million views on Bilibili. This audience mainly consists of student groups (high school, university) and young people who have just entered society and started working and living. The audience at this stage is born in an era of relatively favorable conditions, with a more open consumption concept and a willingness to pay for services or products that meet entertainment needs. And it is showing an upward trend, developing into an emerging industry phenomenon in the era of Web 2.0.
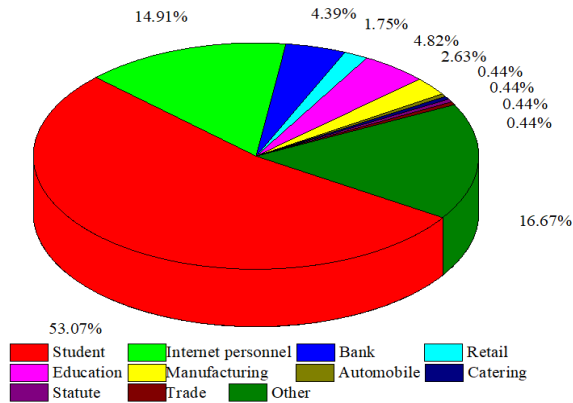
14.91% 4.39% 1.75%
4.82%
2.63%
0.44%
0.44%
0.44%
0.44%

16.67%

53.07%

Student   Internet personnel   Bank   Retail
Education   Manufacturing   Automobile   Catering
Statute   Trade   Other

Fig. 2. Distribution of virtual anchors in various industries

3   Analysis of Emotional Interaction in Virtual Anchor Live Streaming

3.1   Emotional Connection: The Transformation of Transient Emotions and Emotional Energy

In the traditional interactive ritual chain, emotional sharing is achieved through the shared presence of the body to share emotional states. And virtual anchors transmit positive or negative emotions to people in the live broadcast room through online means, such as language and posture[5]. The gender of the anchor relying on virtual images[6], virtual scene design[7], and other factors may bring temporary emotional stimulation. Viewers share their instantaneous emotional experiences with others through various means such as bullet comments, emojis, and gifts based on a common focus of attention.

3.2   Interactive Ritual Maintenance: Rational Choices in Interactive Markets

Based on the interactive ritual chain, Collins proposed the concept of "interactive ritual market" (also known as "interactive market"). In the interactive market, emotional energy and symbolic capital are extremely important market resources. People's willingness to engage in long-term, continuous, and repetitive interactive rituals can be seen as a "reinvestment" behavior of emotional energy and symbolic capital.

It can be considered that the emotional energy mechanism:

$$\rho = \frac{E}{C} \tag{1}$$

$$C = E + M \tag{2}$$

In the formula, ρ represents the maximization of the proportion of emotional energy benefits; E is emotional gain; C is the cost required for the interactive market; M is the material needed to provide emotional energy. For the live streaming audience of a virtual anchor, this is reflected in: under the premise of paying relatively little cost, they gain a high degree of emotional energy through interaction with one or some virtual anchors in one or more live broadcasts. Therefore, they choose to continue to follow the virtual anchor, join fan groups, and actively participate in the subsequent live streaming interaction ceremony, showing strong interactive stickiness.

3.3   The Interactive Ritual Mechanism of Virtual Anchor Live Streaming

Interactive rituals will bring a series of outcomes, including individual emotional energy, social relationship symbols, group unity, and moral sense. These results can have a long-term impact, providing feedback for the next interactive ceremony and promoting the cycle of interactive rituals, as shown in Figure 3.
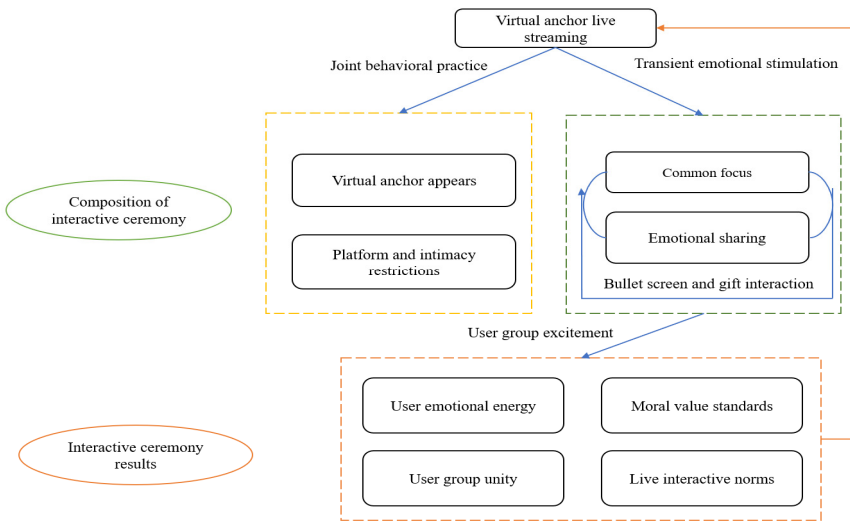

Fig. 3. Mechanism of Virtual Anchor Live Interactive Device

4   Innovative Development of AI Virtual Anchors in the Future

4.1   Human Machine Integration: Reconstructing Social Value

Intelligent technology is constantly evolving, and human-machine integration may have become the mainstream development trend in the era of intelligent communication. 2021 is known as the "Year of NFT", The emergence of NFT technology has brought

opportunities to bridge the cognitive gap between humans and machines[8]. Its essence is a cryptocurrency based on the underlying architecture of blockchain[9], which offsets the uncertainty of interpersonal relationships through computational certainty, thereby achieving deep integration between humans and machines. Using "timestamp" and "hash tree rooting"[10] as the core, authenticate public information databases to reconstruct human-machine value relationships.

4.2   Building a Regulatory Mechanism for AI Virtual Anchors and Promoting a Collaborative Governance System with Multiple Stakeholders

Establish relevant authentication and supervision mechanisms to verify and supervise the authenticity of the identity and information of virtual anchors, and enhance the intelligence level of regulatory work. The risks that AI virtual anchor technology may pose are multidimensional, multi-layered, multi domain, and multifaceted, involving both network security and political security; It involves both personal information security and national ideological security, and a collaborative governance mechanism and system led by the government and involving multiple stakeholders should be established.

4.3   Optimize Intelligent Technology to Create High-Quality Virtual Anchors

Reduce the creation and maintenance costs of high-quality virtual anchors by improving algorithms and optimizing technical architecture. Learn from the advantages of advanced technologies such as cloud computing and big data to improve the performance and stability of virtual anchors. By leveraging technologies such as deep learning and neural networks, AI virtual anchors can achieve self reflection, making them closer to the real human posture, better expressing consciousness, and recognizing emotions.

5   Conclusion

AI virtual anchors are a breakthrough and integration in the media industry. Based on the development of media applications and emotional interaction analysis of AI virtual anchors, this article draws the following conclusions:

(1) From the theoretical perspective of media availability, AI virtual anchors have many values in promoting the intelligence of media production processes, building virtual immersive interactive spaces, and providing scene based companionship and emotional compensation.

(2) The development of AI virtual anchors has always been inseparable from technology and humanity. The limitations of AI technology limit content production, resulting in a lack of authenticity in content, but it is still necessary to search for human nature.

(3) The artificial intelligence platform behind virtual news anchors carries the hidden risk of infringing on user privacy, and it is still necessary to remain vigilant to ensure that the use of AI virtual anchors complies with ethical and legal bottom lines.

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