

# Research on Strategies for Short Video Users to Break the Information Cocoons under the Interference of Barnum Effect

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**Abstract:** Taking the information cocoons phenomenon of short video users as the research object, this paper analyzes the reasons for the formation of the short video information cocoon phenomenon under the interference of the Barnum effect, and clarifies that the algorithm push mechanism of the short video platform, the personalized psychology and subjective needs of users, and the network environment factors of the short video platform are the main factors that cause the information cocoon. It also discusses the phenomenon of short video information cocoons, which leads to imbalanced user understanding structure, obstruction of free expression of opinions, decreased social responsibility awareness, and its impact on short video operation and development. Subsequently, the paper proposes a series of strategies to enhance user perception, optimize video content quality, optimize platform service construction, strengthen comprehensive platform governance, and promote full government participation. It aims to help short video users break the information cocoons under the interference of the Barnum effect.

**Keywords:** Barnum Effect; Short Videos; Users; Information Cocoons

## 1. Introduction

In the information age, people are surrounded by massive amounts of information. As an efficient way of information dissemination, short videos have become an important way for modern people to obtain information. However, with the popularization of short video platforms, a phenomenon of "information cocoons" has gradually attracted people's attention. The information cocoon is a social phenomenon that arises from the massive amount of information and efficient speed of information dissemination brought about by the development of information technology. It refers to the

phenomenon where people's attention to the information field is habitually guided by their own interests, thereby constraining their lives in a cocoon like "cocoon room". The Barnum effect is a psychological phenomenon. It refers to people often being more receptive to information that aligns with their own views and expectations, while ignoring information that differs from their own views. On short video platforms, this phenomenon is reflected in users only paying attention to and liking videos that align with their interests and viewpoints, while ignoring other potentially helpful information. This behavior will lead to a narrower information environment for users, thereby giving rise to an information cocoons. It can be seen that the Barnum effect is closely related to the user information cocoon. Studying the phenomenon of information cocoons under its interference and proposing corresponding strategies can not only promote the healthy development of the network information environment, but also improve the service level of short video platforms.

## 2. The Causes of Short Video Information Cocoons Phenomenon Under the Interference of Barnum Effect

### 2.1 Algorithm Push Mechanism for Short Video Platforms

To ensure the popularity of the platform and increase user stickiness, short video platforms often establish personalized algorithm recommendation mechanisms. Under such algorithmic mechanisms, the platform can utilize information processing technologies such as big data to deeply explore and analyze user browsing preferences based on historical behavioral data such as browsing, liking, following, commenting, forwarding, and searching, and construct a virtual portrait of the user. As a result, the platform utilizes personalized recommendation algorithm models to push content that users are more interested in,

providing personalized information customization services for them. [1] The personalized algorithm recommendation mechanism can to some extent reduce the cost of information selection for users, meet their personalized needs, and improve their information acquisition efficiency. However, at the same time, it also reduces the likelihood of users being exposed to other information content, limiting their perspective. Over time, this will limit the scope of user information acquisition and reception to relatively fixed and closed information domains, catalyzing the emergence of information cocoons.

## **2.2 Personalized Psychology and Subjective Needs of Users**

The Barnum effect belongs to the category of psychology. Therefore, the personalized psychology and subjective needs of short video users are the internal driving force behind the formation of the information cocoons. The impact on the formation of information cocoons can be attributed to the following aspects. The first is user psychology. A series of psychological phenomena exhibited by users during the use of short video platforms. During the process of using short video platforms, users are influenced by numerous psychological factors, intentionally or unconsciously choosing information content that meets their requirements, ultimately falling into the information cocoons. For example, due to the influence of conformity psychology, users will unconsciously choose the information of the majority of people as the standard when using short video platforms. Users will refer to their preferences for intimate relationships such as friendship and love, and adjust their information selection tendencies based on hot topics, video traffic, etc. This weakens their ability and opportunities for independent thinking and decision-making, gradually trapping themselves in an information cocoons. The second is user needs, including information needs and emotional needs. Some users obtain the necessary information and emotional satisfaction and comfort by watching short videos. Therefore, information selection has a clear tendency. With the addition of intelligent recommendation technology on the platform, this information cocoon phenomenon will become more apparent. The third is that user personality traits are the sum of interests, abilities, personality,

and other aspects. Users on short video platforms can choose to follow different types of videos based on their interests and hobbies, such as food, film and television, comedy, and so on. However, when users only focus on the videos they are interested in, their range of information acquisition becomes narrow. Meanwhile, users will gradually develop information behavior habits while browsing short videos. These habits cannot be easily changed, which in turn catalyzes the formation of the information cocoons. The fourth is the user's cognitive level. The cognitive level of users affects their value judgment and information filtering of video content. If users have a lower level of understanding, they are more likely to rely on the platform's recommendation system, unconsciously choosing information that better aligns with their own views and expectations, and ignoring other heterogeneous and diverse information. Over time, the information environment of users has gradually become homogeneous. This is also constantly strengthening the formation of information cocoons.

## **2.3 Network Environmental Factors of Short Video Platforms**

The network environment factors that users face when using short video platforms are also important factors in forming the information cocoons, mainly including the following aspects. The first is information overload. Short video platforms often experience information overload and redundancy under conditions such as wide audience, rapid dissemination, and simple operation. This goes far beyond the range that users can accept and effectively utilize, leading to users relying more on the platform's algorithm recommendation mechanism when making information choices, gradually forming the information cocoons within relatively fixed information acquisition channels and content. The second is the information content environment. The threshold for short video platforms is relatively low, and various false information and rumors are rampant. Once this information attracts the attention of users, it will make the information they obtain more one-sided, indirectly affecting the formation of the information cocoons. The third is advertising and commercial promotion. Some advertisers and business promoters will leverage the interests and needs of users to attract their

attention through targeted advertising and commercial promotion. This type of advertising and promotion that only targets a certain type of user limits their scope of vision, thus forming the information cocoons.

### **3. The Impact of Barnum Effect Interference on Short Video Information Cocoons Phenomenon**

#### **3.1. Causing Imbalanced Cognitive Structure Among Users**

Under the interference of the Barnum effect, short video users who are immersed in videos that align with their own views and interests for a long time are prone to imbalanced cognitive structures. Specifically, it manifests as: the first is being immersed in a self-awareness environment. The information cocoons will keep users' understanding of external things in their own areas of interest, and satisfy them in a "simulated environment" dominated by personalized needs on short video platforms. Furthermore, this leads to the user's knowledge structure and level becoming singular and one-sided, resulting in cognitive solidification. The second is group polarization. Group polarization refers to the situation where individual decisions in an organization are influenced by a group, resulting in more extreme decisions than when making decisions alone. This often manifests as the strengthening of a certain tendency among individual members in a group, and the development of viewpoints and attitudes from the original average level of the group to a dominant position.[2] When the information cocoon is formed, people with similar viewpoints and hobbies in short videos will form a user group; Moreover, the publication of a large number of similar or identical viewpoints can lead to unilateral dominance of discourse power, affect the understanding of other users, and even mislead their views on certain things, thereby causing public opinion turmoil. Thirdly, the basic consensus in the public domain has been undermined. When short video users form the information cocoons phenomenon, they will filter out information that is different from their own views or transform it according to their cognitive framework, under the interference of the Barnum effect. This gradually separates them from the public information field and allows them to only receive one voice, making it

difficult for different groups to form valuable consensus and exacerbating conflicts between social groups.

#### **3.2 The Free Expression of User Opinions is Hindered**

On short video platforms, the freedom to express user opinions is an important guarantee for maintaining the healthy development of the platform. However, due to the existence of information cocoons, the free expression of user opinions is limited to a certain extent. On the one hand, under the information cocoons effect, users are in a relatively closed information environment for a long time. Their views and viewpoints on certain issues often represent the position and interests of a certain group, ignoring the existence of other voices. This phenomenon can lead to the lack of different voices on the platform and the monopoly of discourse power, causing individuals and groups who hold certain attitudes and opinions alone to become unwilling to speak because they cannot be seen and recognized, resulting in a "spiral of silence". [3] On the other hand, due to the algorithm recommendation mechanism of short video platforms, many information content that is considered unnecessary by users is blocked. In addition, in the state of the information cocoons, users lack the awareness to actively obtain other information, leading to the rational deprivation of this part of freedom of speech.

#### **3.3 Decreased Social Responsibility Awareness Among Users**

There is no shortage of low value, nutrient free but eye-catching content on short video platforms. However, influenced by the information cocoon, some users who frequently browse and follow this type of information may find it difficult to receive in-depth and valuable information content, leading to a decrease in their sense of social responsibility. [4] Meanwhile, due to a lack of comprehensive understanding and attention to external things, they may not be able to recognize the consequences of their own speech. This will not only affect the personal development of users, but also have a negative impact on the entire society.

#### **3.4 Operation and Development of Short Video Platforms**

For short video platforms, the phenomenon of

information cocoons will also have an impact on their development and operation. On the one hand, due to users only focusing on the video types and topics they are interested in, it leads to insufficient attention and understanding of other fields. This is not conducive to increasing the activity and stickiness of platform users, which in turn affects the platform's reputation and brand image. On the other hand, due to limited information and perspectives that users can only access, their purchasing range of goods and services has become more limited, making it difficult for e-commerce platforms and advertisers to effectively promote their products and services. This reduces the willingness to advertise on the platform, which is not conducive to the sustainable development of short video platforms.

#### **4. Strategies for Short Video Users to Break the Information Cocoons Under the Interference of the Barnum Effect**

##### **4.1 To Improve User Perception Awareness and Promote Self Breakthrough**

Improving user perceptual awareness is the key to helping users break the information cocoons under the interference of the Barnum effect. [5] Firstly, we need to raise awareness of prevention. Users should maintain vigilance and sensitivity when browsing short videos. Especially when facing highly concentrated homogeneous videos, it is important to recognize that this is caused by the platform's recommendation mechanism, and actively broaden one's information acquisition range by changing browsing habits and usage frequency, in order to access more types of video content. Secondly, we need to broaden the channels for obtaining information. As the main body of information reception and acquisition, users need to clarify their limitations in information selection and cannot rely solely on the recommendation module and followed list of short video platforms. But rather, it is important to actively understand and engage with other information fields, pay attention to new creators and channels, in order to broaden one's information acquisition channels, broaden one's horizons, and thereby reduce the impact of information silos. Finally, we need to improve our information literacy. Faced with the massive amount of video information on short video platforms, users need to improve their ability to distinguish information and judge its value

connotation, view video content rationally, and cultivate healthy habits of online video browsing. At the same time, it is necessary to cultivate rational judgment, learn to approach problems with a critical perspective, and be able to listen to and tolerate different perspectives and voices, so as to independently think on the basis of understanding the whole situation.

##### **4.2 To Optimize Video Content Quality and Promote Healthy Dissemination**

Optimizing video content quality and regulating video dissemination behavior are also important measures to help users break the information cocoons. Firstly, it is necessary to encourage users to actively participate in the creation of short videos, in order to enrich the content and connotation of short videos, broaden the scope of video coverage, and promote the diversified production and dissemination of video content. Secondly, it is necessary to enhance the online moral literacy of users, cultivate their sense of responsibility in video creation and dissemination, and guide them to engage in video dissemination behaviors such as commenting and forwarding high-quality video content. Finally, it is necessary to strengthen the review and management of video content. The platform reviews the authority and professionalism of videos through a combination of manual screening and algorithmic review, ensuring that the information flowing into information dissemination channels conforms to mainstream social values and norms. At the same time, a reward and punishment system should be utilized to protect high-quality videos, and low-quality videos should be rectified by restricting or blocking their flow.

##### **4.3 To Optimize Platform Service Construction and Build Rational Services**

Optimizing platform service construction, improving user satisfaction and trust, is one of the important strategies to break the information cocoons. Firstly, it is necessary to optimize algorithm recommendation techniques. The algorithm recommendation mechanism of the platform should break away from the push standard that only focuses on the shallow interests of users, and simulate user profiles from a more diverse perspective, in order to provide users with richer and more comprehensive video content, and bring them truly socially valuable information. Secondly, it

is necessary to optimize the service panel, establish diversified information classification and search functions. So, users can more conveniently access information content from multiple fields and perspectives, and break down the barriers brought by the information cocoon. Finally, it is necessary to improve the interactive sharing mechanism and strengthen the social function construction of the platform. Through interaction and sharing, users can promote the exchange and collision of information from different perspectives and fields, and broaden their horizons.

#### **4.4 To Strengthen Comprehensive Platform Governance and Optimize the Information Environment**

Under the interference of the Barnum effect, short video users need to break the information cocoons and comprehensively manage short video platforms to create a healthy and orderly network information environment. Firstly, we need to improve the platform rules, adhere to the principle of putting users at the core, and establish norms for the production, dissemination, and use of short videos while fully respecting the status of users as the main body. By establishing systems to help users establish the correct concept of short video information dissemination, we can achieve orderly dissemination of high-quality content. Secondly, it is necessary to strengthen internal control over algorithm mechanisms. Short video platforms should establish a sound algorithm review mechanism to avoid recommendations of homogeneous content internally and reduce the risk of information silos. At the same time, the operational rules of the public algorithm recommendation mechanism allow users to have a clearer understanding of the platform's video recommendations. This not only enhances the user's video browsing experience, but also enhances their trust in the platform. Finally, it is necessary to strengthen cooperation with third-party organizations. Short video platforms should introduce third-party evaluation agencies to regulate their algorithm and platform operations through data technology. This not only standardizes the operation of the platform, but also utilizes third-party technology to compensate for the technical shortcomings of the platform.

#### **4.5 To Promote Full Government**

#### **Participation and Strengthen Regulatory Efforts**

The government's regulatory efforts on short video platforms can also affect users' information acquisition and cognition. Therefore, promoting full government participation and strengthening regulatory efforts is one of the important strategies to break the information cocoons. The government can participate in the regulation of short video platforms and users through the following measures. Firstly, the government can establish stricter laws, regulations, and regulatory policies to clearly define the rules and procedures that the algorithm recommendation mechanism of short video platforms should follow. The purpose is to strengthen the supervision and management of short video platforms, and avoid users falling into the information cocoon built based on algorithms on the platform. Secondly, government departments should actively integrate into the short video information ecosystem with an open and inclusive attitude. As a video creator, rich and diverse content with social value should be introduced into the dissemination of short videos, thereby guiding the audience to form correct values. At the same time, valuable social consensus can be accumulated through in-depth communication among different groups by exploring creative role models and encouraging multiple voices, helping users break the spiral of silence and loss of discourse power under the phenomenon of information cocoons, and thus creating a positive online social environment. Thirdly, we need to strengthen the promotion and education of users. Short video platforms and various mainstream media can be used to promote the negative impact of information cocoons. At the same time, through information education, users can improve their ability to discern information, thereby reducing the interference of the Barnum effect on their information choices. This gradually guides users to consciously avoid and prevent the phenomenon of information cocoons during the use of short video platforms.

#### **5. Conclusion**

Under the interference of the Barnum effect, short video users not only need to actively improve their prevention awareness in order to break the information cocoons, but also need the platform to continuously improve algorithm recommendation mechanisms, strengthen

content review and supervision. In addition, it is necessary for the government to actively participate as a guide and supervisor in the supervision and management of short video platforms. I believe that with the joint efforts of all parties, users can gradually break through the shackles of the information cocoons and build a healthy online information environment.

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