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The Impact of the Development of Digital Economy on News Reporting and Response Strategies

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Abstract: In the context of the current rapid development of the digital economy, the news industry is facing unprecedented challenges and opportunities. With the continuous progress of Internet technology and the application of emerging technologies such as big data and artificial intelligence, the way of news reporting and dissemination has undergone fundamental changes. These changes have not only affected the way news content is produced, but also had a profound impact on the quality and dissemination efficiency of news. In order to explore this issue, this paper systematically combs through the literature on the impact of the development of the digital economy on news reporting, including the changes in the way news is collected, edited, distributed, and received by the audience. After further analyzing the challenges these changes bring to news authenticity, objectivity, and in-depth reporting, the paper explores how to improve the quality of news reporting through technological means and industry self-regulation from the dimensions of technological innovation and journalistic ethics. The conclusions drawn in this paper are of great significance in understanding the challenges faced by news reporting in the era of digital economy and its coping strategies. It not only helps the news industry to adapt to the development of digital economy and improve the quality and efficiency of news reporting, but also provides a reference for policy makers to better formulate relevant policies to promote the healthy development of the news industry.

1 Introduction

Today's society is experiencing a wave of change driven by digital technology, which is reshaping the traditional industrial landscape at an unprecedented speed. Especially for traditional manufacturing enterprises, digital transformation is no longer optional, but an inevitable choice for survival and development. In this transformation process, the construction of digital infrastructure, the enhancement of digital R&D capability, the application of digital technology, the implementation of digital marketing strategy and the cultivation of digital talents have become the

key indicators to measure whether an enterprise can successfully enter the digital era. The example of Baosteel Group provides us with valuable experience: by systematically evaluating and analyzing these key indicators, we can reveal the evolution path of an enterprise's capabilities in the process of digital transformation, thus providing reference and lessons for other traditional manufacturing enterprises.

However, digital transformation does not happen in isolation; it is closely linked to the more macroeconomic environment. The rapid development of Artificial Intelligence (AI) technology is the other side of this transformation. breakthroughs in AI technology have not only fueled the prosperity of the technology industry, but have also had a profound impact on the financial industry, creating a positive cycle between technological leadership, product market power, and returns on venture capital. This cycle has effectively dealt with the risks associated with the technological revolution, while creating conditions for the development of strategic emerging industries. It is worth noting that the development trend of AI industry predicts a possible "economic singularity" in the future, which will have a significant impact on the job market, scientific discoveries, and even the international political and economic landscape (Zheng Jiliang, Zhang Peng, 2024).

In the field of international trade, the increase in uncertainty and the rapid development of the digital economy constitute two key change factors in the new era. Each of them has a significant impact on corporate exports, and the comprehensive impact of these two interactions has become a new research focus. The study shows that economic policy uncertainty weakens firms' export resilience by increasing transaction costs; while the development of the digital economy mitigates the negative impact of uncertainty by reducing these costs. This finding emphasizes the importance of promoting the digital economy in the context of growing uncertainty.

The topic of cyber data security also arises. In today's increasingly digitized world, cyber data security is critical to protect user information and corporate assets. Unlawful hackers use advanced network technologies to invade network systems without authorization, bringing serious security risks to enterprises and individuals. Therefore, it has become imperative to strengthen network data security measures and raise public awareness and understanding of network security.

The development of the digital sharing economy should likewise not be ignored. The platform economy, based on its efficient data collection and transmission system and relying on powerful data processing algorithms and computing power, has greatly promoted the development of social productivity. In China, the ecologization of the digital sharing economy has become a core trend in the development of the digital economy. Small industrial platforms quickly connect the upstream and downstream channels of the industrial chain through the user resources pooled by large platforms, realizing transformation and forming a new industrial ecosystem. This phenomenon not only changes the traditional business model, but also provides a new impetus for economic growth.

The purpose of this paper is to analyze the core driving force of this change, that is, the profound impact of the development of the digital economy on the way of news reporting, content and industry dynamics, and to explore the corresponding response strategies. With the innovation of artificial intelligence technology, journalism not only realizes efficient automation in information collection, processing and distribution, but also may reshape the mode of news generation and audience experience (Chen, Long, Liu, G., Qi, I. D., etal., 2024). However, economic policy uncertainty, like undercurrents in international trade, challenges the news industry's export resilience, and the digital economy may mitigate this shock by reducing transaction costs (ZhuYe,2024).

2 Overview of digital economy development

2.1 Definition and Characteristics of Digital Economy

Digital economy, in essence, is the deep integration of information and communication technology (ICT) in economic activities, forming a new economic form with data as the key production factor and intelligence as a significant feature. It not only includes the traditional e-commerce and digital content industries, but also expands to many emerging fields such as intelligent manufacturing, Internet of Things, and big data analysis.

The characteristics of the digital economy can be summarized as follows: first, data-driven nature is the foundation of the digital economy. The collection, processing and analysis of big data provide real-time and accurate information support for decision-making, changing the traditional production and service model. The mobility of data and the ability to mine its value enable enterprises to achieve personalized customization and optimize operations. Second, innovation is the soul of the digital economy. Continuous technological innovation, such as artificial intelligence, blockchain, cloud computing, etc., has given rise to new business forms and business models, and promoted the rapid development of the economy and society. Once again, cross-border integration is a distinctive feature of the digital economy. The integration of traditional industries and digital technology has broken the boundaries of industries and formed cross-field cooperation and competition, such as smart agriculture and industrial Internet. Finally, the influence of globalization cannot be ignored. The borderless nature of the digital economy enables enterprises to reach global consumers across geographic restrictions, and at the same time intensifies international competition and cooperation.

Understanding these characteristics helps to deeply analyze the impact of digital economic development on news reporting. For example, news organizations now rely on data analytics to tailor content to meet personalized needs; innovative technologies, such as AI-assisted news generation, have improved reporting efficiency; and digital news distribution has broken down geographic constraints and enhanced the global accessibility of news. Therefore, in the face of these changes, the news industry needs to actively adapt, improve data literacy, and utilize new technologies to enhance the quality of reporting, while also focusing on the resulting data privacy and information security challenges.

2.2 Trends in the Digital Economy

The rise of the digital economy, with its high-speed information dissemination and data analysis capabilities, is reshaping the mode of operation of the news industry. News reports are no longer limited to traditional text, pictures and audio, but are gradually moving towards diversification and personalization, such as the introduction of VR (Virtual Reality) and AR (Augmented Reality) technologies, which make the news experience more immersive. In addition, the application of AI (Artificial Intelligence) in news gathering and editing has realized intelligent recommendation and content generation, improving the efficiency and relevance of news distribution.

However, this transformation has not been without challenges. As the volume of data has exploded, the question of how to ensure the truthfulness and accuracy of information has become paramount. For example, fake news and misleading information can spread rapidly through digital platforms and confuse public perception. Therefore, news organizations need to strengthen their fact-checking mechanisms and utilize technological tools such as NLP (Natural Language Processing) for automatic screening, as well as train digitally literate journalists to adapt to this new environment.

In addition, the digital economy emphasizes user participation and interaction, which prompts

news reports to focus more on community building and feedback. Instead of being one-way information transmitters, news platforms are transformed into community managers, encouraging users to participate in discussions and forming an interactive news ecosystem. However, this also brings up the challenge of privacy protection. Balancing the boundaries between information openness and personal privacy is an ethical challenge that news organizations must face in digital transformation.

To summarize, the trend of digital economy requires news reports to constantly innovate and embrace technological changes, while at the same time, they need to be alert to potential problems, such as the maintenance of information authenticity, the protection of user privacy, and the reconstruction of journalism ethics in the digital environment. Only in this way can journalism maintain its credibility and influence in the tide of the digital economy.

2.3 The Impact of Digital Economy on the Journalism Industry

The rise of the digital economy has had far-reaching impacts on the journalism industry, and Table 1 summarizes the main aspects of these impacts. In terms of speed of dissemination, digital technology has enabled news to spread around the world in a short period of time, but this has also exacerbated the problem of information overload, with authenticity and accuracy becoming a major challenge for the news industry. Increased content diversity has led to multimedia news and personalized recommendations, but it has also led to content fragmentation and a squeeze on the production and consumption of in-depth stories.

Increased audience participation has made news more interactive, and user-generated content has enriched the form of reporting, but how to effectively regulate online public opinion and maintain journalistic ethics has become a new issue. Changes in business models, such as targeted advertising and subscription systems, have created new sources of income for news organizations, yet over-reliance on click-through rates may lead to a decline in news quality. Finally, the evolving role of journalists requires them to have multiple skills, such as data analysis, but they are also under pressure to lose their traditional positions and transition their careers.

In the face of these changes, the news industry needs to continue to innovate, strengthen fact-checking mechanisms, and cultivate cross-disciplinary expertise, while exploring sustainable business models to adapt to the challenges of the digital economy.

Table 1: Impact of the digital economy on the news industry

Area of influence	Positive Impact	Challenges and changes
Speed of dissemination	Real-time updates, news is instantly available worldwide	Rapid dissemination can lead to information overload and difficulty in verifying authenticity
Content diversity	Innovative formats such as multimedia news and personalized recommendations	Fragmentation of content and reduction of in-depth reporting
Audience engagement	User-generated content, highly interactive	Online opinion monitoring makes it more difficult to maintain journalistic ethics.
Business model	Targeted advertising and subscription models	Relying on click-through rates, the quality of news may deteriorate
Role of journalists	Multi-skill requirements, data analysts and journalists	Loss of traditional jobs and pressure to change careers

3 Changes in news reporting in the digital economy

3.1 Changes in news gathering methods

In the wave of digital economy, the change of news reporting is particularly significant. Traditional newsgathering often relies on journalists' field interviews and informants' breaking news, a method that is limited by time and space in terms of the speed and breadth of information transmission. With the advancement of digital technology and the application of emerging technologies such as big data, artificial intelligence and the Internet of Things, newsgathering has moved into a whole new phase.

News organizations are now able to monitor social media, online forums, and various public databases in real time through data analytics to capture hot topics of public concern and achieve rapid response and accurate reporting of news. For example, using Natural Language Processing (NLP) technology, it is possible to automatically screen and organize massive amounts of textual information to find out key information and improve the efficiency of news mining. In addition, the popularity of sensor networks has enabled news organizations to access real-time data on the environment, traffic, and so on, enriching the content of reports and enhancing the sense of scene and authenticity of the news.

However, this change is not entirely without risk. Over-reliance on data may lead to a loss of humanistic concern in news reporting, neglecting in-depth investigations and humanized narratives. In addition, the issues of data privacy and information security are becoming more and more prominent, and the question of how to use data legally and compliantly while safeguarding citizens' right to privacy has become an urgent issue to be resolved. Therefore, while adopting new technologies, news organizations need to strengthen ethical norms to ensure the impartiality and objectivity of news, while enhancing data security measures to maintain public trust.

Table 2: Comparison of news gathering methods

way	Pros.	Challenges
Traditional Acquisition	Humanized narrative, in-depth coverage	Slow speeds, limited coverage
Digital Acquisition	Rapid response, wide coverage	Data privacy, ethical issues

To summarize, newsgathering has made a leap in speed and breadth in the digital economy, but it has also brought new challenges. Journalism should actively embrace technological change, but it also needs to be prudent in dealing with the resulting problems to ensure the quality and credibility of news reporting.

3.2 Changes in News Editing and Distribution Processes

In the wave of digital economy, news reporting is undergoing a profound change. The traditional news editing and release process, i.e., journalist collection, editing and processing, review and final release, can no longer meet the needs of real-time, interactivity and personalization. News production in the new media environment not only emphasizes speed, but also focuses on the integration of depth and breadth.

In this process, big data plays a central role, which enables news editors to conduct news mining based on real-time data and predict public interest, thus improving the timeliness and relevance of the news ($R=T\times I$, where R stands for relevance, T stands for timeliness, and I stands for interest). The intervention of artificial intelligence, such as natural language processing and machine learning,

not only optimizes content screening, but also enables personalized recommendations, making news consumption more accurate.

Table 3: Changes in the news editing and distribution process

Traditional Processes	Direction of Change	New Features
Capture	Data Driven User Engagement	Real-time analytics, predictive reporting UGC, crowdsourced information
Editing	AI-assisted	Intelligent filtering, content customization
Audit	Automated review	Content Filtering, Compliance Testing
Publishing	Multi-platform distribution	Social media, personalized push

$$P_n = f(D, H, L)$$

where Pn denotes personalized news, D represents user data, H is historical behavior, and L is the user's interest label.

However, these changes also bring challenges, such as information authenticity issues, privacy protection, and algorithmic bias. Therefore, news organizations should strengthen the education of data ethics and improve the data literacy of journalists, as well as establish a transparent algorithmic review mechanism to ensure that the quality and fairness of news are not compromised. In the context of the digital economy, journalism needs to find a balance between technological progress and social responsibility in order to realize sustainable and innovative development.

3.3 Transformation of Audience Reception

In the wave of the era of digital economy, journalism is experiencing unprecedented changes, and the transformation of audience reception is a crucial part of it. The rise of new media technologies, such as social media, mobile applications and big data analysis, has not only changed the speed and breadth of information dissemination, but also reshaped the way the public accesses and interprets news.

Table 4: Shifts in the way news audiences receive it

Period	**Reception Methods**	**Characteristics**
Traditional media era	Newspaper, Radio, TV	One-way communication, limited interaction
Early Internet	Web browsing, e-mail	Highly informative, initially interactive
Social Media Era	Social Networking, Instant Messaging	Real-time, highly interactive, personalized
Mobile Internet Stage	Mobile Apps, Push Notifications	On-the-go, location-aware, personalization enhanced
Big Data +AI	Recommendation algorithms, smart news	Data-driven, predictive, deep customization

In this process, the audience no longer passively receives news, but actively participates in the screening, sharing and discussion of information. For example, recommendation algorithms ($f(x)=\alpha x+\beta$,where x represents user behavioral data, and α and β are weighting coefficients) personalize and push news based on users' browsing history and preferences, making news consumption more in line with individual interests. However, this may also lead to the information cocoon effect, limiting the diversity of public horizons.

To address this challenge, news organizations should embrace new technologies to increase the diversity and depth of news, while cultivating the information literacy of their audiences. By providing an open platform for discussion and encouraging public participation in the production and validation of news, information silos can be broken down and the full flow of information can be facilitated. In addition, the use of transparent algorithmic strategies and diverse information sources can help maintain the impartiality and objectivity of news and ensure that audiences receive rich and comprehensive information in the digital world.

4 Challenges to News Reporting

4.1 Challenges to news authenticity and objectivity

In the wave of digital transformation of news reporting, the authenticity and objectivity of news are facing unprecedented challenges. The accelerated speed of information dissemination in the new media environment has multiplied the pressure on news reporting.

First, the demand for immediacy of information may lead to a decline in the quality of news reporting. Under the pressure to be the first to publish news, journalists may not be able to conduct thorough fact-checking, which may lead to the dissemination of misinformation, thus jeopardizing the accuracy of news. In addition, the popularity of social media allows everyone to become a disseminator of information, and unverified "user-generated content" may confuse the public and challenge the objectivity of news.

Secondly, algorithmic recommendation and personalized push may exacerbate the information cocoon phenomenon while providing customized information services. Users are placed in an information environment that conforms to their personal preferences, and the lack of multiple viewpoints makes it difficult for the public to access comprehensive information, thus affecting the impartiality of the news.

Furthermore, the commercialized mode of operation of digital advertising poses a threat to journalistic independence. Media that rely on advertising revenue may be influenced by commercial interests in their reporting, selectively reporting or avoiding certain topics, which constitutes a potential erosion of journalistic objectivity.

In the face of these challenges, news organizations need to strengthen their internal auditing mechanisms to ensure the accuracy of their news, while educating the public to think critically and identify authentic information. In addition, introducing transparent algorithmic strategies to increase the diversity of information, as well as exploring sustainable business models to preserve the independence of news reporting, are pressing issues that need to be addressed today.

Table 5: Overview of journalistic authenticity and objectivity challenges

The Challenge	Description	Impact
Pressure for immediacy	Rapid release may result in inadequate verification of information	Reduces accuracy
User-generated content	Non-specialized sources increase the likelihood of misleading information	Challenges objectivity
Information Cocoon	Algorithmic push reinforces personal bias and reduces multiple perspectives	Impacts impartiality
Commercialization Impact	Advertising revenue may affect reporting independence	Threatens objectivity

To summarize, the maintenance of news authenticity and objectivity not only requires the improvement of professionalism of news practitioners, but also the attention of the whole society to information literacy, as well as the self-adjustment and adaptation of news organizations to the new

environment.

4.2 Challenges of in-depth reporting

In the tide of digital economy development, the field of news reporting is experiencing unprecedented changes. This topic reveals the daunting task of how journalism can maintain its depth and quality in the age of information explosion. While in-depth reporting in the traditional sense relies on long hours of investigation, interviews and analysis by journalists, the shortened news cycle and the need for immediacy of information in the digital environment pose a serious challenge to this model.

On the one hand, big data and algorithm-driven news push makes it easier for audiences to access fragmented information, and the time and effort required to read and understand in-depth reports runs counter to modern fast-paced life. In addition, the prevalence of social media has made users more inclined to share short, eye-catching content rather than long, in-depth reports. This trend may lead to a squeeze on the viability of in-depth reporting and a shallow public understanding of complex issues.

On the other hand, while digital technology provides massive sources of information, it also makes it more difficult to sift and verify information. Journalists need to find the truth in the complicated data, which not only requires them to have higher technical skills, but also increases the production cost of in-depth reports. At the same time, the growth and spread of fake news has reduced public trust in the media, further weakening the social impact of in-depth reporting.

In the face of these challenges, journalism should actively respond. First, use digital tools for data visualization and information integration to make in-depth reporting easier to understand and accept. Second, strengthen journalism education and train journalists with interdisciplinary knowledge and technical skills to meet the needs of the new era. Finally, establish a stricter fact-checking mechanism to improve the credibility of news and revitalize public confidence in in-depth reporting.

Through such efforts, news reporting can hold fast to its depth amid the wave of digitization, while leveraging the power of new technologies to deliver in-depth content in innovative forms that satisfy the public's desire for the right to know and to understand the complex world.

4.3 Challenges of Journalism Ethics

In the wave of digital economic development, news reporting is experiencing unprecedented ethical challenges. Journalism ethics, as a code of ethics and behavior in the media industry, aims to ensure the accurate, fair and responsible dissemination of information. However, with the rise of big data, artificial intelligence and social media, these traditional ethical codes are facing new dilemmas.

First, data-driven news production may lead to the infiltration of bias. Algorithms play a central role in news recommendations, but they may inadvertently reinforce users' preconceived notions and create information cocoons. In addition, the black-box nature of machine learning models makes the decision-making process opaque and the impartiality of news selection questionable. Equation (4.3) depicts this phenomenon, where P(recommendation) is the predicted probability based on the user's historical behavior, and B(bias) denotes the potential bias impact:

$$P(\text{recommendation})=f(\text{user history},\text{algorithm parameters},B(\text{bias}))$$

Second, the immediacy and widespread nature of news amplifies the spread of misinformation. Fake news and misleading information on social media can spread rapidly in a short period of time,

undermining the public's trust in real information. News organizations need to establish rapid response mechanisms to verify and correct misinformation.

Finally, protecting privacy has become a new ethical dilemma. In the era of big data, news reporting may involve the collection and use of a large amount of personal information, which not only violates citizens' right to privacy, but also may lead to legal disputes. Journalists need to strictly follow data protection regulations to ensure the legality and compliance of information collection.

In the face of these challenges, journalism should actively seek solutions. On the one hand, improve the transparency of algorithms and introduce an ethical review mechanism to ensure the fairness of news recommendations. On the other hand, strengthen news literacy education and guide the public to recognize and resist fake news. At the same time, establish a strict privacy protection policy to respect and protect the rights of every reported person.

To sum up, journalism ethics is facing a severe test in the digital era, which requires us to adapt to technological changes as well as stick to the moral bottom line in order to maintain the credibility of news reporting and citizens' right to know.

5 Construction of Coping Strategies

5.1 Technological innovation strategy

When building strategies to cope with the impact of the development of the digital economy on news reporting, technological innovation strategy plays a crucial role. Technological innovation is not only the cornerstone of the media industry to adapt to change, but also a key driving force to ensure the sustainable development of the news industry. First, technological innovation should focus on improving the efficiency of news gathering and processing. In the era of big data, the use of artificial intelligence (AI) to screen and analyze information can dramatically improve the speed and accuracy of news mining, for example, news clues can be automatically identified from massive data by the machine learning algorithm M

$$M(D) = \arg\max P(n|D)\ (n \in N)$$

where D represents the dataset, N denotes the set of news clues, and P (n |D) is the probability of news clue n under a given dataset.

Second, the technological innovation strategy should strengthen the personalized distribution of news. With the help of recommender systems, news can be customized and pushed according to the user's interest and behavioral history, e.g., by using collaborative filtering algorithms.

Finally, the technological innovation strategy needs to focus on protecting the authenticity and credibility of news. The application of blockchain technology can ensure the transparency and non-tamperability of information sources and provide technical support to combat fake news. By recording the news release and dissemination process through the distributed ledger, the traceability is enhanced, thus maintaining the credibility of the news.

In summary, the technological innovation strategy aims to optimize the news production process, enhance user experience and guarantee news quality through intelligent tools, so as to meet the challenges brought by the development of the digital economy, and promote the news industry to achieve sustainable prosperity in the midst of change.

5.2 Utilize artificial intelligence to improve news gathering efficiency and accuracy

News reporting faces unprecedented challenges and opportunities in the transformation of the

digital era. The rise of Artificial Intelligence (AI) technology has revolutionized newsgathering, not only improving efficiency, but also enhancing the accuracy of information.

First, AI's natural language processing (NLP) capabilities make newsgathering automation possible. By training models to automatically capture and parse a large amount of network information, AI can quickly screen out key news sources, reduce labor input, and improve the timeliness of news releases. For example, AI can monitor social media platforms in real time to capture hot events of public concern and ensure cutting-edge news coverage.

Second, AI's precise analysis function helps to improve the accuracy of news content. It can calibrate the reliability and consistency of information and reduce human error and bias through pattern recognition and data analysis. In addition, AI is capable of deep learning, and its analyzing and judging abilities will increase over time, thus providing more accurate news material.

Further, AI's intelligent recommendation system can customize personalized news based on users' reading habits and interests, improving the user experience. Such personalized services not only increase user stickiness, but also help news organizations better understand their audiences and thus optimize the direction of reporting.

However, the application of AI is not a quick fix and requires a balance between technological advancement and ethical responsibility. While relying on AI, news organizations should ensure transparency in their decision-making, prevent algorithmic bias, and preserve the professional judgment of journalists. In addition, ongoing training and education is crucial for journalists to adapt to AI tools to ensure they can effectively utilize these technologies without being replaced by them.

In summary, the use of AI in newsgathering is an effective strategy to meet the challenges of digitization. By integrating the benefits of AI, journalism can achieve efficient, accurate and personalized reporting while maintaining professional standards and ethical responsibilities. This requires news organizations to actively explore the boundaries of technology while adhering to the core values of journalism to adapt to the ever-changing digital environment.

5.3 Application of Big Data Technology in News Analysis

In the chapter of building response strategies, the application of big data technology in news analysis becomes an indispensable focus point. Big data has not only changed the way of information collection in journalism, but also reshaped the mode of news production and dissemination. Through the in-depth mining and analysis of massive information, news organizations are able to achieve accurate insight into public demand and provide more personalized and timely news services.

First, big data technology makes news analysis more comprehensive and in-depth. While traditional news reports are often limited by limited information sources, now, through the integration of big data, journalists can access diversified data, such as public opinion dynamics in social media and statistical data from public databases, which provide rich background information and trend forecasts for news reports. For example, by analyzing users' search behaviors and discussion hotspots on social media, news organizations can quickly capture the public's focus of attention, lay out the content of their reports in advance, and enhance the timeliness and attractiveness of news.

Second, the use of big data improves the accuracy of news reporting. With the help of data analysis tools, news organizations can quantitatively analyze complex events, reduce the influence of subjective judgments, and improve the objectivity and accuracy of news reports. For example, through pattern recognition algorithms, the development pattern of events can be recognized, helping journalists to predict the direction of events, thus providing more accurate news

interpretation.

In addition, big data promotes the personalization of news production. Through user behavior data, news platforms are able to customize recommended news to meet the interests and preferences of different users and enhance their reading experience. This personalized push not only increases user stickiness, but also opens up a new profit model for news media.

In summary, the application of big data technology in news analysis has undoubtedly brought innovation to the news industry, but it also brings challenges, such as data privacy protection, information overload and other issues. Therefore, while embracing big data, news organizations should establish a sound data ethics code, strengthen data security protection, and ensure the quality *and credibility of news reports.*

Table 6: Advantages of the application of big data technology in news analysis

Advantages	Description
Comprehensiveness	Provide diversified information sources to enrich the reporting background
Precision	Reduce subjective judgment and improve objectivity in reporting
Personalization	Customized news push to enhance user experience

News value = α-comprehensiveness + β-precision + γ-personalization

Where α,β,γ are the weight coefficients of comprehensiveness, precision and personalization respectively, which represent the relative importance of big data in the composition of news value.

5.4 Journalism Ethics Strategy

When exploring the construction of journalism ethical strategies, it is important to recognize that the development of the digital economy has brought opportunities as well as triggered challenges. The digital transformation of journalism has led to an unprecedented expansion of the speed and scope of information dissemination, but at the same time, it has also impacted on the traditional ethical norms of journalism.

On the one hand, the immediacy and interactivity of digital platforms may lead to threats to the accuracy of news reporting. In pursuit of clicks and attention, some media may be inclined to publish unverified information, thus violating the basic principle of journalistic authenticity. On the other hand, big data and algorithmic recommendations may lead to the information cocoon effect, exacerbating public bias and polarization, which is contrary to the concept of fair and comprehensive news dissemination.

Therefore, the construction of should emphasize the strengthening of factual verification, in the digital environment, news organizations should establish a strict factual verification mechanism to ensure the accuracy of the information before releasing it, to prevent the spread of fake news. Transparency and accountability should be strengthened. News organizations need to disclose their information sources and editing processes to enhance public trust and take responsibility for correcting errors. Attention should be paid to diversity and balance, taking advantage of algorithms to provide diversified sources of information, avoiding narrowing of information due to algorithmic filtering, and ensuring that the public is exposed to different viewpoints to promote understanding and tolerance. Privacy and data security should also be protected, and the principle of privacy should be followed in the collection and use of user data to ensure data security and prevent misuse.

Through these strategies, it is expected that the cornerstone of journalism ethics will be guarded in the wave of the digital economy to ensure fairness, truthfulness and plurality of information, thus promoting the healthy development of society.

5.5 Strengthening the professional training of journalism practitioners

In the era of information explosion, digital technology has not only changed the way of news gathering, editing and distribution, but also posed new challenges to the professionalism of journalists. News practitioners are no longer limited to traditional news reporting skills; they need to master new skills such as data analysis, programming languages, multimedia production, etc., in order to adapt to the digital news environment.

In order to argue this point, the following aspects can be developed: first, digital technology has made news reporting more real-time and interactive, and journalists need to have the ability to process and interpret big data quickly. Second, the creation of multimedia content has become the norm in news reporting, and journalists need to be skilled in video editing, image processing and other technologies. Through professional training, journalists can better integrate text, images, audio and video to create more attractive multimedia news. Finally, cybersecurity and privacy protection have become new topics in journalism ethics. The training should cover digital security knowledge so that journalists can understand how to protect the security of their sources when accessing and publishing information and comply with the ethical norms of the digital era.

To summarize, in the face of the changes brought about by the development of the digital economy, strengthening the professional training of journalists is the key to ensuring that they can effectively cope with the challenges and maintain their professional quality. Such training not only enhances journalists' skills, but also shapes their core competitiveness in the digital era.

5.6 Ethics Education and the Establishment of Self-Regulatory Mechanisms

In exploring the far-reaching impact of the development of the digital economy on journalism, it is important to emphasize the role of ethical education and self-regulatory mechanisms in this transition period. The digitization process of journalism has not only brought about a revolution in the speed of information dissemination, but also raised ethical challenges regarding truthfulness, privacy and fairness. It aims to ensure the simultaneous improvement of journalistic quality and social responsibility.

First, ethical education is the cornerstone for journalists to adapt to the digital era. In the age of information explosion, journalists are faced with a tense balance between rapid release and verification of information, which requires them to have solid ethical qualities and be able to uphold the principles of truthful and fair journalism under pressure. Through regular ethics training and seminars, we can strengthen journalists' sense of professional ethics so that they can uphold critical thinking when handling digital information and resist the temptation of fake news.

Secondly, a self-regulatory mechanism is an intrinsic motivation to ensure the healthy development of the news industry. Establishing a self-regulatory system within the industry, such as formulating and enforcing norms and standards for digital news reporting, can prevent the spread of misinformation and safeguard the public's right to know. In addition, news organizations are encouraged to set up internal censorship mechanisms to ensure the accuracy and objectivity of their reports, which can also increase public trust in the news media.

Finally, the combination of ethical education and self-regulatory mechanisms will give rise to a new culture of journalistic practice. In the digital environment, this culture emphasizes transparency, responsibility and respect, which not only helps to shape the image of journalism among the public, but also guides news practitioners to pursue clicks and immediacy without forgetting their social mission. Through this cultural inculcation, journalism is able to maintain its core values of serving the public interest and providing accurate and comprehensive information in the midst of the digital wave.

To concretely implement this strategy, the following table can be designed:

Table 7: Framework for building ethical education and self-regulation mechanism

Elements	Measures
Moral Education	● Regular ethics training courses ● Seminars on ethics cases ● Reinforcement of critical thinking development
Self-regulatory mechanisms	● Establishment of norms for digital journalism ● Establishment of an internal review board ● Implement an open and transparent error correction policy

Through such a framework, it is expected to build a journalistic ecosystem that both adapts to the digital environment and adheres to the ethical bottom line, ensuring that journalism continues to perform its key functions of information dissemination and social monitoring in the digitization process.

6 Conclusion and Recommendations

6.1 Research Summary

The rise of the digital economy has had a profound impact on news reporting, reshaping the pattern of information dissemination. This change is not only reflected in the technological level, but also penetrates into all aspects of news production, distribution and consumption. As Zhu & Ye (2024) reveal, economic policy uncertainty is intertwined with the growth of the digital economy, with complex implications for the adaptive capacity of firms. In the journalism industry, this uncertainty is equally present, and digital technology has become a key tool to address the challenges.

The digital transformation of news reporting, such as real-time updates, personalized push and interactive content, has significantly improved the timeliness and accessibility of news. With the help of big data and artificial intelligence, news organizations are able to understand audience needs more accurately and enable precise pushing, as Chenetal.(2024) points out the potential of artificial intelligence in creating new opportunities. However, this shift also brings new challenges, such as privacy concerns, information overload and the growth of fake news.

The experience of Baosteel (Zheng & Zhang, 2024) suggests that organizations need to build adaptive capabilities to cope with the volatility of digital transformation. For journalism, this means building flexible organizational structures, cultivating digital talent, and leveraging new technologies to improve the quality of news. At the same time, it is important to recognize that while digital technology reduces transaction costs, as described by Zhu & Ye (2024), it can also lead to small news organizations being at a disadvantage in competing with larger platforms.

Therefore, while the news industry should actively embrace digitization, it also needs to establish a robust regulatory framework to protect data security and journalistic authenticity. As Lou (2024) emphasizes on cyber data security, news organizations must strengthen security measures to prevent unauthorized intrusions. In addition, educating the public to recognize and resist fake news and

enhancing media literacy is an important part of ensuring the quality of information in the digital news era.

To summarize, the impact of the development of digital economy on news reporting is a double-edged sword, bringing both opportunities and challenges. The news industry needs to respond prudently, making full use of the advantages of digital technology while guarding against its potential risks, in order to achieve sustainable and high-quality information dissemination.

Table 8: Impacts and coping strategies of digital transformation in the news industry

Impacts	Response strategies
Improve timeliness and accessibility Enhancing Personalized Experiences Information Overload and Fake News Privacy and Security Concerns Changing Competitive Landscape	Optimizing content push with big data and AI Cultivate digital talents to adapt to new technologies Strengthen content auditing and enhance public media literacy Establish a sound regulatory framework and strengthen data security Flexibly adjust strategies and seek cooperation from small organizations

6.2 Policy Recommendations

In exploring the impact of the development of the digital economy on journalism and the strategies to deal with it, policy recommendations should aim to balance technological innovation with the sustainability of journalism, while safeguarding the public's right to access information. First, the government should encourage media organizations to undergo digital transformation by providing financial incentives, such as tax reductions or subsidies, to alleviate the economic pressure at the initial stage of transformation. In addition, a special fund should be set up to support the media in technological research and development and talent training to ensure that journalism can adapt to the challenges of the digital era.

Second, to address the impact of economic policy uncertainty on journalism, policymakers should establish a stable and transparent regulatory framework to reduce uncertainty in business operations. This includes clarifying the legal boundaries of data protection and privacy, as well as establishing fair competition rules to prevent monopolistic behavior by digital platforms from undermining the diversity of journalism.

Further, while the development of the digital economy reduces transaction costs, it may also exacerbate information asymmetry. Policies should promote open data sharing and encourage cooperation among news organizations to improve the efficiency of news production and distribution. At the same time, the digital literacy of journalists and editors should be upgraded through education and training programs to enable them to effectively utilize new technologies for news gathering.

Finally, given the importance of cybersecurity, the government should strengthen cyber data security regulations to protect news organizations from hacking. In addition, a code of ethics for journalism adapted to the digital era should be developed to guide the media to maintain the truthfulness and fairness of news while utilizing big data and artificial intelligence.

Table 9: Overview of Policy Recommendations

Policy Areas	Specific recommendations
Transformation Support	Provide financial incentives such as tax breaks and subsidies Setting up a special fund to support technological research and development as well as talent development Encourage cooperation and data sharing among the media
Regulatory Framework	Establish stable and transparent regulations to reduce economic policy uncertainty. Establishing fair competition rules to prevent platform monopoly.
Digital Literacy	Promote digital literacy education for journalists. Strengthen cyber data security regulations

In summary, policymaking should balance the need for innovation in journalism with social responsibility to ensure that the quality, diversity and fairness of journalism are maintained and the public's information needs are met in the wave of digitization.

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