The Impact of Artificial Intelligence on the News Industry and Strategies for Addressing IT

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Abstract: *The application of artificial intelligence technology to news production is a crucial direction for the high-quality development of the news industry. AI technology has the potential to effectively empower the news industry in various aspects, including setting news topics, producing news content, and shaping news dissemination. However, there are currently some potential risks associated with AI's empowerment of the news industry, such as undermining the cognitive abilities of news audiences, damaging the credibility of the news industry, and inducing social and cultural biases. Therefore, news professionals and relevant regulatory authorities should adopt the following strategies:Firstly, establish a value optimization mechanism to promote the integration of technological ethics into the news industry;Secondly, construct a content-oriented mechanism to enrich the effective supply of news discourse content;Lastly, build a content supervision mechanism to promote the ethical development of artificial intelligence.*

Keywords: *news industry, artificial intelligence, positive empowerment, strategies for addressing*

1. Introduction

In the realm of news communication, artificial intelligence technology presents a multifaceted and diversified landscape of positive empowerment. News professionals leveraging AI technology in the news industry benefit from the precision and anticipation of setting news topics, the intelligence and automation of news content production, as well as the smart and precise nature of news dissemination.

2. Positive Empowerment of Artificial Intelligence in the News Industry

2.1. Empowering the News Industry with AI for Precision and Anticipation in Setting News Topics

When engaged in news production, news professionals must accurately grasp the focus of the audience, societal hot topics, and prevailing propaganda directions. Through precise and anticipatory topic setting, they can enhance audience engagement and satisfaction, meeting their intellectual preferences. AI technology, through "digital profiling" and intelligent sentiment analysis, has successfully addressed the challenge of public opinion information needs. It offers real-time tracking advanced prediction of audience interests, societal hot topics, and prevailing propaganda trends. This digital support aids news professionals in making precise selections of news topics and societal issues, allowing them to predict future areas of interest for news audiences and the development trends of mainstream public opinion.

2.2. Advancing the News Industry with AI for Intelligence and Automation in News Production

As the focal points of public interest and entertainment diversify, individual news professionals increasingly find it challenging to meet the multifaceted needs of society. Consequently, news professionals are embracing AI to promote the smart and automated production of news, which has become an inevitable trend. On one hand, news professionals can collect and analyze real-time information on audience sentiment, societal hot topics, prevailing propaganda trends, and internet sensations through aggregation-based AI algorithms, represented by big data intelligence. These facilitated by intelligent algorithms and deep learning techniques, aid news professionals in creating quality content and crafting directions that appeal to their target audiences, effectively reaching them. Simultaneously, news professionals can utilize generative AI, typified by ChatGPT, to automatically

compose and edit portions of news content. AI's prominent capabilities in text mining, data clustering, and content production automation provide a wealth of possibilities for improving news production efficiency and enhancing the immersive experience of news products through multisensory, multichannel stimulation.

2.3. Advancing the News Industry with AI for Smart and Precise News Dissemination

Artificial intelligence has the potential to fully empower news products, including text, images, videos, and more, to create immersive, multidimensional news experiences for audiences. AI technology utilizes digital profiling to provide personalized news products to every news consumer, catering to their personalized societal interest and entertainment demands. In the process of targeted news delivery, news professionals can construct smart and personalized forms of news dissemination based on audience attention data, societal hot topics, and prevailing propaganda trends. This makes news dissemination more precise and efficient.

3. The Potential Risks of Artificial Intelligence Empowering the News Industry

Presently, the emergence of the new generation of artificial intelligence technology, exemplified by ChatGPT, has significantly advanced the precision and anticipation in setting news topics, the intelligence and automation in news production, and the intelligence and precision in news dissemination. It has heightened the accuracy and timeliness of news communication. However, as artificial intelligence further integrates into the production of news products, its uncontrollability inevitably brings forth potential risks, such as diminishing the cognitive capacity of news audiences, undermining the credibility of the news industry, and inciting social and cultural biases.

3.1. The "Information Cocoon" Diminishing Audience Cognitive Capacity

The new generation of artificial intelligence technology represented by ChatGPT relies on past training data and internal intelligent algorithms for content generation and creation. While this enriches the content of news products, it also imposes limitations on the potential for limitless creation based on existing knowledge. Artificial intelligence technology, through numerous algorithms and content mappings beyond count, immerses the production of news products in a process that is unobservable but the conclusion of which can be predetermined—a "data black box." This situation not only erases the agency of news professionals and news audiences but also gives rise to the emergence of an "information cocoon," further eroding the cognitive capacity of news audiences.[1]

On one hand, due to the unpredictability and diversity of the focus of news audiences, societal hot topics, and mainstream propaganda trends, news professionals increasingly find it challenging to maintain control and authority over the production of news products. Artificial intelligence technology offers technical solutions to the dilemmas faced by news professionals in setting news topics, producing news content, and shaping news dissemination. However, with the further integration of artificial intelligence technology into the entire news production process, the "black box" nature of AI content production, characterized by the efficiency of content production, logical coherence of form, and content ambiguity, increasingly erases the agency of news professionals. In pursuit of the expediency and efficiency of content production to meet the demands of news product creation, news professionals are more inclined to exchange the transmission of meaning and value for symbolized data conversion. This, in turn, diminishes their awareness and capacity to reflect upon and critique the risks associated with artificial intelligence technology, particularly the "data black box" and "information cocoon," leading to the continual erosion of the agency of news professionals themselves.

On the other hand, under the active influence of artificial intelligence technology, news audiences easily fall into the "information cocoon," immersing themselves in the utopia constructed by artificial intelligence, thus losing their cognitive agency based on their own developmental needs. Artificial intelligence technology provides news audiences with immersive news products in full dimensions, along with multisensory, multichannel stimuli in news dissemination, spurring the interest and motivation of news audiences to further subscribe to specific news content products. Nevertheless, as certain news audience groups cannot differentiate the authenticity of news sources from the true value of news content, they are unable to fully recognize their own developmental needs and autonomously select news products. They passively accept and rely on the predetermined conclusions generated by artificial intelligence, immersing themselves in the utopia created by artificial intelligence. This passive

acceptance and utopian immersion reduce their enthusiasm for exploring the origins and value of news products, causing a further consolidation of their cognitive boundaries and a decline in cognitive capacity.

3.2. The "Noise Effect" Eroding News Industry Credibility

The widespread use of artificial intelligence technology in the news industry enriches the content and form of news products. However, if we allow artificial intelligence to permeate the entire news production process, it may lead to the blurred lines between the responsibilities of news professionals and the functional objectives of news products. This could not only seriously damage the seriousness, professionalism, and credibility of news products but also potentially harm the credibility of the news industry, deviating from the ethics and professional integrity of journalism.

On one hand, the new generation of artificial intelligence technology, represented by ChatGPT, lowers the industry threshold for entry into the news production process for untrained individuals, leading to a proliferation of news products that lack a clear value orientation and cannot be verified. These news products inundate various news and social media platforms, diverting a significant portion of the attention resources of news audiences. This inevitably encroaches upon the space for professional news professionals and raises the cost of adhering to journalistic ethics and professional integrity. In this context, the credibility of the news industry will gradually diminish.

On the other hand, the new generation of artificial intelligence technology, represented by ChatGPT, relies heavily on past training data and internal intelligent algorithms during the generation of news products. Although these technologies have made some advances in autonomous learning and natural language understanding, they are still in their infancy and cannot effectively address technical issues such as the accuracy, bias, and compliance of information sources. This predicament will deepen the dependence of news audiences on artificial intelligence technology, reducing their sensitivity to false news. Consequently, this poses a potential threat to the credibility of the news industry.

3.3. "Data Contamination" Inciting Social and Cultural Biases

Artificial intelligence technology views the production of news products as a process of symbolized data calculation, disrupting the traditional notion in the news industry that news products serve as media for conveying societal information and values. During the generation of news product content, artificial intelligence technology is highly influenced by the intense attention, high viewership, and high click rates of internet hot topics. This leads to the risk of "low quality" and subsequently incites social and cultural biases.

On one hand, news professionals can incorporate internet hot topics into the news production process through the new generation of artificial intelligence technology represented by ChatGPT, which significantly captures the attention resources of news audiences. As an interactive online tool, the new generation of artificial intelligence technology enables news professionals to continually absorb internet hot topics, adjust output to meet the societal focus and entertainment needs of news audiences. However, this process is constrained by the personal values of news professionals, the training data of artificial intelligence, and internal intelligent algorithms. As a result, artificial intelligence may generate a plethora of misleading information, leading to the viral spread of false information, exacerbating the risk of "low quality," causing a segment of news audiences to fall into cognitive misconceptions, and consequently giving rise to social and cultural biases.

On the other hand, the new generation of artificial intelligence technology represented by ChatGPT is currently unable to automatically distinguish various societal trends that deviate from mainstream ideologies, such as "nihilism" and "materialism." This causes the primary data sources of artificial intelligence to be contaminated by relevant content. Consequently, the content of news products faces the risk of "low quality." Some of the content generated from this circumstance, which deviates from mainstream societal ideologies, can easily mislead news audience groups, weaken the social and educational impact of news products, and reinforce erroneous value perceptions among some news audience groups.[2]

4. Strategies for Empowering the News Industry in Response to Artificial Intelligence

In light of the various technological risks associated with the application of artificial intelligence,

the news industry needs to adapt proactively to the changes brought about by artificial intelligence in news topics, content, and news dissemination. It is imperative to integrate the operational logic of artificial intelligence into its own development logic. News professionals and management entities must modernize the news industry in terms of value optimization, content direction, and content supervision.

4.1. Establishing a Value Optimization Mechanism, Promoting Ethical Integration in the News Industry

Currently, the foundation of value optimization mechanisms in artificial intelligence news product production is grounded in the embedding of technological ethics. This is not only a fundamental requirement for the application of artificial intelligence but also a basic necessity for empowering the news industry with artificial intelligence. To prevent the occurrence of technological misconduct risks in the unique application scenario of news production, it is essential for news professionals and management entities to embed technological ethics into the value optimization mechanism.

On one hand, when constructing the value optimization mechanism for artificial intelligence-empowered news industry, news professionals and management entities must uphold the professional ethics of the news industry. The new generation of artificial intelligence technology, represented by ChatGPT, boasts efficient dynamic analysis capabilities, intelligent content delivery mechanisms, and more, enabled by the collection and intelligent analysis of vast amounts of data. This allows artificial intelligence to grasp audience interests, societal trends, and mainstream propaganda tendencies in real-time, thereby providing a fundamental basis for news professionals to produce news products. Hence, news professionals must clarify the professional ethics and professional integrity in the context of artificial intelligence-empowered news production to ensure the integration of technological ethics principles that align with mainstream societal needs into the operational logic of artificial intelligence. This, in turn, mitigates the risk of artificial intelligence leading news audiences into ideological misconceptions, such as nihilism and materialism.

On the other hand, in constructing the value optimization mechanism for artificial intelligence-empowered news industry, it is crucial to standardize the conduct of news professionals. News professionals should engage in substantial communication and interaction with technology development, news industry management entities, and news audiences. In light of the current state of artificial intelligence application and news industry regulations, news professionals and management entities must establish clear technological ethics standards to govern the operation of artificial intelligence in the unique application scenario of news product production. Through these specific technological ethics standards, news professionals can ensure reasonable operation within the boundaries of the professional ethics and professional integrity of the news industry.[3]

4.2. Constructing a Content Direction Mechanism, Enriching Effective Supply of News Industry Discourse Content

News professionals and management entities must effectively manage every stage of artificial intelligence-empowered news product production. This entails selecting and controlling data sources, as well as intervening and influencing content production.

On one hand, during the data collection phase of artificial intelligence-empowered news product production, news professionals need to make careful selections and exercise control. Currently, the new generation of artificial intelligence data sources, typified by ChatGPT, exhibits diversity and intractable authenticity. News professionals must actively participate in the production and dissemination of data to ensure that news content, in line with mainstream ideologies, becomes the primary data source, thus purifying data sources. This requires news professionals to adapt to and align with the speech habits of news audiences, molding news products into internet hotspots that are pleasing to the masses, in order to balance the emphasis of artificial intelligence in data collection.

On the other hand, news professionals and management entities need to intervene and influence content production during the content production stage of artificial intelligence-empowered news production. This necessitates news professionals adhering to the professional ethics and professional integrity of journalism, recognizing the true essence of content produced by artificial intelligence, and promptly asserting authoritative intervention within the context of artificial intelligence application to prevent misleading by the logical form of content. Furthermore, news professionals should acquire a scientific understanding of the fundamental principles behind artificial intelligence content generation

to bolster their active intervention capacity in news product production. This guarantees that the generated news products resonate with the societal interests and entertainment expectations of news audiences.[4]

4.3. Establishing a Content Supervision Mechanism, Promoting Ethical Development in Artificial Intelligence

The content supervision mechanism in news production aims to oversee the adherence of related content to mainstream societal ideologies and journalistic ethics. This reduces societal and cultural biases, upholds the credibility of the news industry, and fosters the ethical development of artificial intelligence. News professionals and management entities must filter and interpret content during the content output stage of artificial intelligence-empowered news production.

On one hand, the news content generation process of artificial intelligence involves the reproduction of data by deeply integrating internal intelligent algorithms, prior training data, and internet hotpoint data. Hence, news professionals must consider the maintenance of mainstream societal ideologies as a crucial content filtration principle, using it as the cornerstone for the production of news products. Given the current challenges and difficulties in artificial intelligence-generated news products, which revolve around logical coherence and the competition for the attention of the masses with societal hot topics, news professionals and regulatory entities must filter content to prevent the contamination of artificial intelligence's training data by news products that deviate from mainstream ideologies and misguided thinking.

On the other hand, news professionals and regulatory entities must further process the content generated by artificial intelligence to ensure the authenticity and reliability of relevant sources. Moreover, news professionals should actively incorporate the advantages of artificial intelligence-generated content, such as its simplicity, novel expression forms, and relevance to the daily lives of news audiences. This will enrich the discourse content of news products and meet the increasingly diverse societal focus and entertainment needs of news audiences.

5. Conclusion

In the age of artificial intelligence, contemplating the strategies for empowering the news industry with artificial intelligence is not only a pragmatic necessity in response to the timeliness, professionalism, and crises of the news industry but also the path to modern innovation and development in news work. With the empowerment of artificial intelligence technology, profound transformations will not only affect the news communication environment but also impose higher demands on the strategies for dealing with artificial intelligence technology, especially in terms of value optimization, content direction, and content supervision. This necessitates a proactive transformation of traditional perspectives by news professionals and regulatory entities to explore new paths for artificial intelligence-empowered news dissemination, adapting to the new changes in news communication brought about by the era of artificial intelligence.[5]

References

[1] Shalini Chandra, Anuragini Shirish & Shirish C. Srivastava (2022). To Be or Not to Be …Human? Theorizing the Role of Human-Like Competencies in Conversational Artificial Intelligence Agents, Journal of Management Information Systems, 39(4):pp.969-1005.
[2] Thomas H. Davenport (2018). From analytics to artificial intelligence, Journal of Business Analytics, 1(02):pp.73-80.
[3] Araz Taeihagh (2021). Governance of artificial intelligence, Policy and Society, 40(2):pp.137-157.
[4] Ryan J. Thomas & T. J. Thomson (2023). What Does a Journalist Look like? Visualizing Journalistic Roles through AI, Digital Journalism. Digital Journalism,(2):pp. 1-23.
[5] Yang Yu & Kuo Huang (2021). Friend or foe? Human journalists' perspectives on artificial intelligence in Chinese media outlets, Chinese Journal of Communication, 14(4):pp.409-429.