

# An Analysis of the Information Cocoon Effect of News Clients: Today's Headlines as an Example

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**Abstract:** *In recent years, the explosive development of the information network has made it easy for Internet users to obtain information, but it has also led to users being implanted into a fragmented information network, which has accelerated the effect of "information cocoon room". This article analyses the causes of the information cocoon room. It is problem-oriented and studies the impact of the information cocoon room effect on today's headlines. It mainly leads to cognitive imbalance caused by narrowing information, cognitive surpluses information anxiety, weakening deep thinking ability, network group polarisation and loss of social stickiness. Finally, the article takes today's head A coping strategy for this phenomenon is proposed.*

**Keywords:** *Information cocoon room; Today's headline; Algorithm recommendation*

## 1. Introduction

In this age of information inflation, we are free enough to know whatever information and knowledge we want, but we are not free enough because of an invisible wall that traps us in a cocoon of large and small. This article takes Today's Headlines as an example to analyse the information cocoon effect of news clients and proposes corresponding solutions to the hazards of this effect.

## 2. Definition of the information cocoon

With the development of information technology, we are using the Internet more and more frequently. So why is the Internet so popular with the public and why are we so addicted to the online world that we cannot help ourselves. Essentially the Internet is inseparable from human manipulation, and under this invisible manipulation we are gradually bound to the great world and the prosperity we see on the Internet, which may just be a utopia tailor-made for us by intelligent algorithms.

In life, information cocoons have penetrated into our daily lives. The push messages we usually receive on our mobile phones, the traffic videos recommended by platforms, and the guess what you like on shopping platforms are all precisely calculated as a small room, trapping users in a maze of cocoons, inside which is information of interest to users, and outside which is information that is generally difficult for users to access. It allows users to experience convenience and speed in the online world, but also creates an invisible web that divides information and makes it difficult for audiences to access comprehensive and authentic information.

## 3. Causes of the information cocoon of Today's Headlines

The information cocoon did not appear out of thin air; its existence is the result of the joint action of the client and the user, and when Internet technology activates individual behaviour, people make more concrete choices about information, browsing and making evaluations in their preferred areas of information; In order to obtain more traffic and sticky users, the platform has started a user experience-led communication mode, so that the audience can be served happily and the traffic and users can be killed in one go; When you meet friends in your area of interest, you will soon build up a small interest-driven group, and slowly the users in the group will produce work and evaluate each other, and a cocoon of information will be created without a sound. These three elements are analysed in detail below.

### ***3.1. Internet technology activates individual behaviour***

The strong development of technology has led to a more active user behaviour in terms of receiving information. Nowadays, in the media age, every person in the online society is a unit. Mobile client users can find all kinds of information of interest to them via the web. At the same time, users may also export externally. News clients such as Today's Headlines allow viewers, or recipients, to comment and re-tweet on both text-based news stories and video-based news broadcasts, sometimes on a simple topic that leads to a lot of discussion after users have commented.<sup>[1]</sup>

Generally speaking, the information sources and content that users have access to are relatively stable, and it is inevitable that mobile news clients will become a hotbed of "information cocoons". On the other hand, people are inert thinkers. It is difficult for people to identify what works for them in the clutter and complexity of information on the web, and machine algorithms are used to appropriately reduce the time and effort required to obtain useful information. Just like when we are faced with the vast world of the internet, with thousands of information coming in, it is impossible to choose what you want to know the most at a moment's notice. After intelligent calculation, the web platform will remember the words you like, and through quick filtering, the information you want to know will be presented to you at the fastest speed.

### ***3.2. User experience-focused communication model becomes dominant***

With the continuous development of new media technology and the rapid rise of mobile phone mobile clients, the user experience-centred communication model has become dominant and the new media platforms of web clients are gradually providing more accurate services for users. Algorithmic recommendation as a new technological means based on user portraits for accurate screening and pushing of content, with news production personalisation and news pushing accuracy as a competitive approach, allowing mobile client users to open and view relevant information content as soon as they receive a notification on their mobile phones. At the same time, the focus on personal preferences has led to a "narrowing of information" and the formation of "information silos".

When a push article appears on an audience's mobile phone, the audience will directly target their interests and preferences. You can click on the content you need based on a number of elements such as title, author, content, accompanying images, etc. At this point, the audience has already made an initial screening of the recommended content. Machine intelligence algorithms generate awareness of this behaviour and gradually create an accurate profile of the user, in this way pushing similar content to the user to increase traffic to relevant articles. The user experience-led model is the mode of operation of most platforms, and only then can they attract and retain their audience. In the fierce competition among peers, this model will not be easily broken, so to seek ways to crack the cocoon, you also need to find deeper conflicts to crack.<sup>[2]</sup>

### ***3.3. Rapid aggregation of interest-based groups***

The collision and convergence of opinions on social platforms has led to a rapid convergence of interest-based groups. By entering the same information circle and exchanging topics of interest, many like-minded people come together and become online friends who share common topics from thousands of miles away.

Some online celebrities who have a fan base are likely to become 'opinion leaders' within their group, speaking with conviction and support. The voices of opinion leaders spread more widely and persuasively on the Internet, and their views become more visible and more widely known. This allows people with similar views to converge quickly, making it easier to access information of interest to them while deepening the agreement of groups that originally held the same views. Over time, this small circle of people holding the same opinion grew. As people are more willing to accept voices that match their own, there is a serious "echo chamber" effect, which also deepens the "information cocoon".<sup>[3]</sup>

## **4. The dangers of the information cocoon phenomenon**

Information cocoons can narrow the audience's field of vision and therefore lead to cognitive imbalance; A surplus of knowledge in one area can lead to information anxiety; The ability to think in depth is slowly weakened when the field of vision is filled with information that one is familiar with; When a certain number of users within a group is reached, group polarisation becomes apparent;

social stickiness is also gradually lost under the effect of cocooning.

#### ***4.1. Narrowing of information leads to cognitive imbalance***

With the "information cocoon" effect, as the public accesses a narrow range of information, the news client "Today's Headlines", for example, such platforms allow users to actively select the boards they are interested in, and recommend content to users based on these boards. When users open and use the platform, they can use these to push the sections they are interested in, such as entertainment, fashion, live streaming, photos, etc. They can ignore sports, technology, etc. that they don't want to see. When they view the news world, they choose the news that matches their opinions and ignore content that doesn't interest them and doesn't match their own viewpoints. Under this influence, users will increasingly rely on personalised push systems, and push systems will increasingly learn about their habits and push information to their tastes through their long-term contact with customers and the big data that supports their operations. In the long run, the public encounters information in this environment in a single direction, and the narrow information in the 'information cocoon' is defined as truth by the audience.

#### ***4.2. Cognitive surpluses create information anxiety***

Thanks to advanced Internet technology and the proliferation of information on the Internet, access to information is easier and faster than ever. Open your mobile phone, computer or tablet to gather information and knowledge on online games or short video platforms, for example. The Internet, an uncompromising double-edged sword, has brought us information and knowledge but also a serious problem: information anxiety. The mobile phone has become an indispensable part of people's daily life, even when they are going to the toilet, they can't help but take their mobile phones to Weibo and read the news in their circle of friends. Over-reliance on mobile phones to want information, but plagued by information cocoons, audiences often only have access to single and one-sided information. These homogenised information are constantly cycled, leading to a degree of information overload for users within the cocoon, making it difficult to access other comprehensive and unknown areas, and information anxiety becomes common.<sup>[4]</sup>

#### ***4.3. Weak deep thinking skills***

With many news clients, the video pages don't even require users to search directly, just select the content you want to view and click on it, and the site will continue to distribute the content you are interested in in the future. Faced with various smart push technologies, users tend to lose their judgement, clicking and reading blindly driven things that undermine rational discernment and deep thinking.

Although watching videos and reading news is more often than not meant to relax and broaden your horizons, with deep thinking weakened, it is easy to go astray and be used by those who have a mind to spread rumours or shake certain ideas becomes easy, so it is important to strengthen the management in this area to prevent those who have a mind to do so.

#### ***4.4. Polarisation of online groups***

The network group scheme means that once the information cocoon is formed, the communication between the users inside the cocoon and the group outside the cocoon is drastically reduced, however, the homogenisation within the group inside the cocoon is particularly pronounced. They share similar views and positions and their voices will be supported by the group, gradually making it difficult to accept views that are opposed to their own. In his Information Utopia, Sunstein introduced the concept of 'group polarisation'. The tendencies that exist among members of a group, through the action of the group, lead to a shift in views and attitudes towards the extremes, i.e. those that are conservative become more conservative and those that are radical become more radical. And the internet has given everyone a great platform, greatly facilitating discussion on the internet and making their views opinions more and more heated and biased.

#### ***4.5. Loss of social stickiness***

Users in the "information cocoon" have a state of mind where they are satisfied with all aspects of information pushed to them by the Internet. They feel that their need to access information on the Internet can be completely satisfied, so they gradually dilute their need to show social interaction, resulting in a

gradual loss of adhesion between individuals and groups. People are more addicted to their mobile phones than to real-life human interaction. Many people who are socially frightened in real life have become very good at making friends on the internet, but when they return to reality they are still not interested in talking or making friends, and are only happy in the virtual world of the internet. This is not a rare phenomenon, but it is one that continues to occur among teenagers.

## **5. How to deal with the adverse effects of information cocoons**

With so much damage caused by the information cocoon, we can't just sit back and watch, whether it's from the internet users themselves or at the social level or from the country as a whole, these negative effects should be controlled to a certain extent, so what should we do in the face of so many bad problems? From strengthening the literacy of internet users to enhancing the literacy of media platforms is crucial.

### **5.1. Personal enhancement of media literacy**

On a personal level, the information cocoon's greenhouse keeps our exploration of information under control and prevents us from being fully involved and informed. It is then important to improve one's media literacy; escaping the information cocoon is not difficult, as long as one is aware of one's situation and interferes with intelligent algorithms appropriately, it is sufficient to deal with the adverse effects of the information cocoon.

#### **5.1.1. The current situation of internet users**

If users had realised that the situation was related to their browsing habits and taken timely action, they could have almost avoided the formation of an "information cocoon" and effectively reduced the negative impact of the "information cocoon" on them, after intelligent algorithms had pushed too much information to their audience and led to an excess of demand. The "information cocoon" has a negative impact on them. If it is difficult for users to realise, the "cocoon" will grow and in the long run it will affect your information horizon. Most young people are more media literate than middle-aged and older people, and they are more likely to be aware of the existence of 'information cocoons' and to be influenced by the information they receive, which is related to their own internet usage. When they want to minimise the number of articles pushed about the same topic, they can appropriately reduce the number of searches and clicks on such content. The content and headlines on Today's recommendations page are based on the user's own usage habits and recommendations are sent out. The reason why today's headlines can push the information users need very accurately and achieve "thousands of people" personalised push is because of the deep data mining and algorithmic recommendation in the research and development efforts.

However, the extent to which "cocooning" can be harmful in practice needs to be analysed on a case-by-case basis. Generally speaking users with low media literacy are more susceptible and unaware of it, and this segment needs to be reminded, while a segment of users with higher media literacy may be spontaneously aware that they are tied up in the process of receiving information and have the subjective awareness to interfere with the algorithm. So we must pay attention to the dangers of the "information cocoon" and try to find ways to break it.

#### **5.1.2. Users should initiate information off-track contacts**

Today, it is necessary for audiences to have access to information that is diverse, rather than sitting on the fence. Most users will only read and follow information that interests them, and will most likely not receive other information. In these fast times, entertainment news dominates, and customers tend to focus on light-hearted, entertaining information at the expense of political or social news. Although there is now an increased social awareness and some important social issues attract the interest and discussion of young people, the interest of users is still low compared to news about entertainment stars. In today's headlines, for example, users have to choose the information they want to receive and receive tweets from the authors they follow and the keywords they are interested in, and few people actively search for keywords to get other information. Therefore, in order to break out of the "information cocoon", people should have the initiative to leave their comfort zone. That said, if they rely on machines and algorithms to recommend matters for a long time in order to access content, they are limited in the information they receive, so they need to take ownership in order to expand their cognitive reach.

#### **5.1.3. Improving self-judgement**

On today's headlines, we see a lot of individual accounts exporting ideas and writing articles. This has led to new problems: traditional news is produced and published by journalists and newsmakers who have been trained in their fields of study, and each piece of information has undergone a strict

examination and calibration, so its professionalism and credibility are relatively high. The quality of the information they publish varies and can easily cause a storm of public opinion, with bad content and false information proliferating. Users can easily be distorted by false information if they do not have sufficient judgement and if they are convinced by the news. It is therefore particularly important to improve users' own judgement and to have a basic understanding of bad and false information.

This requires audiences to listen to different voices and to pay more attention to the views of different media when viewing news from the online media, rather than taking one's own words as a guideline and rejecting the views of other positions without analysis. There is also a part of the user easily listen to the views without adding their own thinking to be persuaded, which requires users to gradually cultivate independent consciousness, in the complex network of information to form their own independent thinking, do not follow the clouds, learn to use critical thinking to observe the problem, training thinking, learn to see the essence through the phenomenon, can not be the appearance of the eyes and thus ignore the essence. This is the only way we can break the distress caused by information building and not be confused by false information.

## **5.2. News clients enhance media literacy**

At present, the impact of new media is indeed fast and strong, and traditional media have not done a particularly good job in the transformation work, failing to adapt to the rapid changes of the network. As a result, users have a poorer experience with traditional media and have turned around and started to rely on the newly emerged platform-based media and find it difficult to extricate themselves.

### **5.2.1. Build a sense of social responsibility and strengthen quality content output**

In order to avoid the "information cocoon" and its adverse effects, Today's Headlines must consciously build a sense of social responsibility and strengthen the production of high-quality content. On the one hand, when Today recommends content to its users, it cannot fully trust their preferences and needs. We must develop a sense of social responsibility, take responsibility for setting the media agenda and actively guide users out of their comfort zones to receive a diverse range of information. On the other hand, platforms should also focus on the quality of content to reduce the likelihood of users being trapped in a 'cocoon' of poor quality content. Many people said that some of the content in Today's Headlines was of low quality and expressed their desire for quality content.

### **5.2.2. Improved algorithmic recommendation technology to make recommendations less monotonous**

The emergence and application of intelligent recommendation technology has led to a significant increase in the efficiency of information content distribution across media platforms. However, there are still many problems, the most serious of which is the excessive homogenisation of push content. Most news aggregators use "accurate profiling" of users, using intelligent algorithms to recommend their favourite and interesting content, which over time becomes boring and monotonous. The technology on this basis is pure and the platform should use such pure technology to proactively explore and recommend a reasonable and wide range of messages for users.

## **6. Conclusions**

In summary, the article analyses the causes and problems associated with information cocooning in today's headlines, breaks down the cocooning problem in today's headlines and proposes countermeasures. Overall the shelter of the information cocoon outweighs the benefits of improving it and creating a clear online environment.

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