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Incidental News Exposure and Algorithmic Governance of Social Media Platforms in Ambient Journalism

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Abstract

The emergence of social media platforms as the leading platform for people to access news has brought essential changes in journalism. People encounter news in a diffuse news environment. The news algorithmic distribution of social media platforms determines the content ecology of people's chance encounter with news, and the problems of information overload, information cocoon, vulgar news, and so on brought by news algorithmic distribution are becoming increasingly prominent. Algorithmic governance as a trend is unstoppable. This study adopts a qualitative research method to focus on the challenges and governance of the algorithmic distribution of news in social media to provide lessons for establishing an excellent online news ecosystem and promoting efficient management of cyberspace.

Keywords: algorithmic governance, incidental news exposure, ambient journalism, social media, news distribution

1. Introduction

According to the Digital News Report 2023（Newman, N. et al.，2023）, young people are likelier to get their news through social media. With social media platforms replacing traditional media platforms as the primary channels for the public to learn about current events and public affairs, public information sources have expanded to social networks. Canadian scholar Alfred Hermida defines journalism under the influence of social media as "ambient journalism," i.e., news surrounds users like air all the time (Hermida, 2010). In an ambient journalism environment, how users consume news has shifted from actively seeking news to inadvertent incidental news exposure (Goyanes, 2019). Incidental news exposure is an information encounter, defined as a memorable experience in which a user accidentally finds valuable and exciting news while engaging in various online activities.

Technology has reconfigured the media landscape as an essential force of social change. With the expansion of algorithmic technology, the power of algorithms has permeated the "capillaries" of society and, likewise, the distribution of news on social media platforms. The news algorithm distribution of social media affects the content ecology of users' news eventualities to a certain extent. Therefore, the many problems arising from social media news algorithmic distribution have also received the joint attention of the government, platforms, and users.

The range of problems associated with algorithmic news distribution on social media platforms makes it urgent to strengthen algorithmic governance. This study mainly answers the following three questions:

1) How do algorithms regulate the probability of users encountering news by chance on social media platforms?

2) How can algorithms be used to regulate the quality of news users encounter on social media platforms?

3) How can algorithms regulate the range of news topics users encounter on social media platforms?

2. Literature Reviews

2.1 News Encounter

As one of the main ways to access news on algorithm-driven digital platforms, news eventualities have become the focus of numerous studies. Existing studies have mainly explored the types, influencing factors, layers, and scenarios of news eventualities in social media. Matthes et al. (2020) proposed two layers and three paths of news chance encounters; Kaiser et al. (2018) explored the influencing factors of news chance encounters and found that people tend to accept the

chance encounter news from strong-relationship referrals with high knowledge and similar political stance; Yang & Wanzhen (2022) explored the "information encounter" scenario and its characteristics in the Internet environment.

2.2 Algorithmic Distribution of News on Social Media Platforms

The algorithmic distribution of news on social media platforms is also known as algorithmic recommendation. It refers to relying on Internet technology and big data technology, the user's reading habits, interests, and preferences for data capture, after calculation and analysis of the user profile, personalized and intelligent content distribution for user characteristics (Algorithms: Full Integration into the Regulatory Sphere, 2019).

2.2.1 Pros and Cons of Algorithmic Recommendations

Algorithm recommendation technology makes the audience encounter news in the "passive feeding" of information. Algorithmic hegemony controls the audience's access to and interpretation of information. On the positive side, algorithmic recommendation conforms to the personalized reading needs of the audience in the new media era, provides an opportunity for the development of the news industry, and improves the accuracy and efficiency of news distribution. On the negative side, the algorithmic power of social media also creates a series of concerns and resistance to news distribution. Scholarly studies have focused on news avoidance, low-quality news eventualities, and information cocooning.

2.2.2 Corporate Algorithmic Power and Governance of Social Media Platforms

As the critical role of platforms in cyberspace governance has become more and more prominent, scholars have begun to focus their research on the power of platforms and have launched in-depth discussions on the boundaries of the rights and responsibilities of platform enterprises (Wenxiang et al., 2023), the legal regulation of social responsibility (Chenrong, 2022), and the innovation and governance of social responsibility (Zhen & Jin, 2021). In general, a consensus has been reached on the triadic regulation model of "individual platform government" and the promotion of the rule of law for the social responsibility of platform enterprises.

Algorithmic power, as the main power of the platform, has also attracted much attention. Scholars have conducted in-depth research on the power and risk of algorithmic recommendation, ethics and governance, and many other aspects. More research has been conducted on "today's headlines," a representative information recommendation algorithmic platform. However, less attention has been focused on social media platforms such as WeChat, Weibo, and TikTok.

2.2.3 Algorithmic Distribution of News on Social Media Platforms

Various social media platforms have long been exploring algorithms. Based on user behavior and interests, TikTok uses an algorithm to calculate the similarity between videos to determine what users are likely to like, and then ranks the videos with the highest degree of similarity according to users' interests and preferences and recommends them to users. WeChat platform has also realized a shift from obsessing over "social distribution" to embracing "algorithmic distribution": articles on public accounts are no longer sorted purely according to chronological order but optimized by algorithms. In the information flow of public accounts, they have started to recommend content users may like through algorithms, and the algorithm began to recommend the public account that users may like; at the end of the public account article, the algorithm started to recommend articles related to the topic. In the information bulletin on the filing of algorithms for Internet information services released by the State Internet Information Office, Weibo has also filed two algorithms: the Weibo personalized push algorithm and the Weibo hot search algorithm of the sorting and selection category.

3. Methodology

This study adopts a qualitative research method combining the literature research method, non-participant observation method, and interview method. The literature research method explores three main aspects through existing literature: the first aspect is to summarize the changes brought by social media to the news consumption and information dissemination structure; the second aspect explores the iteration, debugging, and legitimacy of news algorithmic distribution, and the third aspect explores the governance of news algorithmic distribution based on social media in terms of governance subject, governance scope, governance issues, and governance difficulties. The non-participatory observation method mainly uses observation to understand the algorithmic news distribution mode and algorithmic iteration of social media platforms such as Facebook. Interviews are conducted with active social media users to understand the impact of news consumption on social media platforms and to explore the problems and improvement paths of social media news algorithms.

4. Algorithmic Dilemmas and Governance

4.1 Algorithmic Dilemmas

News is drowned in a massive amount of infinite information. Users are addicted to the satisfaction brought by "mental

opium" and "comforting pacifiers," losing their critical and resistance power. Entertainment content has become the only logic for users to watch with the help of algorithms. Another problem brought on by algorithmic recommendations is vulgar news. "Unimportant or less meaningful fragmented content," such as yellow news, is eating into the quality and serious news. Ineffective hot searches, such as those on Weibo, can neither provide valuable news hotspots nor generate warm emotional resonance. In the TikTok platform, nutrient-less videos get powerful traffic from algorithms. The other issue is that intelligent algorithms are not smart, and news screened by algorithms brings stagnant information cocoon and homogenized content, forming filter bubbles (Pariser, 2011). The role of algorithmic recommendation mechanism brings misalignment of information supply and demand.

4.1.1 Information Overload

The information environment of social media is very different from that of traditional news media in that social media are not a gathering place for political and public news. While social media is an essential platform for people to get news and information, it is a place where people earn not only news published by professional media but also a large amount of data that is not regulated by the principles of professional journalism. The mix of facts, opinions, and emotions on digital platforms may positively impact news encounters, even for those who do not follow the news but also have the opportunity to be exposed to political and public issues when accessing social media for recreational purposes. However, people's attention is highly dispersed in social media, and news content is only a tiny part of a person's information stream, so users tend to spend a minimal amount of their time resources on encountering news content. Information mixed with strong emotions and stances has become the main competition for users' attention.

There is tremendous entertainment and leisure content on social media platforms, and severe news drowns in a sea of entertaining information. But the essential attribute of news is not entertainment. The orientation of news dissemination is the bottom line of social media news. Sunstein (2008) proposed that the "sidewalk" model of the network world ensures that the user's individual needs under the premise of the news media play the role of "public forums" to provide a wide range of information collision and exchange of open space. For example, "today's headlines" and Sina Weibo try to provide users with a hot search push so that each user can focus on their field while discussing social issues and increasing the chance of new encounters.

4.1.2 Information Cocoon

Aiming at the information cocoon problem brought by algorithmic news recommendation, some scholars have proposed a coping strategy to optimize the distribution mechanism based on the TikTok platform. Optimize the algorithm by setting a threshold and increasing the dimensional calculation of the push algorithm when users continuously brush the same type of content to reach a period of fatigue and begin to speed up the refresh frequency, cross-push other types of content, add originality dimension to the original "finish rate, like rate, comment rate, forwarding rate" four dimensions, so that original content has a higher possibility of being seen. At the same time, it empowers users by providing them with choices such as "don't watch the same kind" and "not interested." Some scholars have also proposed adopting a value-sensitive algorithm design, adopting "randomized" recommendations on top of the original algorithmic model to increase the information variance of users and guide them to browse diverse and serendipitous content (Moller, 2022). Another example is Facebook's algorithm modification in 2022, where users will be recommended a large amount of content from unfollowed accounts in their in-app streams. Accordingly, Facebook users will have fewer posts from acquaintances in their streams to broaden the user's perspective to a more diverse range of content.

4.1.3 Uneven Quality

Another problem with algorithmic pushing is that it is difficult to identify strengths and weaknesses in content quality, leading to high-quality information content failing to enter the algorithmic pool and a large amount of vulgar content appearing. For example, as an online community and video platform with a high concentration of Generation 'Z groups, Station B was interviewed by China's State Internet Information Office for spreading vulgar content. In response to the problem of vulgarity brought about by algorithmic news recommendations, platforms should investigate themselves, and regulators should not be absent. Platforms should strengthen the ecological management of algorithmic recommendation service pages, establish and improve manual intervention and user self-selection mechanisms, and actively present information in line with mainstream value-oriented information in the first screen of the home page, hot searches, selections, list categories, pop-up windows, and other key links. Regulators should emphasize the division of power and responsibility between "algorithmic value gatekeepers and social media platforms," urge platforms to harness algorithms with a mainstream value orientation and promote the upward development of algorithmic applications. For example, WeChat categorizes the "public article pool" and strengthens the distinction between the content quality and the articles' category.

4.2 Algorithmic Governance

4.2.1 Subjects of Algorithmic Governance

Nested in the platform governance framework, Chinese legislators have sought to govern algorithms through the composite idea of setting obligations for platforms and defining their responsibilities while granting individual rights. It is essential to recognize the multiple subjects of algorithmic governance: governments, platforms, and users.

The advancement of Internet technology and the development of industries have promoted a new type of social relationship architecture centered on platform enterprises. Platform enterprises have become critical nodes of network governance (Xin, 2019). Social media platforms (e.g., Facebook) have billions of users who wield tremendous power in disseminating information to their users. However, social media must recognize their role in providing information to the public as traditional news media do. They often need to pay more attention to the responsibilities associated with this role (Cetina et al., 2019). There are concerns about the ability of technology companies like Google and Facebook to independently modify their algorithms, arbitrarily changing how news is distributed across their services (Meese & Bannerman, 2022).

Policies and regulations for algorithm governance are of particular importance, as they are essential guidelines for algorithm governance and the consensus of the whole society. The government and the industry must collaborate to formulate laws and regulations to ensure the rational use of algorithms and carry out the necessary government supervision, establish a sound algorithmic accountability mechanism, clarify the responsible body of algorithms, and promote algorithmic governance towards conscientization and systematization. Since 2021, China has promulgated a series of laws and regulations on algorithm governance. For example, in August 2021, China issued regulations on the management of algorithmic recommendations of Internet information services to ensure that algorithmic recommendations are governed by law.

Algorithms provide personalized services to individuals but are another means of exercising control over them. As Postman（2007）warns in "Entertainment to Death," two forces are 'merging,' the "Big Brother" that has been watching "you" may also be the very industrial technology that leads "you" to "blissful indulgence." On the one hand, users need to accept the existence of algorithms, use them to expand their capabilities, and enjoy the convenience they bring; on the other hand, users need to be able to recognize and resist the control and other risks that come with such a companion (Lan, 2020). Some people live in the "news desert" of social media, while others live in news-rich online networks. This represents a new form of digital inequality and may hinder users' serendipitous access to news (Barnidge & Xenos, 2021). Users must have fundamental cognitions about algorithms that include: What are algorithms? How are algorithms coded? Which platforms have algorithms? How do algorithms affect news distribution? Etc.

4.2.2 Strategies for Algorithmic Governance in News Distribution

The government should focus on creating a closed loop of governance to "harness" algorithms:

1)Carry out multi-dimensional joint governance, join hands with intelligent media platform enterprises and other multi-dimensional subjects, improve the system and regulations of algorithm governance, and increase the precise governance of recommendation algorithms.

2)Take particular actions as a hand to regulate the behavior and order of applying recommendation algorithms to disseminate news and information by segments, guide Internet platforms to optimize information filtering, ranking, and recommendation mechanisms, and carry out algorithmic safety technology inspection and technical assessment.

3)Relevant ethical or value guidelines should be issued to guide the formulation of laws and algorithm governance rules. Integrate the technical rule system into the social rule system constructed by law and ethics, and integrate the values of fairness and goodness into the big data industry chain.

4)To strengthen the "transparency" and "interpretability" of algorithms, establish a mechanism for data review, accountability, and post-event relief, facilitate the reading and review of algorithms by regulatory agencies, incorporate data transparency and review into the regulatory means of algorithmic governance, and improve post-event relief and accountability.

Platforms should take the initiative to assume social responsibility and adopt human-machine collaboration and aggregated media algorithms to continuously optimize their algorithms so that users can stumble upon high-quality and diversified news in social media with a wide range of mixed content.

1)Insist on man-machine synergy

Although the algorithm mechanism has improved the efficiency of information production and distribution, it can still not form "human-like" judgments and choices when making value judgments and decisions. Platforms should manage the objective characteristics of algorithms, "value-free presuppositions and value-free judgments," increase manual

supervision, adhere to human-machine synergy, and strengthen the "algorithmic recommendation + artificial" gatekeeper mode.

The algorithm does not carry a value and moral position as information technology. However, the algorithm recommender's algorithmic motivation determines the value orientation of the algorithm recommendation. At present, intelligent media algorithm recommendations dramatically reduce the workload of manual screening of new news. However, the language comprehension ability of machine intelligence and emotional analysis ability is minimal, and part of the information content still needs manual screening. In this regard, it is recommended to guide the platform to set up additional "artificial supervision posts" to make value judgments: for example, "today's headlines" platform added more than 2,000 new posts in early 2018, which are used to carry out artificial supervision of the information content environment; TikTok platforms have also taken corresponding measures to increase the number of artificial reviewers, strengthen the audit of sensitive content and push the link of the artificial audit intensity, and increasing the degree of human-machine coordination.

2)Convergent media algorithms, hybrid recommender systems with more enormous data

A hybrid recommendation system utilizes multiple recommendation algorithms to work together to make recommendations, expecting to avoid the problems in individual recommendation algorithms and ultimately obtain better recommendation results than individual algorithms.

Platforms can use media algorithms to support the delivery of mainstream media voices. "Media algorithm" does not exclude the algorithmic logic but is entirely different from the commercial sense of the algorithmic recommendation, not in the profound commercial logic to accelerate the depth of artificial intelligence and fast-consuming information matching, but efforts to give the algorithm to the mainstream values of the media, to build a new media ecosystem under the leadership of mainstream values.

Regarding public issues, algorithmic companies can cede specific news distribution involving the guidance of public values and the reporting and processing of crucial social content to information professionalism. For example, the People's Daily New Media Center in China pioneered a party media algorithm that adds the value weight of mainstream media used on the "People's Account" platform.

To cope with the inhibition and kidnapping of users by algorithms, users have to realize the upgrading of media literacy, especially algorithmic literacy, in the digital era (Lan, 2020) and play the subjective initiative to become cloud individuals with higher-order pursuits under the analysis of algorithms, and to realize the domestication of technology (Silverstone, 2007).

5. Conclusion

News eventuality in the social media era is attracting wider attention as an essential way of news consumption. Problems such as information overload, information cocoon, and information vulgarization brought about by news algorithmic distribution on social media platforms have also continued to affect the probability, subject matter, and quality of news eventualities. This brings about the necessity and urgency of algorithmic governance. Algorithm governance requires the joint efforts of multiple parties, including the government, platforms, and users. The government should strengthen supervision and promote the establishment of legislation and ethical standards; platforms should take the initiative to assume responsibility and continuously optimize algorithms; and users should consciously improve their literacy and achieve technical discipline.

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