The Application of Journalism in the Era of Big Data

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Abstract. The application of big data in journalism is of great significance and plays a subversive role in traditional journalism. It can also promote the development of journalism, including the paradigm transformation of news narrative and so on. It can also provide a good development opportunity for journalism. In addition, the bias of big data will also make news lose authenticity, and the bias of news will become more difficult to detect, which will make news become less objective and cause damage to news to a certain extent. At the same time, the excessive mining of individual information by news will also lead to the invasion of individual privacy and abuse of personal information. Data in and of itself is not harmful, but the absence of a set of principles for how data is applied can have serious consequences. Therefore, it is very important to establish a sound application principle of news data.

1. Introduction
With the continuous development of Internet technology, Internet data shows exponential growth, and the social application of big data is also very common. Big data is not only a simple application technology, it has penetrated into all aspects of people's lives and played an important role in people's study, work and life. In the process of rapid development of data, journalism also needs to make reasonable use of big data so as to optimize news products.

2. The application value of big data in journalism

2.1. Big data Journalism has been Deeply Embedded in the Mechanism of Social Development
In the current social background of explosive growth of data, the sources of data are very diverse and the aggregation is very strong, which leads to the enhancement of the ability of news media to collect and analyze data, which is also an extension of the news media. The in-depth data collection and mining of the news media industry can make the news information present a more comprehensive outlook, and the media's ability to detect the social environment will also be enhanced. For example, CCTV once cooperated with Baidu to depict the population migration during the Spring Festival through Baidu's big data, and presented news on this basis. This was a significant attempt, although there were still some technical problems at that time, including platform and data problems. But these problems can be solved in the future.

The application of big data in journalism can also promote the supervision and governance of the journalism industry to the society. The journalism industry bears the responsibility for the steady progress of the society, and the journalism industry has an important responsibility for the development and progress of the society. With the application of big data, the development of the news industry has also ushered in new development opportunities and challenges. The government's construction of social data also provides a good development opportunity for the development of the news industry. The
collection and analysis of these social big data by the news media can play an important reference role for the government and social citizens, so as to improve the ability of social governance.

![Image](image_url)

**Figure 1** Population migration in the Spring Festival under the background of big data

2.2. Big Data Journalism Plays a Promoting Role in the Transformation of Journalism Production Mode

With the development of big data, the news media industry has gradually become informationized and has gradually developed into big data journalism. In the traditional news mode, journalists need to dig and judge news by virtue of their sensitivity to social news. This news mining method has great disadvantages, including the deviation of the preferences of the journalists' individual judgment, which is highly subjective. In the past, when news was very scarce, the efficiency of media was very low. This inefficiency was not a threat in essence, or even a beneficial protection for news products. In today's society, information overload is very serious. People are in an information-explosive social environment, and users have more choices for information. The former slow pace of journalism has been broken. Under the background of big data information age, all behaviors and habits of users can be detected, and information delivery is more targeted. In the era of big data, the correlation between user information is very important, which also determines the judgment of users on the value of news. Therefore, sufficient analysis and mining of data can better understand user information, thus helping news release and improving the production efficiency of news. In addition, big data is provided for the reform of news production, large data transform news production data from the news news to big data, and under the help of the technology of data, and aggregation of information mining and so on information processing can be visual processing, so as to realize for the depth of the interpretation of the current social hot issues and the direction of the forecast. In order to achieve the depth of news reporting and information expansion. This also represents that compared with traditional news, the application of big data news to technology does not present a structure, but mainly presents an unstructured presentation, which also provides many additional options for traditional news.

From the traditional news gathering and editing to the current human-computer cooperation, the news production mode in the era of big data journalism is becoming increasingly intelligent. In traditional news production, the birth of news products need to pass a series of procedures, including the editing choice and the reporter notes, edit, audit, and so on process of reporters, this kind of traditional news content production similar to traditional manufacturing industry, but in the era of big data context, news production of more intelligent, can have gradually replace traditional journalism press part of the work, even after a series of data collection and analysis process can also be done directly writing part of news, big data is no longer a supplementary role of production, has become the main body of production force. However, even if AI big data is so helpful, it cannot completely replace the role played by journalists.
Big data and journalists can coexist, and the relationship between them is interdependent and promoting. Big data algorithms can help journalists sort out cumbersome data and model the writing process, so as to free up more energy for more value-creating work and produce news products and activities with more social value. Under the background of rapidly developing age of big data, the traditional news media also gradually began to transition, and the use of big data to generate reports in a wide range of industries, journalists may be positive thinking under the big background data, seek the combination of technology and people, and to train the ability of itself more complex work, including in-depth news and news survey.

One feasible way is to make full use of big data resources. Technology and people have never coexisted and developed harmoniously and complemented each other. When collecting information, journalists can explore sensitive and valuable issues for the public through big data. Editorial departments can quantify the data of these issues to filter the information; In the stage of content writing, big data can also provide practical news materials for journalists' news writing, including the first-hand information discovered by reporters in the interview process. In the news release stage, data monitoring and feedback are carried out through big data, and the information fed back by big data is analyzed and evaluated.

Figure 2 Data journalism inverted pyramid structure

3. The challenge of applying big data to journalism

3.1. The Collection and Analysis of Big Data Causes the Lack of Objectivity in News

In the process of news creation, data mining, collection and analysis is a basic premise of big data news creation. The important thing is not to mine the amount of data, but to analyze the data so as to obtain more effective and valuable data information. Therefore, it is very important in the part of data mining and processing. Once mistakes are made in this part, serious consequences will be caused. Therefore, timely and comprehensive data extraction and analysis is a difficult problem.

Big data is not an absolute guarantee for the objectivity of news. Big data itself is biased towards things, and the data in big data itself is not objective. Algorithm for the data is also lead to different data analysis results, an important reason of the presidential election in the United States, for example, large data to predict Hillary Clinton will get the victory, but that is not the case, this is once again emphasized the uncertainty of data, one of the important reason is that public opinion survey data and analysis have certain error, this leads to news reputation received damage.

Data analysis with big data has a certain range of uses. Big data does not represent the actual situation. Analysis and processing of big data is not a causality, although causality is also a very important connection. However, news does not pursue correlation, but pays more attention to causality for the
existence of events. This is a severe injury to the journalism industry, because the most important thing in journalism is authenticity, but under big data media, whether the news is true can be easily tested.

3.2. The Existence of Privacy of Big Data in News Production

The basis of big data is information data and algorithms. Personal data is indispensable for user behavior analysis and recommendation of personalized news advertisements. The deeper the user data mining, the more accurate the personalized advertising push will be, and the easier it will be to draw a comprehensive user portrait. But in the process of user data use will produce very big risk, it is easy to expose personal privacy, if the data are not used in protection of user privacy is easy to damage, even cause serious consequences, such as sensitive personal data were leaked, the use of user sensitive data for extortion and so on.

The right to privacy is closely related to everyone and is also a legitimate right and demand of individuals. Data journalism should also pay attention to this point when applying big data. It needs to protect user data consciously and refrain from abusing data. At the same time, it should also use data in the condition of seeking users' consent, have a reverence for data, and use data carefully to prevent personal data from leaking out.

4. Conclusion

The application of big data in journalism is an inevitable trend of the development of The Times. Big data is transforming journalism and shaping professional norms, and we need to embrace this phenomenon while also embracing the social debate. With the help of big data, people's life has gained a lot of convenience. But the application of big data also needs to have certain limits. If big data does not take into account the limits of social morality or legal level, there will be many risks in journalism. Under the background of big data, people need to understand, judge and apply data, which has gradually become the basic professional quality of news media and journalists.

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