

Analysis of Content Production Strategies and Impacts in the Context of Information Fragmentation

Fangming Zhang^{1,a,*}

¹*College of Literature and Journalism and Communication, Shandong University of Finance and Economics, Jinan, Shandong, 250000, China*

a. zhangfangming@mail.sdufe.edu.cn

**corresponding author*

Abstract: With the development of technology and society, fragmented information is flooding people's lives and has a significant impact on users. The purpose of this study is to analyze the impact of fragmented information on users in order to fill the gap in this research field, alert people to the negative effects of fragmented information, and make better use of fragmented information. The entire study is divided into three parts: the causes of fragmented information, content production strategies, and the impact on users. The production strategy of fragmented information is unique in terms of content and in terms of information delivery. It uses technology to constantly analyze the action characteristics, social characteristics and environmental characteristics of users' browsing behavior. In terms of the impact on users, this study concludes that fragmented information does have some positive impacts, but more importantly, the negative consequences, such as information cocoon, fragmented information anxiety, and difficulty in concentration, should be given sufficient attention.

Keywords: fragmented information, information push, information cocoon, fragmented information anxiety

1. Introduction

In this fast-paced society, fragmented information very reasonably fills people's lives. In terms of information content, the popularity of short videos has gradually surpassed that of long videos. Whether catering to the trend of actively compressing the length of information content or passively conforming to the short-duration requirements of communication platforms, content producers are already in the flood of fragmented information, and their production of fragmented content and information fragmentation plays a positive feedback role to each other. However, while fragmented information brings convenience to users, it also generates negative impacts that cannot be ignored, such as new barriers to information access and fragmented information anxiety, which have not received much attention in existing studies. In the field of communication, information fragmentation is used to describe the characteristics of information dissemination, such as individualized information demand, decentralized information audience, diversified information media, and fragmented information content, which reflects the fragmentation of information and dilution of content [1].

Among the existing research about fragmented information, there are mainly the following research aspects: fragmented learning, fragmented reading, fragmented information dissemination,

application of fragmented information, fragmented information content, fragmented information media, and fragmented information audience. Regarding research content direction, the main areas are characteristics and strategies of fragmented learning, fragmented information dissemination strategies, big data and fragmented information, traditional media and new media, and consumer behavior. Furthermore, a large number of studies focus on how to better respond to the trend of the fragmentation era and better play the role of fragmented information, while few focus on the impact of fragmented information on users, for example, fragmented information tests the stability, allocation and transfer ability of information recipients' attention [2], and to a certain extent, weakens users' information disposal ability leading to cognitive information bias [3]. Therefore, this study aims to analyze and summarize the effects of fragmented information, which is important in filling the gap in current research on fragmented information, raising appropriate alertness to fragmented information, and using fragmented information rationally. This study will first analyze the causes and production strategies of fragmented information and then summarize the impacts based on them.

2. Reasons for the Creation of Fragmented Information

2.1. Reformation and Development of Mass Media

One of the significant reasons for the creation of fragmented information is the media fragmentation. The development of the World Wide Web(WWW)has gone through phases from the Web 1.0 era to the Web 2.0 era and then to the Web 3.0 era. The level and popularity of media technology and the way information is disseminated are different at each stage. Although the Web 3.0 era has been opened, it is still in the early stage, and the network world still shows the distinctive characteristics of the Web 2.0 era.

The Web 1.0 era had a very clear trend of "centralization". That is, a platform-centric approach where media rights are created, owned, and distributed by the platform. The underlying logic behind the emergence of related forms is due to the uncertainty of new technologies in their early stages and the imperfect construction of infrastructure at the hardware level. In the Web 1.0 era, the medium was represented by a number of search engines, and the work done by these platforms was relatively monogenism, which was mainly to transform offline content into data content online for users to search. At the same time, due to limited infrastructure, users mainly received information on the platform through the PC terminal. The whole information dissemination process is one-way, lacking user feedback and interaction, and the information dissemination model is Single Recursion Model. While in Web 2.0 era, "decentralization" began to take off. In other words, the media rights are created by users and owned and distributed by platforms [4]. The reason behind this is that technology has shifted to the user side and become popular, and the emergence of social media and mobile devices such as cell phones has enabled users to express themselves better. Compared with the web 1.0 era, users are no longer just passively consuming information, and convenient devices make high-frequency self-expression possible. After users give feedback, big data algorithms analyze them and push information in a more targeted way, thus forming a positive cycle and dividing and fragmenting mass media according to market demand.

2.2. Transformation of Social Patterns

Maslow's needs theory proposes that people are eager for self-actualization. With the abundance of the basic means of production of human life, the pursuit of a higher level of life will appear. In turn, related pursuits drive technological innovation. After the basic information acquisition needs are satisfied, people begin to receive information selectively according to their personal needs or preferences. On the one hand, the development of the economy, science, and technology makes

people's class differentiation more obvious, and different living environments, education levels, and cultural backgrounds make people's ability to understand information different [5], and the quantity and quality of information they can receive is also different.

On the other hand, people's interests have become more diversified, their desire to explore the world and to self-actualize has become stronger, and their preference for different information has become more obvious. At the same time, in the search for higher self-actualization, the total amount of information demand has increased significantly. The transformation of social patterns is the catalyst for the creation of fragmented information.

2.3. Fragmentation of Public Energy

The accelerated pace of production and life in modern society has increased the variety of information people need to be exposed to simultaneously, leading to energy fragmentation. When the masses act as information receivers, due to their limited energy, they are often only able to access part of complete information. At the same time, due to their limited energy, they are often unable to understand and grasp 100% of the information they are exposed to when processing it. Therefore, when the public acts as a disseminator of information, in order to achieve the purpose of effective delivery of information, it will consider the fragmentation of the energy of the information receiver in the current environment and present the most easily understood, attractive, or quintessential part of the information as a priority. For example, in many cases, users do not have a full two hours to watch a movie but can spend ten minutes watching the commentary of a movie.

3. Content Production Strategy for Fragmented Information-using TikTok as an Example

3.1. Information Content Characteristics

Firstly, the length of content on TikTok is limited and short. The videos posted by ordinary users must be controlled within 15 seconds, and when fans accumulate to a certain extent, the maximum length becomes one minute [6]. The short length limit fits the time and energy of users who are fragmented and ensures the user experience to a certain extent. In addition, fragmented information content is rich and entertaining, which is an essential reason for attracting people, and it often pursues the attractiveness of the beginning part to stand out from a large amount of information and efficiently deliver information. Furthermore, the production of fragmented content information tends to focus on two aspects: content production in areas with high information demand or focus on niche styles and content. However, no matter which aspect is focused on, the information content tends to prioritize the most critical and most climactic parts [7], and guarantee the user's experience of reading information through the importance of distinct information.

3.2. The Means of Information Push

In the era of big data, the amount of information is exploding, and it is no longer possible to process data efficiently and deliver accurate information only through manual operation. TikTok's information-pushing model is based on capturing and analyzing users' behavioral, social, and environmental characteristics to build up a personal interest database for targeted information-pushing [8].

Analysis of the action characteristics of user browsing behavior, for example, analysis of the dwell time when watching different videos with likes, comments, retweets, and search information. The analysis of social features of user behavior has three aspects, one is to analyze the bloggers that users follow, one is to analyze the preferences of users' friends in accessing information, and another is to analyze the behavioral features of users when they are actively social, for example, posting content.

Exploring social features and then pushing information is a process of repeatedly reinforcing user-approved concepts, which helps to enhance users' sense of belonging to TikTok and increase user stickiness. Analyzing the environmental characteristics of user behavior is also an essential part of algorithmic pushing. For example, TikTok has great potential after obtaining users' location access. In addition to personalized recommendations based on user preferences, TikTok sets up a hometown section to give priority to videos with similar locations, for example, recommending students from other universities in the same city for college students, which are usually more likely to get users' attention or the information in the video is more likely to be recognized by the user. In addition, the dynamic nature of environmental features is more obvious than the action features and social features from the perspective of users' personal preferences. For example, when a user goes out for a trip, the TikTok algorithm recognizes that the user's location has changed and will then change the crosstown tweet. If the user further searches for information, such as local travel tips, then TikTok will add popular attractions, food, or other related activities to the crosstown tweets. Through the above methods, TikTok can complete customer maintenance and, at the same time, push the content of local suppliers or advertisers directly and efficiently to users.

4. The Impact of Fragmented Information on Users

4.1. Positive Impact

The positive impact is mainly in three aspects: easy access to information, benefit for users to enter new fields and suitability for users' time fragmentation characteristics.

The convenience of information access in the fragmented information environment is mainly reflected in two aspects. The first is the total amount of information. Before mass media and fragmented information entered the life of the masses, class, economic condition, cultural background, and education level have greatly restricted the quantity and scope of information available to people. Meanwhile, the information gap is closely related to access to opportunities, future decision-making, and economic income. Advances in information technology and infrastructure have made a qualitative leap in the breadth of information available to users. Among the vast amount of fragmented information that users are exposed to, some of them will not be useful, but to be sure, many users will always have access to information beyond their original perception. In general, fragmented information increases the user's contact with information and reduces the information gap. Another aspect is the speed of information dissemination. To some extent, fragmented information increases the efficiency of users' access to information. For example, in a single short video with limited information dissemination time, the creator usually pays special attention to the quality or novelty of the content. When users search for relevant information, they can quickly obtain a series of fragmented and effective information.

The second positive impact is that it facilitates the user's introduction to a new field. In the fast-paced modern world, many people choose to integrate practice and learning when starting a new field. For example, when trying to run a restaurant, few people choose to learn management, economics, and other knowledge systematically first, but follow the principle of "finish is more important than perfect", and start to do it with a little preparation, but progress in practice. Then, when there is a specific problem to be solved in the process, fragmented information can provide precise help, and the fragmentation feature corresponds to the need to quickly check and fill in the gaps according to the actual needs.

The third positive impact is that it fits the characteristics of users' time fragmentation. The existence of fragmented information allows users' needs for entertainment, leisure and learning to be satisfied in a fast-paced society. Quick access to daily key news, retrieving information to solve a

minor problem while waiting for a bus, and entertainment during short breaks are all examples of people using fragmented information to improve their time utilization.

4.2. Negative Effects

The negative impact of fragmented information is analyzed here from two aspects, the level of information access and the level of impact on the human body.

4.2.1. Information Access Level

At the information access level, one of the major problems caused by fragmented information is the "information cocoon" phenomenon. This concept was proposed by Cass Sunstein, who argued that in information dissemination, the public's own information needs are not comprehensive, and the public only pays attention to what they choose and what makes them happy, and over time, they will be shackled in a "cocoon" like a cocoon [9]. The prominence of the information cocoon problem in the fragmented information environment is related to the application of algorithmic push. After analyzing user behavior, algorithms can recommend more accurate content that fits user interests and concepts. However, on the one hand, this leads to users passively accepting narrowed information, and the homogenization of the pushed information is serious. On the other hand, if users socialize with people who share the same ideas in the information cocoon tailored for them, these ideas will be further strengthened regardless of whether they are right or wrong, and users' receptiveness to other ideas may be reduced. For example, in the comment section of short videos, when people see many highly praised comments with the same view as their own, they are likely to directly identify the view as the only correct one, and dialectical thinking is subsequently weakened to a certain extent, and when they see a different view, they directly reject it.

4.2.2. Effects on the Human Body

Firstly, people are highly susceptible to fragmented information anxiety. People's exposure to fragmented information mainly includes the content of exposure and the process of exposure [10], so fragmented information anxiety is mainly related to these two aspects as well. In terms of content, people are prone to anxiety when they find that the amount of information they can transform is limited, most of the information is meaningless, or the information cocoon already dominates them. On the process side, people are usually exposed to many fragments of information at once, and this information function simultaneously in the human brain. Therefore, multitasking and disrupting the original plan can easily lead to anxiety.

At the same time, receiving a lot of fragmented information for a long time makes it difficult for people to concentrate. When new habits of thought are developed, people lack depth in thinking about problems and tend to find it difficult to receive information systematically or to focus on a certain piece of information for a long time. Although the pace of modern society has accelerated, structured and systematic learning is still needed to master a field of knowledge. From this perspective, fragmented information has a negative impact on human progress.

5. Conclusions

In the context of information fragmentation, people should make good use of fragmented information while being alert to the negative effects it brings. This study first analyzes the causes of fragmented information, with three aspects: the development of mass media, the transformation of social patterns and the fragmentation of public energy. When discussing the production strategies, this study takes TikTok as an example and selects two dimensions: information content characteristics and

information-pushing methods. The content produced of fragmented information is characterized by short duration, rich and entertaining content, the priority of important content, and emphasis on the attractiveness of the beginning part. When pushing information, TikTok focuses on building users' personal interest database, capturing and analyzing the action characteristics, social characteristics, and environmental characteristics of users' behavior, and then pushing accurate information. Combining the above two major parts, this study concludes that the impact of fragmented information, especially the negative impact needs to be noted, which can be divided into two aspects: the barrier of information access and the impact on the human body.

However, the results of this study are limited. This is because the content production strategy is analyzed only from the perspective of TikTok, which is well represented but still cannot generalize all content production. Also, this study did not use data analysis to conduct the study or quantify the impact. When conducting further research, the analysis could be conducted from multiple platforms, from which significant commonalities in fragmented content production strategies could be drawn. Alternatively, certain types of negative impacts could be selected and further studied through research and data analysis.

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