# Research on the Influence of Different Video Push Modes on User Experience

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**Abstract.** With the pace of life accelerating and the development of the internet, short videos have become a main part of people's daily entertainment. Lots of short video apps and platforms tend to replace traditional video platforms. The development of big data and algorithms helps short video apps easily attract lots of users. However, the effect of different video push modes on user experience is not clear. This article summarizes the different push mods used by traditional and short video platforms and analyzes user requirements. The user experience data of the two platforms is then used to compare their suitability to meet user needs. The quandary of traditional platforms is discussed and recommendations to break the bind are listed. Suggestions for these two kinds of platforms to enhance the user experience in the user interface (UI) are also discussed in aspects of viewing experience, interaction, and flow. This research provides a useful way for video website developers to improve their video push methods and thus enhance the user experience, which promotes the construction of user-friendly websites.

**Keywords:** Short video, User experience, Push mode, UI design

## 1 Introduction

With the rapid development of the Internet, social media based on new media technology has shown a prosperous scene, and the emergence of social media has not only shortened the distance between people but also broken through the single communication mode of traditional media [1]. In today's digital age, short video platforms have become an important part of people's daily entertainment and information acquisition [2]. Using of algorithms to push mode is gradually replacing the manual push method. At present, short video algorithm recommendation technology is widely and comprehensively applied to the information distribution end of Douyin (its American version is called Tiktok) and Kuaishou short video platforms, serving network users calculated in hundreds of millions of units day and night, ensuring the accurate adaptation of short video content to user needs, and at the same time changing the traditional information dissemination model, realizing a breakthrough development from "people looking for information" to "information looking for people" [3]. A new kind of UI style is also used by short video platforms. On February 25, 2022, the 49th "Statistical Report on the Development of China's


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Internet Network" released by the China Internet Network Information Center Beijing showed that the number of short video users in China was 934 million, an increase of 60.8 million from December 2020, accounting for 90.5% of the total number of netizens [4]. To have a better understanding of the difference between short video push mode and traditional video push mode, and analyze their ability to meet users' needs, official data and UI design are compared in this study. The popularity of short videos has brought a bad situation for traditional video platforms. Vloggers and media companies are easy to get puzzled in facing such dramatic and rapid turnarounds. To help people face these kinds of problems, reasons for the pros and cons of short video platforms and traditional video platforms in meeting users' needs are analyzed in this paper, suggestions are also given as references.

## 2 Introduction to Different Video Push Modes

### 2.1 Tradition Video Push Mode

Traditional videos refer to those videos published on old-brand video platforms such as YouTube, which usually include but are not limited to Life sharing, scientific knowledge, microfilms, and video games. With traditional push mode, videos are usually orderly arranged on the webpage, users can choose which one to watch. After selecting a video, other videos with the same topic can be recommended at the bottom of the page. In most traditional video platforms, manual operation plays the main role in video pushing, operators use the back-end data to draw a "portrayal" for users. By analyzing user habits, and the amount of time they spend watching videos, operators try to achieve effective dissemination of videos and attract more users. With the emergence of the algorithm push method, most traditional video platforms have begun to transform to replace manual with an algorithm, but limited by their UI style, videos recommended under player are still topic-related instead of oriented to user interests.

### 2.2 Short Video Push Mode

Short video is a new communication means which popular on the Internet and has high popularity [5]. Its length is usually between 0-5 minutes, and usually includes lots of memes, fashion trends, and hot spots of society. The development and growth of short videos lie in their short, flat, and fast characteristics, which meet the self-expression and information-sharing needs of most users, and at the same time, short videos that integrate text, language, expressions, special effects, and video and other forms of expression can also meet the user's viewing and entertainment needs in a more intuitive and three-dimensional way [6]. Users can turn to the next video by simply swiping the screen, which makes the short video an ideal choice during a short break and perfectly fit for getting information or just for relaxation in the rapid pace of life. In March 2020, according to 'The Statistical Report on the Development of the Internet in China', the number of short video users in China was 773 million, accounting for 85.6% of the total Internet users [7]. Also, as can be seen in every short video platform, short videos are not just entertainment but also access that can

lead to the development of commerce, and tourism. Short videos have an obvious positive effect on rural tourism and promote sales of agricultural products in China. Seeing the big opportunity in the Chinese media market, lots of short video platforms quickly emerged in recent years, they also began to expand their service to international markets such as TikTok. Thanks to the sheer volume of data, algorithms now have a huge opportunity to play an important role in Push Video.

By using algorithms, short video platforms can easily push short videos that users are interested in, but such algorithms demand the platforms be able to obtain accurate user data. The algorithm logic is based on the user's action characteristics (including click, stay, transmit, slide, comment, share), environment characteristics (GPS position, whether connected to WIFI, whether it's on holiday), and social characteristics (Following relationship on Weibo, historical Weibo content) [8]. With this data, platforms can get to know the users' interests, to estimate which content is fitter for the user according to his current location and which blogger is he following. This algorithm transforms users' behavioral habits into data and constructs an interesting database for each user. This database can help platforms realize more effective video pushing.

Video traffic is also an important element in video pushing, generated from current studies, short video platforms usually use the concept known as "video traffic pool". As shown in Figure 1, this method divides short videos into different levels. Once a video gets a certain amount of video traffic, decided by views, shares, and comments, this video will be removed to the next level and largely pushed to a bigger range of users again to get more video traffic for the platform. With this method, platforms can screen out unpopular videos and get more accurate feedback on video spread effects according to users' actions. For those vloggers, this method gives them more chances to gain followers no matter how many fans they have but only based on the quality of their video.

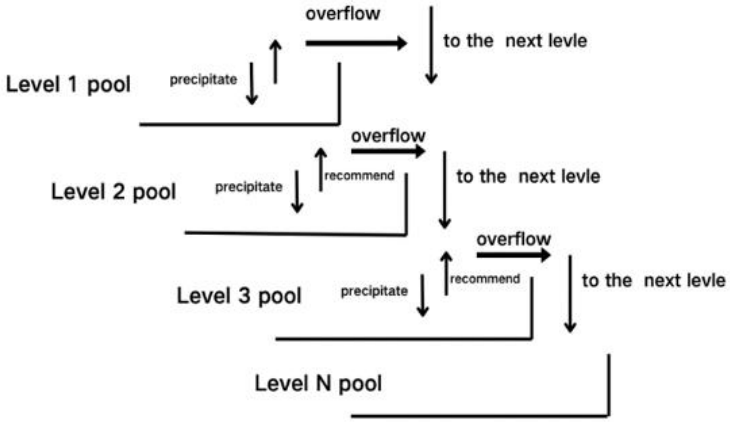


**Fig. 1.** Video traffic pool algorithm pushing strategy [1].

# 3 Comparison of Traditional and Short Video Push Mode

## 3.1 User Requirements for Video Push Mode

It can be summarized from some literature that people use media basically for five requirements: cognitive need(understand the world, get information, ways to learn knowledge), affection need(release emotion, Aesthetic experience), individual need(reinforce messages, cement one's place), social demand(reinforce the relation with relatives and friends, Maintain social relationship), relieve the pressure(distract attention). After entering the new media era, users have come up with new demands: self-expression and self-actualization, Cross-regional communication needs, interpersonal relations needs, entertainment needs, and participation in interaction needs [9].

## 3.2 Analysis of Suitable Scenarios for Different Video Push Mode

Traditional and short video push modes both have their advantages in meeting different user needs. Traditional push mode offers users a more accurate and direct result set. Those users of traditional video platforms are more inclined to search for videos according to their needs and automatic recommendation content on the home pages is often ignored. According to this feature, science and course topics that meet users' cognitive needs and movies usually get better results in traditional video platforms. This characteristic also impels platforms to publish more paid content on their apps. Short videos, which offer users large amounts of random videos according to user preferences, can meet other users' needs better. By spreading short and large numbers of information, short videos can order vloggers a channel to publish their videos to a larger range of people. It can also satisfy users' need to relieve pressure and social demands in their fragmented time by ordering lots of topics to chat about and videos with funny or adorable content that can help users forget about the upset.

## 3.3 User Experience When Using Different Video Push Mode

**Analysis of Video's Official Data.** In this part, vloggers publish the same topic but use different video push modes on different video platforms and are selected as samples to analyze the capability of different topics under different push modes. Topics are chosen according to different user requirements with a clear distinction from others. To ensure the data has enough large magnitude, all vloggers have over half a million fans on both video platforms.

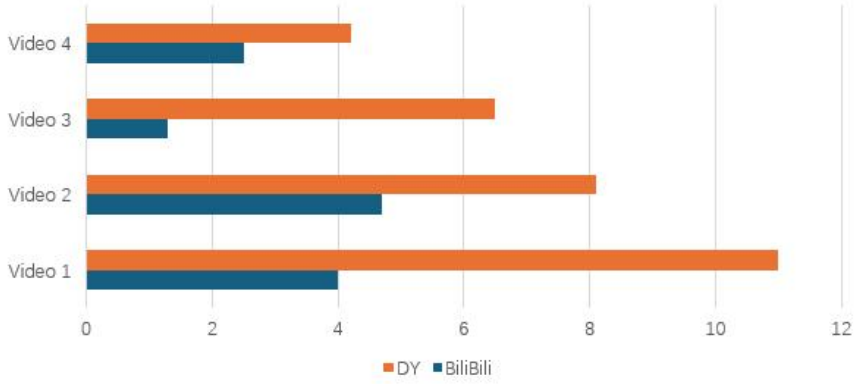


**Fig. 2.** Likes of the same game video on Bilibili and DY (Picture credit: Original)

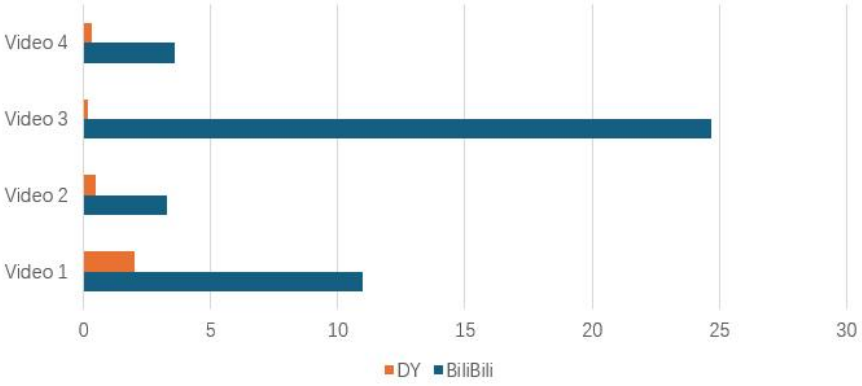


**Fig. 3.** Likes of the same documentary on Bilibili and DY. (Picture credit: Original)

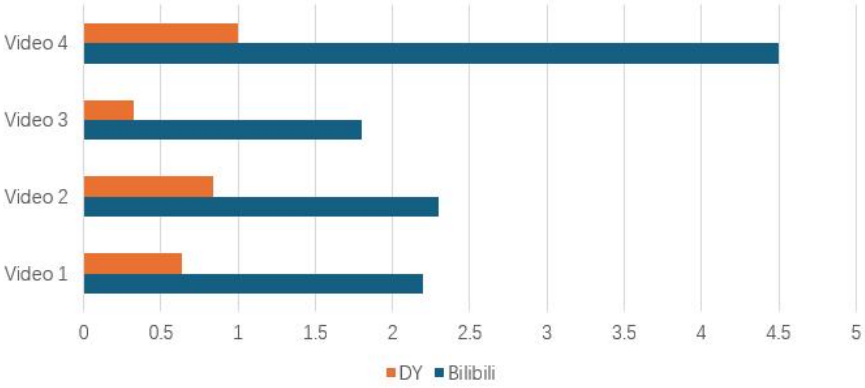


**Fig. 4.** Likes of the same culinary teaching videos on Bilibili and DY. (Picture credit: Original)

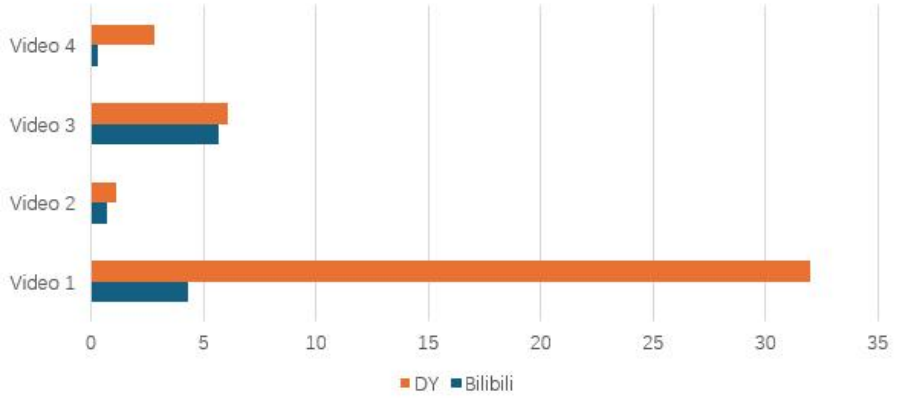


**Fig. 5.** Likes of the same entertaining (meme) videos on Bilibili and DY. (Picture credit: Original)

As shown in Figures 3 and 4, topics that meet cognitive needs usually have great advantages on traditional platforms with traditional push mode and UI. As shown in Figures 2 and 5, topics that meet users' other needs, especially affection needs, and relieve pressure fit better in short video push modes. But it's not just about topics, other factors should be considered too. Videos that meet people's affection needs are usually shorter and have lower information density. Instead, their intention is basically to make people laugh or give a quick and brief introduction to current affairs or new technology, which means users don't have to focus on the video. Topics that fit for the traditional platforms, usually are longer and have larger information density. According to the results above, traditional platforms are less competitive than short video platforms in most entertainment content, it's search mode and recommend methods make the platforms more fit for people to spend a consecutive period. To break this dilemma, platforms can transition to a half-traditional style, by adding a short video mode to the platform and guaranteeing the copyright of those movies and documentaries at the same time. Tow modes can be using different push modes to maintain their advantage. Also, to make the platform more versatile, live streaming could be added and motivational rewards can be introduced to vloggers when publishing short videos on its platform.

**Interact Experience with Different UI.** The product interface is the embodiment of the mental model, and the user will reason about the operation of the product based on the original experience and intuitive perception [4]. In this part, the UI of two video apps respectively representing platforms with short video and traditional push modes be compared from two dimensions: Interface visual effect and interactive

experience.

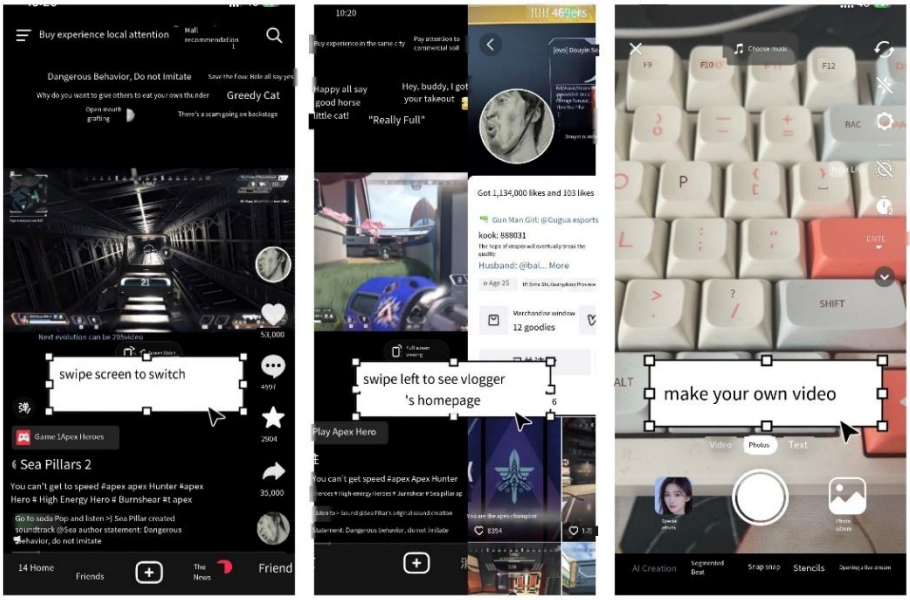


**Fig. 6.** UI of Short Video Platform(DY) [10].

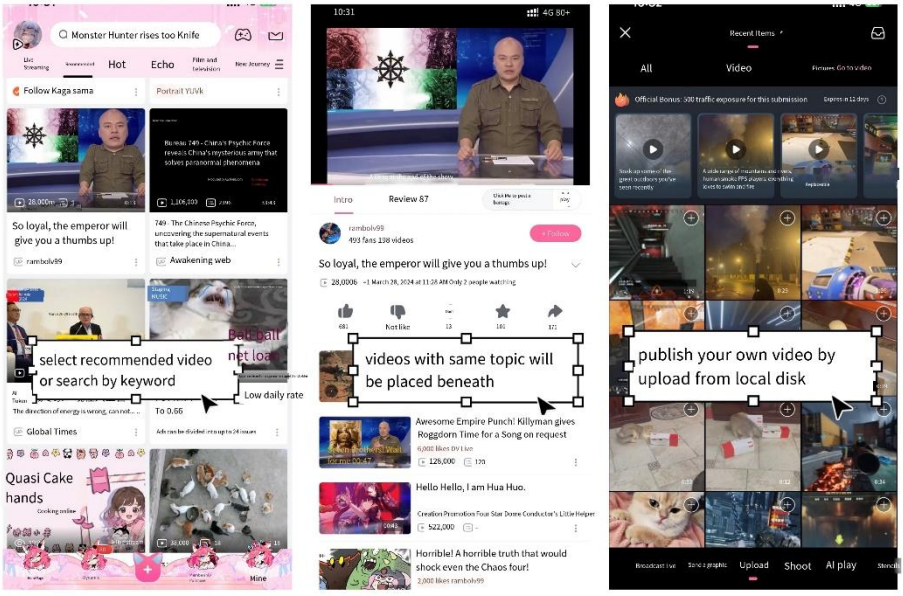


**Fig. 7.** UI of Traditional Video Platform (Bilibili) [11].

*Compare by Interface Visual Effect.* According to the user interface design, DY has a dark background style, with a brightly colored icon, showing a fashion and animating theme, with striking contrast, its page can let users focus on the video and may easily find icons with corresponding functions. While Bilibili's UI style is brighter, and the icon's color is usually pink. Bilibili also allows users to select their UI style, by using templates published by the platform or upload pictures they want to use as homepage background. These features make the pages lovely and add visual interest. According to their app logo, DY integrates the initial letter D with musical elements and uses "mismatch", and "anamorphose" to make the logo more dynamic. Bilibili's logo Personify a television by adding a face on its screen. Its style is adorable which means the app can adopt every kind of video and users with different interests.

*Compare by interactive experience.* There are five elements of interaction proposed in Xin Xianyang's paper "Interaction Design: From Physical Logic to Behavioral Logic". They are People, Contexts, Actions, Means, and Purpose [12]. So in general, interaction design is about who, under what circumstances, through what way or method, what has he done.

As shown in Figures 6 and 7, in DY, when users watch a video, the page is always a black background with infinite scroll, users can switch videos by swiping the screen. Comments and other icons are listed on the right edge of the screen. This style can let users immerse themselves in the video and avoid distractions. Bilibili lets users choose whether to enter the full-screen mode. The full-screen mode is to only watch video and the default style orders users more interact and more information about the video, vlogger, and other relevant videos. In DY, icons have a greater density on a single page, which raises the possibility of misconduct by users, especially when buttons are usually typeset on the edges of the screen and video will be paused when users tap anywhere on the screen. In Bilibili, icons are listed as a former webpage. But as a short video app, users are less likely to stay on a single page for long, this feature offsets the drawback of misconduct. About redirect, DY focuses on quick view, to order a large-scale of random information. Bilibili tends to let users get more after they select a topic. When users want to publish their videos, DY tends to lead users to upload an upright video that fits its player interface, and the camera function lets users record things happening around them. Bilibili's upload page tends to let users deliver a video with high-quality content and been well-edited. According to these characteristics, DY fits for videos take less time, contain less information, and don't have too much picture detail. Bilibili fits videos that need users to spend a while on a page and tend to give users systematic and dense information or want to show more details on the picture such as artworks or nature wonders.

*Suggestions on UI design.* The foundations of video platforms are viewing experience, interaction, and flow. To meet these needs, the playback interface should be simplified to give more space to the video footage. Icons can be folded when playing videos and unfolded when users tap the button. This mode can also avoid users getting confused when looking for a specific function. To enhance interactivity and get more flow, platforms can give users access to publish the same kind of videos

or add more novelty functions when users write a comment or like the video. Functions such as highlighting people's related users' comments and allowing users to send more private messages to the vlogger when they like or leave a certain amount of comments to this vlogger (most platforms only allow users to send a single private message to the vlogger unless the vlogger responds to the message or follow back ).

## 4 Conclusion

In this study, basic information, methods used by different video platforms, and the current situation of two kinds of video platforms are summarized by reviewing recent studies. The suitability of two kinds of push modes used by different video platforms in meeting users' needs is analyzed by the comparison of official and user experience data, suggestions are also given through the result. According to this study, the push mode used by short video platforms can meet peoples' needs in getting rapid and abundant information or just having fun to release pressure under the fast and high-pressure pace of life. But limited by the user interface and stereotype of short videos, traditional video platforms still take the lead in ordering long videos such as movies, instructions, and documentaries. The reasons for such outcomes can be summarized: Seeing from the push modes, short video platforms can offer users videos with topics they prefer to watch through the massive use of algorithms. Combined with their push style, users can get that sense of freshness by having no idea which video will they watch after swiping down the screen, but most videos are related to their interest in the meantime. Traditional video platforms can still take the lead in ordering long videos because they can give users more accurate results when users have an idea of which kinds of videos they want to watch and further videos with more information about such topics can be ordered. This feature makes traditional platforms like a library with videos where people can retrieve knowledge or look for a "book" to enjoy their teatime. Seeing from UI design, short video platforms give users a free and relaxed environment when using their apps, and traditional video platforms let users feel like they are watching movies, which means it is more fit for users to stay and watch videos for a long while. However, there are some limitations in this study. For example, This study gives a general comparison in meeting user needs. The comparison of specific aspects of each type of video subject and different algorithms used by various media companies is somewhat inadequate. In future research, how to enhance the value of different algorithms and design features in improving user experience will be further analyzed.

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