The Integration of Traditional Broadcasters with Artificial Intelligence in Television News Programmes

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Abstract. Artificial Intelligence (AI) has been a powerful force in technological development over the last decade, creating a new wave of technology worldwide, led by China and the United States, with solid but different development momentum. Therefore, understanding Chinese social media's current attitudes and tendencies towards AI is crucial to understanding the future direction of AI development. Artificial intelligence technology is applied to various fields, and media is one of them. The advent of the 5G era and the emergence of AI anchors have hugely impacted the media sector. In this paper, we analyse the advantages of human presenters and the measures that news presenters can take in the face of challenges in the AI era so that practitioners are aware of the impact of AI technology on the media industry and the importance of improving their capabilities.

1.Introduction

AI has been a strong driving force in technology development in the last decade, creating a new wave of technology worldwide, led by AI in China and the US, with firm but different development momentum. Therefore, understanding Chinese social media's current attitudes and tendencies towards AI is crucial to understanding the future direction of AI development (Xinhuanet, 2019) [13]. From the history of media development, as the influence of the media gradually expanded, the people supervised the operation of the relevant power through the media, reflected their political demands, and gathered relevant public opinion to form a specific public opinion on the government. Gradually, Western societies and state institutions have regarded media monitoring as the "fourth power" apart from the three powers of the legislature, the executive and the judiciary (Chen, 2013) [9]. However, the media, which has been holding a pivotal position in the national society, has entered a new stage of digital information dissemination and diversified media integration driven by the progress of science and technology and the modern world. Artificial intelligence technology continues to be used in various industries, including media, where the advent of 5G and the emergence of AI anchors have hugely impacted the media sector. Although there needs to be more experience with the integration of AI technology in TV media production, and due to the demanding nature of media work which is very high-interactive, virtual technology is still a challenge for technology to replace human hosts. This paper aims to analyse the superiority of human presenters and the measures that news presenters would take in the face of challenges in the context of the artificial intelligence generation, enabling practitioners to realise the impact of artificial intelligence technology on the media industry and the importance of practitioners to improve their capabilities.

2.AI Synthetic Anchor

After the Industrial Revolution, the frequent use of machines to replace the manual work that had gone before became the direction of human development. Furthermore, the invention of the first computers gradually transformed ordinary machines into artificial intelligence. As humankind entered the Internet age, AI also accelerated the pace of replacing manual labour and gradually moved from the basic manual labour level to the creative and creative level.

In 2001, a British network company created the world's first virtual host - Ananova, which set off a hurricane to create a virtual host and can be said to be a significant innovation in the media industry (Qin, 2021) [12]. Since then, virtual presenters have been launched in various countries, such as Yuki in Japan, Vivian in the US, and Lusia in South Korea. In 2004, CCTV-6 launched the first virtual TV presenter in China, Xiao Long. In 2017, "artificial intelligence" was written into the Chinese government's work report, and various fields are keeping up with the times by combining artificial intelligence technology for innovative development (Qin, 2021) [12]. Based on existing virtual host technology, Sogou and Xinhua News Agency jointly launched the world's first fully simulated intelligent AI host, often referred to as "AI Synthetic Host", at the 5th World Internet Conference on 7 November 2018 (Qin, 2021) [12]. On 19 February 2019, Sogou's "Sogou Split" technology made another breakthrough. It jointly released the first "AI Synthetic

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Anchor" that can combine body movements for "standing broadcast" with Xinhua News Agency's New Media Center (Qin, 2021) [12]. "In March 2019, with the support of AR/VR technology, the newly upgraded standing AI synthetic anchor "New Xiaohao" and "New Xiaomeng" were officially launched and participated in the news coverage of the National People's Congress; in May 2020, the 3D AI synthetic anchor was launched. On 21 May 2020, the 3D AI anchor "New Xiaowei" was officially launched and unveiled before the National People's Congress (Qin, 2021) [12]. Compared with the "New Xiaohao" and "New Xiaomeng" at the 2019 National People's Congress, the "New Xiaowei" has highly recreated the hair and skin of a natural person and has significantly improved its three-dimensionality, flexibility, plasticity and interaction ability. It can also make various postures and expressions closer to the natural person according to the content of the broadcast. In the age of intelligent media, content is still king. Regardless of the changes in how the media produce news, it is essential to work hard to publish quality content. The aim is to make news content more informative and knowledgeable while still being interesting.

Robotics engineer John Keefe has pointed out that journalists will use AI to grab the scoop. This is different from robots writing football and financial news. That is more about data analysis and collation, then assembled into an article using natural language programs (BBC NEWS, 2018)[1]. Grabbing scoops is about identifying and uncovering essential facts and truths difficult for humans to capture with their brains alone through machine learning techniques. It is difficult to say whether AI will dominate the media editorial room of the future or whether humans and machines will jointly take the helm. Indeed, at the moment in China, especially in mainstream media such as Xinhua News Agency and People's Daily, media messages are still more often done manually.

The AI synthetic anchor that appeared at the 5th World Internet Conference, the team at the same time prepared a whole set of hosting solutions. In this set of programmes, the staff only need to input the broadcast text, which can immediately broadcast. The demeanour presented and the voice face are so realistic that one could not feel any different from a natural person if one does not look closely, but this is the AI host making the broadcast. However, in reality, this is an AI presenter making the broadcast. The results are good, but when people look at it, the AI programme still needs to be fully AI. It is still a human manipulation behind the scenes, like superimposing a 3D model of a natural person's face and blending the two faces as much as possible through face detection and tracking technology to give a dynamic broadcast effect. The emergence of synthetic anchors has brought the topic of broadcast hosting to the forefront, putting TV news presenters at risk of being replaced. Hosts will face multiple challenges in voice aesthetics, on-camera delivery and work intensity. The emergence of AI anchors has sparked anxiety in the industry and academia about whether they will impact the art of broadcasting, with many practitioners reflecting on their concerns about their career prospects.

Many media outlets have also applied this to news reporting, introducing intelligent news bots. For example, the People's Daily client launched "Xiaoduan", a knowledge bot for the two sessions of the National People's Congress, "Xiaoxin" for Xinhua News Agency and "Xiaoming" for Guangming Daily. Users can interact with the robots through text and voice to ask questions and get relevant answers by clicking on them. Similar technology has turned news dissemination into dialogue, turning the past simple "reading news" and "ordering news" into "Ask the news" and "answer the news". At the same time, these news platforms can collect user interests, feedback and relevant data during interactions, which can be used to optimise products and gain insights into needs. A new visual and interactive reading experience is brought to users. Artificial intelligence will bring about more than massive changes and impacts to journalism in the future. However, it may also innovate social governance, but whether in journalism or more ambitious applications, humans should have the means to make technology serve human development within the limits of human control and achieve a communion of instrumental and value-based rationality. Looking to the future, we expect the journalism industry to use AI to better reflect human dominance and values through "man + machine", machine helping man, and a closed-loop of big data constantly iterating (Xinhuanet, 2019)[13].

3.Potential challenges for TV journalists in the Artificial Intelligence world

AI synthetic hosts are widely employed in news broadcasts because they possess the technical ability to broadcast with zero errors and high-quality productivity (Ren, 2019)[7]. AI can handle people's work in TV shows simply due to the nature of their error-free hosting. It has to be admitted that AI synthetic hosts have capabilities that humans alone cannot reach compared to artificial competencies. The "AI Synthetic Anchor" can produce high volumes of audio and video synthesis and output results 24 hours a day. These operations can significantly reduce the costs behind the scenes of news production and improve the efficiency of news video production. On 21 March 2017, Oriental TV launched a TV news programme called "Xiaobing Shake It", in which the host, Microsoft Xiaobing, appears as an "Internet data broadcaster", able to collect data, conduct online interviews and commentary, and even sing and recite. The programme can also sing, recite, and interact with real people naturally and smoothly. From watching the news to experiencing it, it is clear that technology and the development of virtual presenters can provide more information and excitement and that more AI and virtual presenters with real-world social roles will enter people's minds in the future.

According to the analysis of Han (2020)[3], the new technique of Ai-synthesised hosts is an innovative development compared to the traditional form of TV program production, making TV programs more valuable for communication. With the availability of robots in the production of the program, it is expected to simplify the program's staffing and release the workforce by allowing

one person to play multiple characters. At the same time, the most valuable feature is that robots work efficiently and error-free to improve the program's quality. Mass media (including TV channels) are bound to be successful if they never ignore their recipients but listen and consider their requests or suggestions (Kitsa & Mudra, 2018)[4]. In this information generation, AI robots offer a significant advantage in that they are networked and capable of receiving real-time feedback from viewers and interacting with them while the show is live.

Furthermore, the host of a news program can be highly influential in how that show is perceived by the public, affecting the network's credibility (Bard, 2016)[5]. Furthermore, AI anchors can frequently change their 2D or 3D virtual appearance and customise their image as required. Thus, AI presenters can meet any image requirements of the programme producer and transform their image efficiently according to the programme's needs to better contribute to the programme's production. AI hosts capture the voices of tens of thousands of people in a database and can change from a low, magnetic voice to a high, sharp one whenever needed.

Artificial intelligence is more sensitive to data. It can observe intrinsic correlations from massive amounts of data unsuitable for human insight to produce newsworthy stories and automatically dig up news content that can be disseminated will effectively expand human observation horizons. At the same time, through the combination of journalism and artificial intelligence, the media can realise a clear portrait of users to analyse them more precisely and realise customisation, personalisation and objectification of content production and distribution. A thousand people's previous production and distribution model has undergone an enormous transformation from one point to many points. In addition, AI, as a combination of software and hardware, such as a set of algorithmic programs for robot journalists, can work tirelessly and never stop and is less expensive.

Fast, accurate and true is the lifeblood of news communication, and fast means timeliness. The "AI Synthetic Anchor", in the context of artificial intelligence, can broadcast the latest news immediately and in real-time by simply entering text and instructions in the background, without the need for make-up, dimming, cameras, microphones and studios like traditional announcers, or even any pre-preparation. There are no subjective factors. The "AI Synthetic Anchor" is available 24 hours a day, 365 days a year, and is not affected by its condition, mood or weather. It is possible to split into an unlimited number of virtual anchors as a virtual presence, thus maintaining a steady state and working simultaneously across time and place. This is a massive boost to the news communication industry (Xinhuanet, 2019)[13].

Furthermore, these are extremely difficult for a traditional broadcaster-anchor to achieve and surpass. However, according to the current situation of AI anchor placement and use, it is easy to find that relatively few media outlets actually place and continuously run in the programme, only in some clients in the short news broadcast, such as Learning Power and Xinhua News Agency AI anchor column. When the novelty wears off, audiences seem more willing to trust and accept real people as anchors.

4.Core competencies of human hosts

The host of a television program is the core of the production, guiding the flow of the program and controlling the overall rhythm of the proceedings. The host is the person at the program's central focus in communicating its message to the audience. Ren (2019) pointed out that Hosted communication complements the strengths of mass and interpersonal communication. Moderated communication is highly contextual and personalised communication using communication symbols such as language, gestures and facial expressions[7]. Television program hosts are not only the messenger of information but also the person who establishes the rules in the program. With the development of technology pushing the production of television programs, the hosts have more challenges to encounter. In recent years, the combination of Big Data and Artificial Intelligence is increasingly being applied to AI-synthesized TV show hosts to assist in the program process and accurately and promptly deliver up-to-date data and information. Therefore, in the current trend of media development, AI synthetic robots have the potential to replace real people to host shows. Hosts establish good rules and standards of behaviour and, in doing so, establish social norms associated with the "group", that is, the listening/watching community (Ames, 2015)[2]. Since mechanical abilities have no subjective consciousness, there is no substitute for a natural person to host the show as a central role in disseminating information in the current technological development.

Empathy/transference, from an emotional and cognitive perspective, refers to the ability to empathise with the experiences and situations of others to the greatest extent possible through an understanding of their emotions and situations. Artificial intelligence does not possess human emotions or judgement and naturally cannot empathise. Although humans are not perfect, their 'imperfections' sometimes reveal a different kind of 'perfection'. For example, CCTV anchor Zhao Pu choked up several times during the news broadcast of the 12 May earthquake in 2008. Such "imperfections" are human in a way that artificial intelligence does not, and they are the most moving and empathetic moments.

Nowadays, journalism involves the tedious and repetitive work of speech-to-text conversion using AI speech recognition technology. However, it has to be admitted that with the help of AI for simple tasks, some of the workforce become freed up to do tasks that cannot be done by machines, such as in-depth investigative reporting, programme planning and other tasks that are highly subjective and require independent thinking. This validates Li's (2020) claim that AI will bring the industry to new heights of productivity and efficiency[6]. Qin (2021) pointed out that synthetic AI anchors and other attempts at artificial intelligence are made in the context of AI technology[12]. Therefore, they are essentially just technologies. These attempts are 'born' of technology, so

they exist only as technology. Compared to human presenters, AI synthetic anchors still have aspects that are difficult to surpass, no matter how much they are updated and improved because they are unique to humans.

Compared to real people, the AI anchor's live performance still needs improvement. For example, while presenters are flexible in dealing with unexpected situations through their professionalism and resilience in specific situations, AI virtual anchors are currently unable to improvise. They can only complete orders mechanically based on existing data. On the night of 12 April 2016, there were a few seconds of no commentary or simultaneous sound in the News Broadcast, and anchor Wang Ning reacted quickly and fluently to broadcast a news item, avoiding a live incident. It is evident that news programmes also have high demands on the resilience of presenters.

XinhuaNet (2019) also noted that the development of AI is now in a period of weak AI, has a period of weak AI. Then there is a period of strong AI; the earliest is technology-driven, and now probably into an era of data-driven. And then, there is the need to define AI to the outside world, which is the weak AI period, and the current definition of practitioners, which is just a "tree climbing" stage[13].

The most fundamental difference between humans and artificial intelligence is that it is only a concept in the material world and cannot cross over into the realm of consciousness; artificial intelligence is a simulation of human thought, not thought itself. Therefore, the current AI does not have the relative independence and initiative of the human brain's consciousness. In addition, the creative process of broadcast hosting also requires the second degree of creation of the host; the audible language, body sub-language, hair, and clothing are all second degrees of creation. The second degree of creation can enhance the impact of news communication and the personal image and shape the personal brand. Artificial intelligence, on the other hand, can only learn rationally but cannot create on an emotional level. The creative ability of real-life anchors is, therefore, also an indication of the irreplaceability of presenters (Jing, 2022)[8].

Though technologies such as speech recognition are increasingly widespread, there is still much room for improvement in its accuracy and degree of application, so the output model of news gathering, editing and broadcasting is still the same. Nevertheless, the news industry is still relatively open and optimistic about the development of artificial intelligence technology. Many major media outlets now have AI research institutes and are looking at the development of this technology as the way forward for journalism.

The application of artificial intelligence in journalism has opened up new growth opportunities and significantly freed journalists, as New York magazine contributor Kevin Rose argues that automatic writing deals with the "manual work" associated with large amounts of data that human journalists are reluctant to do in a time-consuming manner, freeing journalists from a large amount of low. It frees journalists from a lot of low value-added, repetitive work and gives them more time and energy to do more

creative journalism. Artificial intelligence is more sensitive to data. It can observe intrinsic correlations from massive amounts of data that are not suitable for human insight to produce newsworthy stories and automatically dig up news content that can be disseminated will effectively expand human observation horizons. At the same time, through the combination of journalism and artificial intelligence, the media can realise a clear portrait of users to analyse them more precisely and realise customisation, personalisation and objectification of content production and distribution. The previous production and distribution model of a thousand people has undergone an enormous transformation from one point to many points. In addition to this, AI as a combination of software and hardware, such as a set of algorithmic programs for robot journalists, can work tirelessly and never stop and is less expensive to use. However, the current application of artificial intelligence in journalism has emerged some problems to intelligent distribution. For example, relying solely on algorithms to click on recommended reading may bring the consequences of reading shallow or even vulgarity. The user is quickly caught in the information cocoon situation, thus most likely to lead to fake news rampant.

In terms of the current application of artificial intelligence in news writing at home and abroad - robot journalists - we can find that it is mainly used in sports, finance and other news reports with a lot of data, which only require simple analysis and processing of data to form a patterned report, with boring content and a single model, lacking readability. The robot journalists fill in the templates built into the system and process the data to generate news stories. Although objective and impartial, these stories are hardly attractive to readers (Xinhuanet, 2019)[13]. Their stories do not meet the high-level needs of the reader and provide only basic factual information. They cannot write news on topics such as news commentary, live reporting and in-depth investigative reporting. Event-based journalism generally has a strong sense of the scene, and beyond the essential elements of people, time, place and events, much detailed information is also essential, which robotic journalists cannot capture (Xinhuanet, 2019) [13]. There is a saying in journalism that seven points are taken, and three points are written. This means that good journalism is not "written" but "picked". Robotic journalists may have difficulty in this area. In addition, in-depth reporting, which requires brainpower, which requires digging deeper into information, clarifying the context, causes and consequences of events and the complex relationships between people (Xinhuanet, 2019) [13]. This is based on social experience and emotional awareness that is difficult for robot journalists to achieve. Commentary is also a significant challenge for robot journalists, as it reflects the writer's position, opinions and values, and is highly subjective, and robots, as an aid, are hardly intelligent enough to take the initiative (Xinhuanet, 2019) [13]. All of this suggests that the application of artificial intelligence in news writing is limited and difficult to break through. Finally, based on the differences and specialisation of each field, robotic journalists can only be helpful in a few specialist areas of reporting, and

most industry reports are complex for them to handle.

The application of AI in journalism is based on human settings, and it lacks initiative. In terms of news writing, robot journalists do not have news sensitivity and cannot actively find news but can only report on specific content according to a preset template. In terms of gathering material and assisting with editing, it is also based on particular instructions and cannot operate independently of human instructions, which suggests that AI is currently in a dependent state (Xinhuanet, 2019) [13].

Qin (2021) also mentions that it takes years of study and practice for a professional broadcaster to speak without a script. This is the weakness of the AI synthesizer. The production process also requires personal control of the scene and improvisation and the ability to deal with unexpected situations and emergencies. These skills cannot be calculated through big data but need to develop through accumulation and learning gradually[12]. In the communication process, language expressions, accents, and pauses also need to be adjusted and determined according to the atmosphere, the audience's reaction, and the presenter's style to achieve a better communication effect. None of this can be determined through significant data calculations.

Especially in the face of breaking news, such as the recent epidemic or China's centenary of the party, and the Henan rainstorm disaster news report, if we say to send various reporters to conduct on-site interviews, to bring a sudden event news report, in fact, as an announcer or reporter, need strong language organization skills to complete the work. However, this artificial intelligence, then But this AI does not have functional AI. What it says and what it broadcasts is predetermined in advance.

5.The threat is a developmental impetus in some instances.

The advent of the age of intelligent media has also redefined journalism. The development of AI technology has also brought about a new change in how news is produced. Advanced AI writing robots and AI synthetic anchors at home and abroad are giving an example to the industry in which homogenised and mass-produced content is doomed to be eliminated. Journalists must find their own innovative, unique points to dig deeper into the value of news so that humanity can differentiate itself from machines and find its place in the industry under the personal threat posed by automation.

In contrast to traditional live presenters, AI synthesis presenters in the age of intelligent media have shifted the communications industry from 'human-led to 'technology-led. The new technology of AI syndication is no different, and while it does have some advantages that humans cannot surpass, they are "rational" (Qin, 2021) [12]. A "rational" existence. A healthy and orderly society requires emotion, and humans, as superior emotional beings, are better able to empathise with the masses, so there must be a need for the 'emotional' presence of human anchors (Qin, 2021) [12].

6.Conclusions

Overall, humanity has moved into a period of high differentiation and diversity of distinction, particularly as the awakening of difference reveals that "we are all indigenous to diverse cultures and that everyone different from themselves is foreign and exotic. While modern social governance rejects differences in the search for consensus, social governance has to preserve differences and even maintain them formally to prove the significance of consensus for social governance and demonstrate the value of public life and its democratic ideology. Rather than merely reinforcing femininity and the demand for resistance to feminine diversity, feminism is a response to a perpetual distinction based on superiority. The inferiority of differences and demand for the universal appreciation and observance of specificity should be understood as a claim that fails to promote the identity of a particular group since it also includes a demand that femininity is not reinforced. The movement to acknowledge diversity continues to expand and widen in the evolution of feminist claims. Under feminist guidance, marginalised groups, previously distinguished by notions of nationality, community, sexuality and race, became active and, in effect, converged into a social movement of 'struggle for recognition. The legitimacy of consensus should build based on differentiation. While contemporary social governance precludes the pursuit of consensus, formally speaking, this process should maintain and preserve differentiation as proof of its relevance to social governance. Since the diversity of human civilisations and, thus, differentiation created differentiation, the maintenance of differences is also an initiative to advance cultural diversity in this context of human coexistence. Social diversification should not mean that there is a superiority of one value overextended above another. The recognition that all communities have their values guarantees mutual tolerance and coexistence in society. Therefore, in the context of the coexistence challenges that human societies confront, societal models' evolution must accept differences.

The development of artificial intelligence will have a particular impact on traditional broadcasting, especially news programmes. However, technological advances not only mean elimination but also provide opportunities and create value. In the era of total media, the 5G interconnection of everything will further disrupt traditions, elevating the interconnection between people and the world to a physiological and psychological level, and creating a new form of news media. News presenters need to keep up with the times, master advanced technology, strengthen themselves, improve their cultural literacy, and combine professionalism with intelligence to achieve better development for themselves.

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