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The Evolution, Development Dilemmas, and Future Prospects of Domestic AI Anchors: Postprint

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Abstract

New media technologies compress spatiotemporal dimensions, and the 24/7 online presence of vast numbers of ordinary citizens has left institutional media struggling to cope, thereby giving rise to AI anchors. From an evolutionary perspective, AI anchors have evolved from traditional broadcasters, with animated characters occupying a primary position among their constituent elements. In terms of application, they first originated in gaming and entertainment, subsequently expanded to information dissemination, and have currently extended into e-commerce live streaming. Regarding developmental dilemmas, AI anchors face certain issues in positioning, engagement, and personification. In the future, AI anchors should focus their efforts on clarifying objectives to achieve clear positioning, promoting applications to form fan communities, and clarifying their vision while emphasizing cultural innovation, thereby facilitating more effective evolutionary development.

Full Text

The Evolution, Development Dilemmas, and Future Prospects of Domestic AI Anchors

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Abstract: New media technologies compress time and space, and the 24/7 online presence of vast numbers of ordinary people overwhelms institutional media, giving rise to AI anchors. In terms of evolution, AI anchors emerged from traditional announcers, with anime-style images occupying a primary position in their composition. In application, they first originated in gaming and entertainment, then expanded to information dissemination, and have currently

extended to e-commerce livestreaming. Regarding development dilemmas, AI anchors face certain issues in positioning, linking, and personalization. In the future, AI anchors should focus on clarifying objectives to achieve clear positioning; promoting applications to form fan communities; and clarifying thinking to emphasize cultural innovation, thereby enabling better evolutionary development.

Keywords: AI anchor; virtual anchor; artificial intelligence; media ecology; technology

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Technological development and progress have transformed traditional media ecology. Under compressed spacetime, media professionals appear inadequate. Changes in media ecology, in turn, drive technological applications, and artificial intelligence applications in the media field have emerged accordingly. AI journalists, AI editors, and AI anchors have, to a certain extent, liberated media workers. Compared to AI journalists and AI editors that serve merely as internal industry tools, AI anchors, due to their direct appearance and certain personalized characteristics, have attracted widespread attention. Currently, media development has entered the era of artificial intelligence. Timely exploration of the construction of AI anchors, the dilemmas they generate, and the causes of these dilemmas holds significant practical and theoretical meaning for finding future development paths for AI anchors. Existing research on AI anchors primarily focuses on news media application scenarios. Using AI anchor performance in gaming/entertainment and e-commerce as reference points to reflect on AI anchor development in news media can help explore more feasible development paths for media AI anchors.

1. Evolution History

From traditional announcers to anchors, online anchors, the instrumental and functional nature of anchors has gradually faded while personalized characteristics have strengthened. However, the evolution from online anchors to AI anchors has produced two different evolutionary paths: personality deficiency in the media field and personality strengthening in gaming/e-commerce. Clarifying the differences between these development paths is important for overall thinking about current AI anchor development dilemmas and future prospects.

1.1 Conceptual Evolution

From a historical perspective, the concept of "anchor" did not form instantly. It successively underwent several stages: announcer, program host, professional

anchor, virtual anchor, mass anchor, and today' s AI anchor. After the founding of the People' s Republic of China, radio and television news programs primarily adopted an announcer system. In 1981, the radio program "Friends in the Air" first introduced the term "program host" [1]. The term originated abroad, with English equivalents Host or Anchor, though the exact time of its introduction to China cannot be verified. After 1981, with the development of television special and column programs, the host force grew and developed distinctive characteristics. Announcing and hosting began to merge, reflected in university curriculum by the formation of broadcasting and hosting majors. Unlike announcers, program hosts possessed greater subjective initiative, not only presenting information, expressing viewpoints, and communicating on stage, but also often deeply participating in program production. Media reforms in the 1990s gave birth to a new generation of hosts, with reporters, announcers, and hosts merging into one. A new term— "anchor" —became popular. In the early days of the Internet, different countries began experimenting with "virtual anchors," which later developed and expanded in gaming and anime fields. With the arrival of the video livestreaming era, as gaming, education, business, and social platforms developed, major platforms required large numbers of frontline personnel to maintain user stickiness, giving rise to online anchors as a new profession. At this point, the meaning of "anchor" became highly generalized— not only professional media personnel but also self-media individuals and even ordinary members of the public active on livestreaming platforms were called anchors. In 2018, Xinhua News Agency and Sogou jointly launched the world' s first AI synthetic anchor. Through multiple cutting-edge technologies including facial keypoint detection and lip-reading recognition, they generated AI models indistinguishable from real humans [2]. Subsequently, some media platforms also launched their own AI anchors and accelerated their application.

1.2 Component Evolution

AI anchors participate in information production, commercial operations, or social interaction by imitating real humans, playing a leading or auxiliary role. Current AI anchor components can be examined from two dimensions: image and voice, though beneath these lie personality and emotion.

Regarding image, two primary methods currently construct AI anchor images: First, real-person images, such as Xinhua' s "Xin Xiaohao" based on Qiu Hao, "Xin Xiaomeng" based on Qu Meng, "Xin Xiaowei" based on Zhao Wanwei, and CCTV' s "Little Sa" based on Sa Beining. These images often possess considerable fame and extensive fan bases, undertaking heavy hosting tasks. Second, anime-style images, which mostly originate from virtual communities such as online gaming communities and social networking communities. Notable examples include "Linghu" from CrossFire and Bilibili' s virtual singer "Luo Tianyi," which early on were presented as 2D or 3D images.

Regarding voice, real-person images often directly utilize technology to generate voice libraries, while virtual images either use real-person voice acting, construct

intelligent voice libraries, or use technology to directly synthesize speech.

In terms of personality and emotion, both types of AI anchors can borrow partial personality and emotion. However, in actual use, AI anchors generated based on real-person images are mostly applied in traditional broadcasting and hosting fields, where personality and emotion are difficult to sustain later on. AI anchors constructed through virtual images, due to their connection with communities and through certain subcultural interactions and "textual poaching," have their images and emotions continuously constructed and produced.

1.3 Application Scenario Evolution

From an application scenario perspective, gaming/entertainment, information dissemination, and e-commerce operations are currently well-developed fields for AI anchors. Among these, gaming/entertainment provides images and concepts, information dissemination provides momentum, while e-commerce operations provide relatively rich application interfaces.

1.3.1 Gaming and Entertainment: Providing Images In terms of similarity, the earliest AI anchors should have emerged from online games. In games, image, voice, interaction, and tasks are primary elements, with tasks being the most attractive aspect, followed by images and the activity scenarios they provide. During interaction, people often use game protagonists as substitutes for self-presentation and performance, gradually developing emotions toward the images. From the evolution of games, "from functional games to symbolic games, and then to rule-based games, they gradually developed into typical social activities, generating increasingly complex interpersonal ecologies" [3]. Precisely because of this, AI anchors in gaming/entertainment can better embed themselves in people' s daily lives, are more easily accessible, and have smaller barriers with individuals.

1.3.2 Information Dissemination: Emphasizing Voice In news media, as social media imposes pressure for timeliness, some media began developing artificial intelligence information announcers, later gradually developing movable images based on real people. Regardless of the image type used, the ultimate goal is to ensure 24-hour real-time news broadcasting, thereby liberating human anchors. From Xinhua' s AI synthetic anchor practice, it currently resembles more of a "voice broadcast." Some county-level integrated media centers also adopt similar AI anchors. An important characteristic of this application is voice priority with automatic generation. Their real-person faces more reflect media characteristics rather than personalization, with the application starting point primarily being instrumental use.

1.3.3 E-commerce Livestreaming: Focusing on Interaction In e-commerce, due to the prevalence of livestreaming, human-to-human communication sometimes cannot provide massive interaction possibilities. Therefore,

many e-commerce platforms have introduced virtual anchors, using certain images to construct personalities and brands, thereby forming virtual communication. Similar to AI anchors in gaming/entertainment, they mostly use virtual idols as basic images, leveraging emotional factors or subcultural factors to gain public recognition, thus creating shopping scenarios. Examples include Hangzhou' s image virtual anchor "Bai Susu," Taobao anchors based on Bilibili virtual singer "Luo Tianyi," and Taobao virtual anchor "Xiaoyu." From a livestreaming effectiveness perspective, their product sales volume has already put pressure on influencer anchors. In the daily life companionship domain, some virtual anchors have also emerged, though their functions are more reflected in voice interaction and have not yet produced emotional experiences.

2. Development Dilemmas

Paul Levinson believes that technology applications generally undergo three stages: "toy—mirror—art" [4]. Some practitioners believe current AI synthetic anchors are merely a "toy" [5], while scholars argue AI anchors have efficiency advantages but emotional disadvantages [6]. However, from reality, AI anchor development dilemmas vary slightly across different fields.

2.1 Positioning Dilemma: Falling into the Tool-Toy Paradox

Although AI anchors imitate humans and assume partial human functions, in existing social contexts, AI anchors remain a kind of "object" —something to be watched, consumed, and used as a tool. In gaming/entertainment, AI anchors are treated as consumable objects that construct and consolidate communities. In e-commerce and news media, AI anchors serve as information dissemination tools, causing the "image" to lose its function, leaving only voice. For most people with normal hearing and vision, monotonous voice communication appears somewhat redundant. Overall, AI anchors stand between information and commodity production/sales. The primary goal of proponents is to make them tools undertaking information production and dissemination tasks, while on the consumer end, people' s acceptance is more based on curiosity and entertainment needs, viewing them more as toys. This proponent tool mentality and consumer toy mentality ultimately make their goals difficult to reconcile, creating a paradox that affects AI anchor acceptance and promotion.

2.2 Linking Dilemma: Overly Singular Relationship with Humans

Regardless of transformation and development, AI anchors are not human—this is undeniable. This raises a question: How to make individuals as consumers form links with AI anchors. Between humans, information, knowledge, experience, emotion, viewpoints, interests, and social relationships bring people together, while links between AI anchors and humans are mostly completed through information, resulting in overly singular linking methods that affect interaction and usage continuity. Exploring extensive relational links, interest

links, emotional links, knowledge links, and algorithmic links between humans and machines is the main way to solve the linking dilemma. Of course, to escape the linking dilemma, making them intermediaries for human-to-human interaction is also a viable strategy.

2.3 Personality Dilemma: Technology Cannot Achieve Human-like Goals

AI anchor personality includes two levels: First, the human-like level, which current AI synthetic anchors basically achieve in image and voice but fall far short in emotion and viewpoint expression. The second level is the personalized level—not only possessing problem-solving abilities and wisdom but also forming unique personalities, which even among humans constitutes a high requirement. From current technology development paths and capabilities, AI anchor personalization remains a long way off. However, the above personality dilemmas are all examined from a one-way mass communication perspective. Once AI anchors enter the level of interpersonal communication or community interaction, their personality may be endowed, but this clearly lies not at the design level of AI anchors but at the application level.

3. Future Prospects

The development dilemmas facing AI anchors are multifaceted, including dilemmas arising from positioning, dilemmas from relationships with humans, and development dilemmas from technological reasons. Relatively speaking, AI anchors have broad applications with differences across fields, and technology has difficult-to-surpass limitations. Therefore, based on understanding these dilemmas, clarifying goals, focusing on applications, and clarifying development thinking become more important.

3.1 Clarify Goals and Achieve Clear Positioning

Current AI anchor goals include both information dissemination and interactive communication goals, as well as goals as community consolidators. Given current technological capabilities, fully meeting all goals remains somewhat difficult. Therefore, refining and simplifying goals constitutes a viable path. For example, in news media and e-commerce livestreaming, focus on AI anchor voice issues and using big data to construct knowledge and information service systems, rather than simply targeting personalized hosts. In gaming and entertainment fields, focus on their idol themes and interactive functions, striving to develop their shaping as "textual poaching" objects to form central positions.

3.2 Promote Applications and Form Fan Communities

Personalization includes technological personalization, user participation personalization, scenario usage personalization, and personality externalization [7].

Technological personalization is the personalized characteristics technology endows AI anchors with; user participation personalization is where users themselves generate meaning and value; scenario usage personalization is value dependence formed based on specific scenarios. From current technology development status and paths, AI anchor personalization cannot be obtained through technology alone, so alternative paths must be sought. However, this personality is not technology-endowed but participant and user-endowed. Here, attention must be paid to acceptance differences across different strata and groups, transforming entertainment-based acceptance and curiosity-based acceptance into idol-based acceptance, forming subcultural communities, while promoting "migration between old and new media, content migration, and group behavior and cultural ecology migration" [8] to facilitate acceptance.

3.3 Clarify Thinking and Emphasize Cultural Innovation

From the technology application stage perspective, early applications mostly unfolded from a "toy" perspective, then rapidly expanded to the "tool" stage, while ultimate applications must relate to "culture"and enter people's daily lives. From the AI anchor component perspective, image and personality are the main elements that generate culture and intervene in daily life, while voice is a tool element. Therefore, future AI anchor applications should focus on the image level, including cultural image, communication image, interaction objects, etc., focusing on their shaping of community culture and value concepts, promoting fan community formation, and ultimately endowing them with personalized color.

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Note: Figure translations are in progress. See original paper for figures.

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