

# Contrastive Study in Users' Selective Exposure Between Search Engines and Short Videos

## --Take Baidu and Douyin as Examples

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### ABSTRACT

Ten years ago, search engines were the most popular application in China. Recently, however, videos (especially short videos) are favored by more and more Chinese people. Taking Baidu and Douyin as examples, this paper explores the difference of users' selective exposure between these two applications through the analysis of existing papers and related data. It can be concluded that it is harder for users in short videos to be exposed to information selectively than in search engines, which is one of the possible reasons why short videos are more popular than search engines.

**Keywords:** Selective exposure, short video, search engine, contrastive study

### 1. INTRODUCTION

In the studies of communication, there is a classical theory called selective exposure theory, which means that when people are exposed to mass communication, they prefer to select the content that is consistent with or close to their existing interest, demand, views and attitudes. [1] This theory indicates that the audience does not accept the information of mass media completely, but contacts it selectively.

Ten years ago, search engines were the most popular application in China. Recently, however, videos (especially short videos) are favored by more and more Chinese people. This essay focuses on a typical Chinese search engine, Baidu, and a typical Chinese short video app, Douyin (as known as TikTok), and compares them in the way to acquire information and the way information presents. It can be concluded that it is harder for users in short videos to be exposed to information selectively than in search engines. This study may help us have a better understanding of how selective exposure affects people's preference on the internet, and give some enlightenment on the design of internet products in the future.

### 2. UTILIZATION RATE OF SEARCH ENGINES AND SHORT VIDEOS

Applications <sup>□</sup>	Utilization Rate <sup>□</sup>
Search Engine <sup>□</sup>	79.6% <sup>□</sup>
Instant Messaging <sup>□</sup>	79.4% <sup>□</sup>
Online Music <sup>□</sup>	78.7% <sup>□</sup>
Online News <sup>□</sup>	74.7% <sup>□</sup>
Blog <sup>□</sup>	65.5% <sup>□</sup>
Online Game <sup>□</sup>	64.2% <sup>□</sup>
Online Video <sup>□</sup>	62.1% <sup>□</sup>

**Figure1.** Utilization rate of different applications in China in 2011 [2]

Applications <sup>□</sup>	Utilization Rate <sup>□</sup>
Instant Messaging <sup>□</sup>	99.2% <sup>□</sup>
Online Video (Including Short Video) <sup>□</sup>	93.7% <sup>□</sup>
Short Video <sup>□</sup>	88.3% <sup>□</sup>
Online Payment <sup>□</sup>	86.4% <sup>□</sup>
Online Shopping <sup>□</sup>	79.1% <sup>□</sup>
Search Engine <sup>□</sup>	77.8% <sup>□</sup>

**Figure2.** Utilization rate of different applications in China in 2021 [3]

According to the Statistical Report on the Development of Internet in China, in 2011, search

engines including Baidu were the most popular application in China (about 79.6% in utilization rate). [2] However, when the time came to 2021, search engines became the No.6 popular application (about 77.8%), while videos (especially short videos) became the No.2 application (about 93.7%) after instant messaging, putting search engines far behind. [3] This dramatic change in data actually indicates the significant transportation of the approach to receiving information from the internet, which may be attributed to the difference in users' selective exposure.

### 3. THE WAY TO ACQUIRE INFORMATION

#### 3.1 Search VS Push

As a search engine, Baidu's main usage method is searching. During the search process, users should enter the key words into the search box, and then Baidu will feedback relevant results to users. In fact, when users enter the key words, they are also demarcating the possible results and pulling out what they are going to see from massive information, which reflects users' strong control over information. [4] If we compare Baidu to a restaurant, compare the information in Baidu to a variety of dishes, then users' searching is familiar with customers' ordering, which attaches great importance to user's autonomy and interest. However, affected by cognitive limitations, users' autonomous searching behavior is limited, just like customers are not always sure what they want for dinner.

However, Douyin's main feature is an algorithm-based push. In "Douyin restaurant", it is unnecessary for users to order food, because Douyin can send "dishes" automatically. In this process, users in Douyin share their rights of selecting information to Douyin algorithm, which means that they play a less active role in selective exposure. By doing so, Douyin breakthroughs the cognitive limitations of users, making users' autonomy and interest no longer the prerequisites for them to be exposed to information online.

#### 3.2 Accuracy VS Extensibility

Under Baidu's essential sorting strategy (called Rank), it would show users the results that are most relevant to the key words (except commercial ads). [5] By doing so, Baidu is able to ensure what users get, is just what users want, which emphasizes a sense of accuracy.

But Douyin's pushing principle is much different from Baidu's. Douyin attaches great importance to a sense of extensibility. Collaborative filtering based on user information is one of the most essential algorithms in Douyin, it has a general description of user's portrait by obtaining basic information of user registration, such as gender, age, address and basic interest points. After that, in the process of information distribution, Douyin pushes videos according to similarities between users. [6] In other words, Douyin can push not only the videos that are related to our own watching hobbies, but also the videos that are related to watching hobbies of other people, who have the similar age, address, interest with us.

For instance, user A is a housewife who has watched and liked a number of cooking videos, after that, what Douyin pushes to her may not only the cooking videos, but extends to some other themes that are liked by other housewives, such as parenting, housework, money managing, etc. Therefore, we can find that Douyin usually breakthroughs the scope of "what we initially expect or select to see", and exposes us to the information that is strange or unexpected to us before, by doing so, Douyin invisibly converts the mode of "offering the content that users want to see" into "offering the content to change what users want to see", which can also be regarded as the decline of users' select rights.

### 4. THE WAY INFORMATION PRESENTS: WORDS VS VIDEOS

The picture below shows the results of searching "Olympic game" in Baidu. As we can see, these results are mainly presented in text form. Although users specially search the videos of "Olympic game" in Baidu, the results are also shown in the form of text with previews, which indicates that the majority of Baidu's searching results are presented in words, when people use Baidu, words are the main basis for people to select information from the massive results and decide whether they are going to read the details or not.

### Olympic Games - Organising Committees



2021年12月14日 The first edition of the modern **Olympic Games** was staged in Athens, Greece, in 1896, while the first winter edition was held in Chamonix, France, in 1924. Since 1994, ...

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### Olympic Games



Golf in the **Olympic Games** Two meetings – staged almost a century apart – have each played significant roles in establishing golf's **Olympic** credentials. It was on May 27, 1899, tha...

[www.igfgolf.org/olympic-games](http://www.igfgolf.org/olympic-games)

**Figure 3.** Partial search results of “Olympic Game” in Baidu

As for Douyin, the video information occupies the majority of the screen, while words only occupy a small part on the left lower corner. Moreover, since videos in Douyin are usually played automatically, which means that users don't need to read and click the word titles to

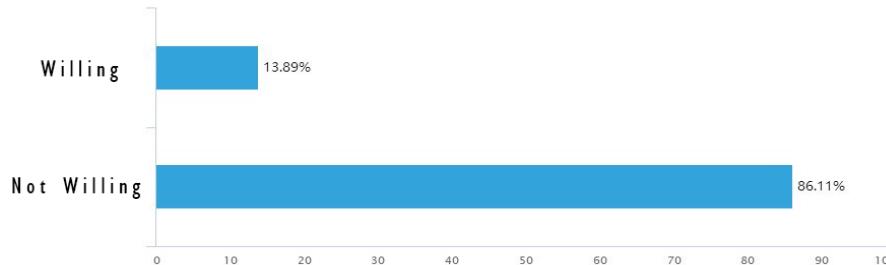
let the videos start, the importance of words seems to be insignificant. Instead, the video information plays a major role in Douyin, and the beginning few seconds of the videos are the main basis for users to decide whether they are going to continue watching or slide to the next.



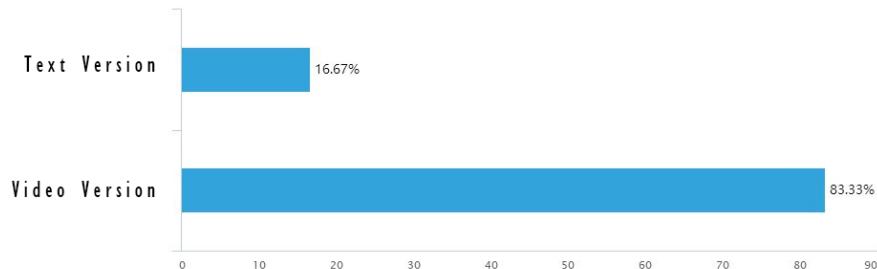
**Figure 4.** A video screenshot about “Olympic Game” in Douyin

What is the difference between words and videos? As Hua Guangcan found, there were 86.11% of readers didn't have the patience to finish a government work report in text version. However, when this report turned

to its video version and was published in Beijing News, it attracted great attention. There were 83.33% of readers said that they preferred the video government work report to the text one. [7]



**Figure 5.** Investigation on whether the audience is willing to patiently read the government work report in text [7]



**Figure 6:** Investigation on the preference of the audience of the government work report [7]

That is because, compared with static and dull words, videos seem to be more vivid and intuitive. Mobilizing multiple senses, videos are more acceptable for users. [8] Therefore, we can predict that when a message appears in the form of text in Baidu, it may be ignored at a glance of users, but when it appears in the form of a video in Douyin, it may not be ignored, although users are not interested in this video. In Douyin, it is easier for information publishers to make users spend more seconds or minutes reading the content that they are not interested in, while in Baidu, it is harder.

## 5. CONCLUSION

By comparing Baidu and Douyin in the way to acquire information and the way information presents, we can find that it is harder for users to be exposed to information selectively in short videos. Faced with the massive content in short video apps, users tend to be more powerless to ignore or avoid.

People used to believe that in the internet age, the information applications should provide users sufficient freedom to look for information autonomously, and cater to their interest and needs. However, due to the limitations of their interest and needs, giving users more initiative to select information doesn't mean that they will prefer it. Instead, mastering the initiative of information selection, optimizing the presentation of information, short video apps like Douyin breakthrough these limitations, which is one of the reasons for their success.

It is possible for the future studies to focus on the concrete and precise connections between users' preference and selective exposure, by means of establishing mathematical models, making questionnaires, etc.

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