

The Development and Impact of Artificial Intelligence on the Media Industry

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Abstract. With the development of artificial intelligence, the media industry is moving towards digitalization and intelligence. AI is now widely used in multiple links of the media industry, such as content production, information dissemination, and business operation. This has led to a shift from traditional human-dominated models to human-machine collaboration. AI brings new opportunities to the media industry, but its application also presents challenges. This article explores the impact of AI on media development. It focuses on how AI changes content production structures, dissemination mechanism, and business models. The study also analyzes the positive effects and potential challenges of AI. It uses literature research and theoretical analysis, combining academic research and industry cases to provide a comprehensive view. The findings show that AI has greatly reshaped media production, dissemination, and business models. AI not only improves content production efficiency but also drives innovation in media forms. It also plays an important role in user analysis and public opinion monitoring. However, AI also raises issues such as information authenticity, copyright disputes, and changes in professional structures. Therefore, the use of AI in the media industry requires a balance between innovation and regulation.

Keywords: Artificial Intelligence, Media Industry, Industrial Transformation, Public Opinion Governance

1. Introduction

In recent years, AI has developed rapidly and become a key driver of digital transformation across industries. The media industry, which relies heavily on information production and dissemination, has been significantly influenced by AI [1]. Technologies such as machine learning, natural language processing, and speech recognition are being widely applied in multiple aspects of the media industry, including content production, information dissemination, and business operations. As a result, the traditional media production model is gradually shifting from human-dominated to human-machine collaboration [2]. At the same time, AI has brought both opportunities and challenges to the media industry, including positive impacts such as enhanced production efficiency and innovative media forms, as well as challenges such as information authenticity, copyright disputes, and changes in the professional structure. Therefore, this article focuses on the development and impact of AI on the media industry, with a particular emphasis on analyzing how AI changes the content production methods, dissemination mechanisms, and business models of the

media industry. Furthermore, the article also explores the positive impacts of AI on enhancing the efficiency and innovation of media production, as well as the challenges it brings in terms of information authenticity, copyright protection, and changes in the professional structure. This article mainly conducts a review of relevant academic research and industry cases through literature research and theoretical analysis, and examines the changes and impacts that AI has brought to the media industry. The article helps deepen the understanding of how AI is driving the development of the media industry and provides certain references for media organizations in their development and transformation in the era of AI.

2. Changes in the operational structure of the media industry under the influence of AI

2.1. Transformation of content production models

In the era of traditional media, news reporting, video production, and film shooting were mainly done manually, but with the application of AI, the process of media production has begun to change. For example, in the news industry, machine learning is applied to different stages of news production [3]; In the film industry, artificial intelligence can generate film scripts, create film special effects, produce subtitles, and more [4]. This transformation not only reduces production time but also improves the efficiency and capacity of content creation.

As a result, the production mode of media content is shifting from traditional manual operation to a new model with deep AI involvement in all aspects. In fields such as news and film and television, AI is taking on more and more tasks, thereby changing the production methods and processes of media content.

2.2. Changes in content dissemination mechanisms

In traditional media, the dissemination of information is mainly controlled by media organizations. For instance, the editorial department of a publishing house decides the content topics, and a TV station decides on the content to be broadcast. Media organizations hold control over the selection and presentation of information. With the development of internet platforms and algorithm recommendation technologies, content dissemination increasingly relies on algorithm systems and platform mechanisms. Media technology companies like Netflix optimize the personalized experience of subscribers through algorithmic means [5]. Social media and news platforms use algorithmic methods to provide precise content recommendations based on users' browsing history, viewing duration, and other behavioral data—an approach that ultimately helps enhance user retention and platform activity.. As a result, the information that users see is no longer solely determined by humans, but is instead matched and pushed out through algorithms and platform data analysis.

2.3. Shifts in business models

The development of AI is profoundly altering the profit-making methods and business value creation models of the media industry. In the traditional media era, media organizations mainly relied on advertising revenue, sales of publications, and program copyrights to generate profits, and their business models were mainly centered around the content itself.

With the continuous development of AI and big data technologies, media platforms can collect and analyze a large amount of user behavior data, such as click-through rates, viewing durations,

and interest preferences. These data enable media platforms to build highly detailed consumer digital profiles [6], which allow for more precise advertising placement, thereby significantly enhancing advertising effectiveness. Based on this, the business model of the media industry has begun to focus on data-driven strategies. Programmatic advertising, precise recommendations, and business decisions based on data analysis have gradually brought greater profits to the media industry.

This transformation driven by AI not only enhances marketing efficiency, but also makes the marketing model increasingly personalized, thereby further strengthening the commercial competitiveness of the media platform.

3. The positive effects of artificial intelligence on the media industry

3.1. Improved production efficiency

The application of AI in the media field has significantly enhanced the efficiency of content production and, to a certain extent, optimized resource allocation. In the traditional media production model, tasks such as news writing, video editing, and data organization are mainly carried out by humans, which not only take a long production cycle but also incurs high human costs.

With the development of AI, the technology has begun to be widely applied in various fields of the media industry. For instance, in the field of journalism, AI can assist journalists in organizing data, translating articles, and optimizing the content of news websites [7]. These highly technical and repetitive tasks are gradually being taken over by AI. This transformation not only effectively reduces labor costs but also significantly increases the speed and scale of content production. Meanwhile, AI can also assist media organizations in more accurately grasping the audience's needs by analyzing user data. This enables them to optimize content selection and resource allocation.

3.2. Innovation in media forms

The development of AI not only enhances the production efficiency of the media industry, but also profoundly drives the innovation of media forms. AI prompts media content to continuously break through traditional forms in terms of presentation and dissemination methods, presenting a more diversified and intelligent development trend.

In the era of traditional media, the content created by the media was mainly presented in a single form such as text, images, or videos, and the transmission path was relatively fixed. However, with the widespread application of AI, the forms of media content have gradually become more diverse. Meanwhile, generative artificial intelligence (GenAI) has further promoted the generation of multimodal content. It can integrate different forms of information, such as text, audio, video, and images [8], enabling cross-media expression and making the conversion and integration between media forms more efficient and natural. Consequently, the expressiveness of content and the completeness of information transmission are both enhanced. The dissemination of this multimodal content not only enriches the presentation methods of the content, but also enhances the immersion and experience of users in the process of information acquisition.

Overall, AI has promoted the diversification and multimodal integration of media content presentation forms, leading to innovations in media forms and bringing new impetus to the development of the media industry.

3.3. Public opinion management and optimization of commercial marketing

The development of AI has significantly enhanced the capabilities of social information monitoring and public opinion management. On the Internet, information spreads extremely fast. Once an emergency or negative news occurs, relevant information often spreads rapidly within a short period of time, thereby triggering online public opinion. In this context, media organizations can use machine learning and data mining technologies to monitor and analyze large amounts of online information in real time [9]. They can then promptly identify trends in public opinion changes and optimize response strategies.

AI not only enhances the efficiency of public opinion monitoring, but also analyzes social media data and user behavior to better understand consumers' thoughts. This helps enterprises carry out precise marketing. Research shows that AI can enhance the efficiency of market research processes and form a more effective marketing information system, which helps promote product promotion and expand the market [10].

In conclusion, through data analysis, AI has significantly enhanced the efficiency of public opinion monitoring, enabling media organizations to respond more promptly to changes in information dissemination. At the same time, AI has also strengthened market insight capabilities, driving marketing models towards a data-driven direction.

4. Risks and challenges posed by artificial intelligence to the media industry

4.1. Risks to information authenticity

While AI has brought many positive impacts to the media industry, it has also introduced certain risks and challenges to some extent. The first one is the risk of the authenticity and credibility of information. Especially in the context of the rapid development of generative AI, the threshold for generating media content has significantly decreased, making information production more difficult to control.

Specifically, generative AI can produce various forms of content such as text, images, audio, and video. Among them, the development of deepfake technology poses a significant challenge to the authenticity of information [11]. This technology can generate highly realistic fake images and voices, making it difficult for ordinary users to distinguish between the real and the fake without professional identification capabilities. It can easily lead to the infringement of others' privacy and the dissemination of false information.

In conclusion, the application of AI may pose risks to the authenticity of information by leading to the dissemination of false information and weakening users' ability to discern information, thereby affecting the public's accurate judgment of facts.

4.2. Copyright legal disputes

AI also brings about copyright and legal issues in the process of media content production. With the development of generative AI, during its training process, it usually relies on a large amount of data, which often includes copyrighted content such as news reports, films and TV shows, pictures, and music. Some studies have indicated that generative AI can sometimes reproduce parts of its training data. If the output of the model directly replicates certain parts of its training data, this could obviously constitute potential infringement of copyright [12].

At the same time, the issue of copyright ownership for AI-generated content has become increasingly prominent. For instance, when an article or a video is created by AI, the process of combining various materials makes the issue of copyright ownership more complicated [13]. At present, there is no unified and clear legal regulation regarding who should own the copyright - the developers, the users, or the platform. This unclear ownership issue has increased the complexity of copyright disputes and also brought potential legal risks to the media industry.

Therefore, the development of AI has had a profound impact on current copyright issues, presenting the media industry with more complex legal challenges in the process of content production and dissemination. How to promote technological innovation while improving the relevant legal system has become an important issue that needs to be addressed.

4.3. Impact on occupational structures

The development of AI has had an impact on the occupational structure and job division in the media industry. With the wide application of technologies such as AI writing, automatic editing and data analysis, some traditional media jobs mainly involving repetitive labor have gradually been replaced by automated systems. For instance, automated journalism—which can generate news accounts without human intervention [14]—has raised concerns about the employment of journalists, as many people believe that a large number of workers in the journalism industry may face the risk of unemployment in the future. Meanwhile, the development of AI has also given rise to new job demands. For instance, emerging positions such as data analysts, algorithm engineers, and AI content operators have gradually emerged and are playing an increasingly important role in media organizations. This change also requires media professionals to constantly learn and update their knowledge so as to adapt to working with technical teams and to human-machine collaboration.

Therefore, AI is redefining the professional structure of the media industry, which not only alters the demand for positions, but also requires media professionals to acquire more skills related to AI and better adapt to the work mode of human-machine collaboration.

5. Conclusion

Technologies such as natural language processing, algorithmic recommendation, and data analysis have significantly enhanced the production efficiency of the media industry, helping media organizations better understand audience needs and enabling more personalized content dissemination. However, while AI is driving the development of the media industry, it also brings many challenges. These include risks to information authenticity, copyright and legal disputes, and changes in the professional structure of the media industry. These challenges increase the complexity of media operations and governance.

Therefore, AI is not only an important driving force for technological innovation in the media industry but also poses new challenges to the industry's ethical norms, legal systems, and career development. In this context, media organizations need to find a balance between technological innovation and effective regulation while also adapting to the ongoing transformation of the industry.

This article relies primarily on literature research and theoretical analysis and lacks specific case studies of media institutions or industries. Moreover, given the rapid development of AI, its long-term impact and potential risks remain in need of further research. Future studies could employ empirical methods such as interviews, questionnaires, and case studies to conduct an in-depth

analysis of the changes in the work of media practitioners in the AI environment. In addition, comparative studies across different countries and media systems could provide deeper insights into the varied impacts of AI. Future research should also pay more attention to ethical governance and legal regulation in order to address the potential risks of AI development.

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