

The change and development of journalism in the age of artificial intelligence

Zhaocheng Gao

St. Petersburg State University, Saint Petersburg 199004, Russia

Abstract. With the continuous innovation and development of information technology means such as big data and artificial intelligence, the news cultural ecology has been changed to a certain extent, and the production mode of traditional news has been completely subverted and reconstructed. Under the influence of the era of artificial intelligence, the news and advertising industry is facing unprecedented transition changes, natural language generation, speech recognition, virtual agent has become the main trend of the development of the times, journalism gradually shows the development characteristics of technological thinking. Based on this, this article briefly discusses the reform and development strategies of journalism in the era of artificial intelligence, in order to provide experience and help for journalists, and help artificial intelligence technology to empower and liberate the productivity of journalism.

Keywords: Artificial intelligence; Journalism; Informatization; Datamation; Man-machine writing.

1. Introduction

The continuous innovative application of artificial intelligence technology in the field of news media has brought a strong shock to the whole industry and the psychology of employees to a certain extent. Is the application of data algorithm, speech recognition, man-machine writing and other technical means in journalism "alternative" or "coupling"? It has become an issue that journalists struggle with and explore. In view of the quantifiable characteristics of everything in the era of artificial intelligence, the development of technology not only carries risks, but also contains opportunities for reform and development. Based on this, journalists in the era of artificial intelligence should strive to stand at the forefront of the development of The times, actively explore the reform and innovation development path of journalism, lead the development trend of the era of intelligent media, and promote the sustainable development of journalism.

2. The positive changes brought by artificial intelligence to journalism

2.1 Liberating the productive forces of journalism

In the traditional mode of news production, editors and reporters need to spend a lot of time and energy to collect information, select materials and write reports. With the development of artificial intelligence technology, these jobs can be done quickly by automating the processing of large amounts of data, freeing up more human resources. For example, AI technology can be used to automatically generate news articles. By using natural language processing (NLP) technology, AI systems can extract key information from massive online texts and generate news reports[1] according to preset rules and templates. This can not only greatly improve the efficiency of news production, but also free reporters and editors from tedious collection and collation work, with more time and energy for in-depth reporting and innovative content creation.

In addition, AI technology can also be used for intelligent screening and analysis of news materials. By conducting real-time analysis of a large amount of news data, the AI system can quickly discover hot events, trends and issues, and feed the information back to reporters and editors in a timely manner to help them make more accurate decisions.

2.2 Driving the transformation of media formats

AI technology is not only changing the way news is produced, it is also reshaping the media business. For example, AI-driven personalized recommendation systems make news reading more accurate and convenient; AI-generated content, such as virtual anchors and intelligent writing tools, are changing traditional forms of news expression. Specifically, AI-driven personalized recommendation systems can provide users with customized content[2] recommendations based on their reading habits, interests and other information. This approach can not only improve the user's reading experience, but also allow media organizations to better understand the needs of users, so as to accurately push content and improve the effectiveness of advertising. Second, AI-generated content such as virtual anchors and smart writing tools are changing traditional forms of news expression. For example, virtual anchors can achieve performance similar to human anchors through speech synthesis and image recognition technology; Intelligent writing tools can automatically generate news manuscripts, greatly improving the efficiency of news production. In addition, AI technology can help media organizations analyze large amounts of data to make more scientific and accurate decisions. For example, by analyzing user behavior data, media organizations can understand users' reading habits and preferences to optimize content strategies; By analyzing market data, media organizations can understand the market demand and competitive situation, so as to develop more effective marketing strategies. Finally, AI technology is also helping media agencies better operate social media platforms. For example, through the use of natural language processing (NLP) technology, AI systems can automatically respond to user comments and private messages, improving user engagement; By using machine learning (ML) technology, AI systems can automatically optimize content strategies on social media based on users' behavioral data and feedback information.

3. Challenges for journalism in the age of AI

3.1 News distribution channels are dominated by platforms

With the rise of artificial intelligence technology, the influence of social media and short video content platforms on news transmission is further increasing, which leads to news communication channels being further dominated by platforms. This trend may lead to the decline of the status of traditional media in the news field. Traditional media may be at risk of decline, as more and more people choose to get news information through social media and content platforms, which may lead to a decrease in the readership of traditional media. At the same time, news production and dissemination has become more dependent on the rankings and recommendations of platform algorithms, which adds uncertainty and competitive pressure to news practitioners. News practitioners need to understand and adapt to platform algorithms

to improve the ranking and visibility of their content on the platform, not only to create attractive content, but also to consider how to meet the requirements[3] of the platform algorithms.

3.2 Data algorithm bias induction

AI algorithms may be biased when making news recommendations and rankings, a problem that may lead to the limitations of users' access to information and even distort the authenticity of public opinion. News practitioners need to pay special attention to the fairness and transparency of algorithms to avoid the negative impact of algorithmic bias on news reporting. When news distribution channels are dominated by platforms, algorithms play a central decision-making role. However, the process by which algorithms are made and run can be influenced by a variety of factors, such as bias in data collection, the values of the algorithm designers, and commercial interests. This can lead to bias in the algorithms' determination of news recommendations and rankings, amplifying, distorting or excluding certain views or information. This algorithmic bias may lead to limitations in the information users are exposed to, with certain restrictions on diversity and reporting of different views, which in turn distorts the authenticity of public opinion. For example, certain events may be

over-reported, while other important events are ignored or given less attention. This will result in unbalanced and misleading information, which will have a negative impact on users' judgment and opinion formation.

3.3 The authenticity of news is affected

In the age of artificial intelligence, the manufacturing and dissemination of fake news has become easier, which poses a challenge to the authenticity of news. Artificial intelligence technology can be applied to generate fake news, making real news difficult to distinguish[4] from false information. Fake news generated by artificial intelligence may have realistic appearance and content, making it difficult for readers to recognize its authenticity. This leads to confusion and misdirection of information, which poses a serious threat to the authenticity of news. The manufacture and dissemination of false news can be used for undesirable purposes such as manipulating public opinion, influencing elections and undermining social stability. This has had a negative impact on the public's trust in news and the reputation of the news industry.

4. The transformative development direction of journalism in the context of artificial intelligence technology empowerment

4.1 Reshape the core competitiveness of the media industry

Media organizations should strengthen capacity building in their core business and enhance the quality and uniqueness of news content. By strengthening original reporting, in-depth analysis and professional commentary, they should build their brand image and provide valuable news services[5] to users. To be specific, it should be carried out in the following aspects: First, by investing in original reporting, media organizations can increase the cultivation and recruitment of talents in order to have more exclusive news reports. Through insight and research, media organizations can provide unique news content and attract users to trust their brand image. Second, by enhancing in-depth analysis, media organizations can increase the number of professional analysts and strengthen their expertise in key areas. In-depth analysis can provide more unique opinions and in-depth insights, so that readers can obtain more comprehensive information, and improve the quality and uniqueness of news content. Thirdly, to provide professional comments, media organizations can invite industry experts, scholars and opinion leaders to write professional comments and opinion articles. These voices can provide users with diversified and professional perspectives and add depth and value to news content. In addition, using technology to carry out innovative activities, media organizations can combine artificial intelligence and big data analysis and other technical means to improve the efficiency and accuracy of news reports, so as to better meet the needs of users, update and publish valuable news content in a timely manner. Finally, user interaction should be enhanced. Through social media platforms and interactive tools, media organizations can effectively communicate and interact with users. By understanding users' needs and feedback, media organizations can more accurately grasp users' interests and provide news services in line with their values.

4.2 Reform the news production system

Reforming the news production system is a key step in enhancing the influence of media organizations. Using AI technology to reform the news production system can greatly improve production efficiency and the quality of news reports. Firstly, media organizations can adopt intelligent editing systems to automatically extract, sort out and edit news content through natural language processing and machine learning, which can save a lot of manpower and time and quickly produce high-quality news reports. Secondly, media organizations can make use of automated auxiliary tools, such as automatic summarization, automatic translation and automatic typesetting, to assist the news production process. These tools can process large amounts of data and text quickly, improving production efficiency and accuracy. Third, media organizations can leverage AI and big data analytics for data-driven news production. By analyzing data such as users' interests, needs and

interactive behaviors, media organizations can more accurately grasp the direction and content of news reports, and provide news services that meet users' expectations. In addition, media organizations can optimize news production and distribution processes for mobile device users. For example, news editing tools and mobile applications suitable for mobile devices can be developed to increase user experience and convenience. Finally, organizations can cross different media forms and combine traditional media, social media and mobile Internet. By utilizing artificial intelligence technology, data from various platforms can be integrated to provide more comprehensive and integrated news coverage.

4.3 Transforming perceptions of institutional and professional development

Organizations and practitioners need to change their mindset to see AI technology as an important force driving the development of journalism. Actively embrace AI technology, cooperate with it for joint innovation, give play to the advantages of technology, and improve the quality and efficiency of journalism. Media organizations can use AI technology to automate heavy tasks such as data analysis, fact-checking and information screening, so that journalists can devote more energy to in-depth reporting and innovative work to improve the quality and uniqueness of news content. Secondly, with the help of AI technology, news organizations can provide personalized news recommendation services for users based on their reading preferences and historical behaviors, so that users can more easily obtain news content that they are really interested in and increase user stickability. At the same time, AI technology can help news organizations achieve faster and more accurate news reporting. Through technologies such as automated summaries, event tracking and semantic analysis, organizations can monitor and report important events in real time, giving readers the most up-to-date and comprehensive news information. In addition, with the help of artificial intelligence technology, news organizations can provide users with more interactive news experiences, such as human-computer dialogue, intelligent Q&A and virtual reality reporting. In this way, readers can gain a deeper understanding of news events, participate in discussions and express opinions, and increase the engagement of news. Finally, AI technology can also be used to detect and counter the spread of false information. Organizations can use natural language processing and machine learning techniques to identify and filter out inaccurate or misleading information and ensure the authenticity and credibility of news content.

5. Summary

To sum up, in the context of the era of artificial intelligence, media organizations such as journalism and advertising need to change their wrong perception of artificial intelligence technology, actively embrace artificial intelligence technology, integrate it into news reporting and creation process, empower and liberate the productivity of journalism with artificial intelligence technology, so as to reshape the core competitiveness of journalism and promote the healthy and sustainable development of journalism.

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