Updating the Gatekeeper in the New Media Age: The Algorithm

Jiayi Wang[1,a,*]

[1]*Faculty of Humanities and Social Sciences, Beijing Normal University - Hong Kong Baptist University United International College, Zhuhai, 519000, China*
a. r130031240@mail.uic.edu.cn
corresponding author

Abstract: In the era of new media, an algorithmic recommendation mechanism is widely used by social media platforms as a new type of gatekeeper and has greatly affected people's entertainment methods and habits. Algorithms collect and analyze user data and then recommend similar content to users based on relevant tags and keywords. Although this provides users with a personalized experience, this personalized service unconsciously forms an information cocoon, which can easily limit people's cognition. It is the purpose of this article to let the audience understand the impact of the algorithmic recommendation mechanism and to reduce the harm to the audience's cognition under the algorithmic recommendation mechanism. Through reading and citing various literature studies, this paper clarifies the theoretical positioning of algorithmic recommendation mechanisms in gatekeeper theory and enumerates the positive impact of algorithmic recommendation mechanisms on individuals, social media platforms and society along with the development of social media platforms, as well as the negative impact on individuals and society. Finally, through the negative impact of the algorithmic recommendation mechanism, this paper discusses how to break the information cocoon room and reduce the negative impact of the algorithmic recommendation mechanism on the audience's cognition from three dimensions: individual audiences, mainstream media, and social media platforms.

Keywords: Algorithmic, social media, gatekeeper, information cocoon, cognition

1. Introduction

According to Shoemaker and Han, social media groups use computer algorithms to select and place content previously posted by their users in mass media, so the group's algorithms can be called super-gatekeepers in the entire gatekeeping process [1]. In the era of new media, algorithms, as a new type of gatekeeper, can continuously push the content of interest to users according to the information content browsed by users, to continuously attract users' attention and increase users' stickiness to this social media platform. While this provides users with appropriate content to keep them entertained, it also creates a relatively closed information space that results in users only having access to relevant information, creating a kind of information cocoon that limits users' awareness through the information pushed to them by the media algorithm. This article will analyze the positive and negative effects of using media algorithms one by one. By comparing the

advantages and disadvantages of practical media algorithms, this paper will discuss how to help users avoid the information cocoon in the process of enjoying their favorite information and explore how users can avoid the threat of information cocoons to their own perceptions in the new media age.

2.   The Influence of the Algorithm's Recommendations Mechanism

First, this article will discuss the advantages of algorithms from three aspects: social media platforms, individuals and society.

For social media, algorithms based on digital technology have contributed greatly to the widespread use of social media and have also had a profound impact on the way of life and social interaction of human beings. For example, short video platforms represented by Tik Tok have become a new way for people to interact, entertain and consume. Among them, Tik Tok creates a personalized media environment for users based on media algorithms. TikTok pays attention to users' preferences. Users' likes, comments, and forwarding not only deepen the user's experience but also provide users with data for the algorithm. Therefore, in the content push link, the algorithm can follow the user's usual hobbies of browsing videos to select similar videos to push. In this way, it is easy to attract users to continue to use the software and earn huge traffic for the media platform. According to the "2021 China Online Audio-Visual Development Research Report", the number of domestic short video users is 873 million, the per capita daily usage time reaches 127 minutes, and TikTok has exceeded 600 million daily active users, becoming the short video head platform that grabs users' attention [2].

For individuals, the algorithmic recommendation model meets various requirements of users and audiences. The algorithm recommendation mode realizes the personalized push of information, which not only meets the needs of the audience to obtain information but also reduces the cost of the audience to obtain information, including both economic cost and time cost [3]. From the perspective of economic cost, in the past, audiences needed to pay subscriptions to newspapers, periodicals, magazines or radio and television if they wanted to obtain relevant information. However, in the era of new media, users can directly search for relevant information through different mass media platforms. In terms of time, the personalized service created by the algorithm will continue to push relevant information after the user searches or browses the information, which saves the user's search time. In addition, since most of the content recommended by the algorithm is the content that users are interested in, this can help users deepen their understanding of a specific aspect to a certain extent.

In terms of society, the algorithmic recommendation mechanism can help promote and strengthen the official mainstream values and enhance the people's sense of identity with the country and the government. When the social media platform is setting the algorithm recommendation mechanism, it will inevitably be affected by the current social ideology and will take into account the requirements of the official authorities, and it can choose to hide the views contrary to the mainstream view when reviewing and checking. It can also increase the number of recommendations for news published by mainstream media. In addition, on the one hand, algorithm recommendation can effectively analyze users' instantaneous emotions and attitudes, track their emotional changes and attitude changes, and make real-time predictions to ensure effective guidance of public opinion; on the other hand, it can also avoid the risk of the underlying micro public opinion [4]. Through the collection and analysis of users by the algorithm, it is possible to push relevant content containing mainstream ideas according to the characteristics of each audience. Then, through the long-term influence of news media, the purpose of making the audience gradually agree with the content recommended by the algorithm can be achieved.

Secondly, the negative impact of algorithm recommendation will be explained from the perspectives of individuals and society.

For individuals, if a platform pushes information in the long-term that the audience is interested in and that is consistent with the audience's views will create an "information cocoon." This will cause the audience to reject information that differs from their personal views, forming a stereotype of the world, and even in severe cases, causing the phenomenon of online group polarization in the same thing, which is not conducive to social harmony [5]. According to Yao [3], another aspect of the "information cocoon room" is "pan-entertainment". The type of information that users like most and watch the most in their daily life is often entertainment-related information, but a long-term push of entertainment information to users under the personalized algorithm recommendation mechanism will lead users to focus only on entertainment information and will ignore other social events and political news, which will lead to the "pan-entertainment" of information.

In terms of society, algorithmic recommendations can negatively impact social movements and can also create bias. Critical scholars have argued that the profit drive shapes the design and function of social media, and that profit is responsible for the many negative consequences hidden in algorithmic operations [6]. Due to the commercial nature of the media platform, the profit of the platform has become the guide for algorithm recommendation. The social movement recommended by the algorithm is not necessarily positive, but maybe the one that pays more. For example, Facebook follows an advertising business model that motivates users to pay to distribute their content on the platform rather than facilitating natural growth that might benefit activists [7]. Overall, scholars believe that such hidden algorithmic operations "could entail negative consequences for social movements" [8]. "Moreover, algorithms have been shown to learn gender and incorporate gender biases, thus reflecting damaging stereotypes about women" [9]. According to Mishra, when a web page is searched for more negative images than positive images, more images of women are shown [10]. In fact, the algorithm also has positions and biases, because the algorithm recommendation program is also written by humans, and the algorithm recommendation program, as a commercial secret of major media platforms, will not be disclosed to the public. Therefore, the public does not know how the algorithms of every platform are calculated and according to what rules. When a wrong cognition is set in the algorithm recommendation mechanism, it may further affect public cognition and cause a kind of bias.

3. The Methods Which Help People Break the Information Cocoon

Next, this article lists three ways to break the information cocoon and help the audience's thinking not be constrained by algorithm recommendations.

From a personal point of view, a person's cognition is often constructed gradually through observation and learning of the surrounding environment. When people browse social media, they can avoid being caught in the same type of information by actively looking for and watching various content. At the same time, face information from different viewpoints with an inclusive mentality, try to accept information from various aspects, and avoid reading only the information that you believe and agree with. Giving full play to one's own initiative means breaking down the walls of different circles. Through the flow of information and the interaction of opinions between different circles, the members of the circle are forced to broaden their horizons and hear different voices, thereby helping break the belief that members of the community are held by their own groups and individuals [11].

Second, the mainstream media can step in to check on some false news, to prevent users from being misled by false news and forming wrong perceptions. Mainstream media can re-enter the circle shaped by the algorithm recommendation mechanism, break the gatekeeping effect of the algorithm itself, affect the information transfer working mode within the circle, rebuild the

connection between the circle and the outside world, avoid the wide spread of misinformation, and recreate the role of mainstream media [11]. In addition, mainstream media can also join forces to jointly formulate an industry standard for the algorithm, a new type of gatekeeper, and improve the review system for algorithm-recommended gatekeepers, to achieve the effect of external supervision. According to Fang, it can also deeply reform the existing algorithm mechanism, including timely updating and upgrading the screening and filtering mechanism of bad information, properly adjusting the review weight of the algorithm and manual editing, incorporating social benefits, author credit and other elements into the evaluation system to create open and multi-angle content value [12].

Finally, this paper argues that each media platform should also bear the corresponding responsibility. Although media platforms are commercial organizations, they should also assume certain social responsibilities and cannot allow information containing hatred and prejudice to spread. When designing the algorithm, we can strengthen the screening of bad information, and actively provide a variety of information content, not just considering the viewing effect, chasing traffic and interests, but considering the impact of the content on the social audience and social environment, taking into account the social benefit.

4. Conclusion

This paper studies the positive and negative effects of the algorithmic recommendation mechanism as a new gatekeeper on various social media platforms based on science and technology in the new media era by means of a literature review. Among them, the algorithmic recommendation mechanism greatly facilitates the user's searches for information, which not only saves economic and time costs but also facilitates the user's in-depth understanding of a specific aspect. For social media, the algorithmic recommendation mechanism is a great help for the platform to earn traffic, and for society, it can also help the spread of mainstream values. However, such a recommendation mechanism can easily confine users' thinking, resulting in an information cocoon. For society, it is easy to cause prejudice and damage social movements. Then, aiming at the information cocoon room easily caused by the algorithm recommendation mechanism, the article proposes a method to help break the information cocoon room from three aspects: individuals, mainstream media, and social media platforms themselves. The rapid development of technologies such as algorithms and artificial intelligence is profoundly affecting and changing the field of news dissemination. The threshold for a news release is lowered, the speed of information dissemination is faster, and it is more convenient for users to obtain information. There are also a series of negative effects behind it. How media platforms balance the relationship between commercial profits and social responsibility, and how to make the algorithmic recommendation mechanism more scientific and intelligent to check information are all worthy of in-depth research. There are still some shortcomings in this research. Although this paper combines various types of literature, there is also a lack of face-to-face interviews with the audience. Due to the particularity of each audience, the degree of impact of algorithm recommendations on individuals will vary depending on the degree of time spent on social media platforms. Moreover, there are still many people in the information cocoon room who do not realize that their cognition is being secretly guided by the social media platform under such an algorithmic recommendation mechanism. As a result, it is worth considering how to make users aware of the existence of the information cocoon room and how to make users aware that their cognition may be gradually assimilated by the content recommended in the social media platform.

Reference

[1] Shoemaker, P. J., & Han, G. (2020). The Supra-Gatekeepers: Gatekeeping in Age of Social Media. Journal of Communication and Society, 54, 223-256.

[2] Na, X. T. (2022). The dilemma of TikTok users under intelligent algorithm and exploration of breakthrough paths. Journal of News Research, 13(10), 1-3.

[3] Yao, M. (2020). Research on the Subjectivity of Journalists in the Algorithmic Recommendation Mode. China Journal of Radio and Television, 349(4), 51–54.

[4] Zhang, X. X. (2017). The Idea, Significance and Ethical Risk of Personalized Recommendation of Algorithmic News. Media, 11, 82–84.

[5] Li K. H., Yang Q., & Wu G. R. (2022). Technological concerns and good governance of mainstream ideology in the field of algorithm recommendation. Science and Technology Communication, (03), 103-105.

[6] Fuchs, C. (2014). Social Media: A Critical Introduction. London: SAGE.

[7] Etter, M., &Albu, O. B. (2021). Activists in the dark: Social media algorithms and collective action in two social movement organizations. Organization, 28(1), 68-91.

[8] Coretti, L. and Pica, D. (2018) 'Facebook's Communication Protocols, Algorithmic Filters, and Protest. A Critical Socio-technical Perspective', in M. Mortensen, C. Neumayer and T. Poell (eds), Social Media, Materialities, and Protest: Critical Reflections. London, UK: Routledge, pp. 81–100.

[9] Schroeder, J. E. (2021). Reinscribing gender: social media, algorithms, bias. Journal of Marketing Management, 37, 3-4, 376-378. https://doi.org/10.1080/0267257X.2020.1832378.

[10] Mishra, A., Mishra, H., & Rathee, S. (2019). Examining the presence of gender bias in customer reviews using word embedding. (Working paper). David Eccles School of Business, University of Utah. Available at SSRN https://ssrn.com/abstract=3327404.

[11] Zheng, M. N, & Li, B. (2022). Information cocooning in social networks in the context of public opinion governance and the way to break the cocoon. Journal of Southwest University for Nationalities (Humanities and Social Sciences Edition), 43(04),140-144.

[12] Fang, W. L. (2019). Research on media Ethics anomie under algorithmic recommendation model. Shandong Industrial Technology, (7), 138.