

Research on Influencing factors of Short video content propagation effect in social media platforms -- A case study of Douyin

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Abstract: This paper aims to explore the factors influencing the communication effect of short video content in social media platforms, especially taking Douyin, a short video platform, as an example for in-depth analysis. Based on relevant literature, this paper analyzes the basic characteristics, content types and communication mechanism of Douyin short videos, summarizes the influence of multiple factors such as content quality, user characteristics and platform recommendation on the content communication effect of Douyin platform, reveals the key factors affecting the communication effect of short videos, and puts forward corresponding optimization strategies.

1. Introduction

1.1. Research background and significance

With the rapid development of information technology and the continuous improvement of Internet penetration, social media platforms have become an indispensable part of People's Daily life. These platforms, with their unique functions and interactivity, provide users with an important channel to show themselves, exchange ideas and obtain information. In social media platforms, short videos, with their advantages of "short and fast", meet the needs of people's fragmented and entertaining media contact, and become an important way to publish and obtain information in the Internet era. According to the 51st Statistical Report on the Development of the Internet in China [1] released by China Internet Network Information Center (CNNIC), as of December 2022, the number of Internet users in China has reached 1.067 billion, and the number of short video users has exceeded 1 billion for the first time, reaching 1.012 billion, and the user utilization rate is as high as 94.8%. The popularity of short video not only changes the way of people's entertainment, but also has a profound impact on information dissemination, brand marketing and other aspects. Therefore, exploring the factors influencing the communication effect of short video content in social media platforms is of great significance for in-depth understanding of user behavior, optimizing content creation, and improving the communication effect.

According to the official data released by Douyin [2], as one of the most popular short video platforms among users, the number of daily active users has exceeded 800 million by February 2024. As a representative short

video social platform, Douyin has become a leader in the field of short video with its unique algorithm recommendation, rich content ecology and huge user base. The short video content on Douyin covers many fields such as entertainment, life, knowledge and technology, attracting users of different ages, genders and regions. By studying the dissemination effect of short video content on Douyin, we can more specifically understand the dissemination law of short video in social media platforms, and provide useful references for the content creation and operation of other platforms.

1.2. Research objectives and problems

By analyzing short video content, user characteristics, social network mechanism and other aspects on the Douyin platform, this paper aims to reveal the main factors affecting the communication effect of short video, explore the interaction between these factors, and understand which factors determine the communication effect of short video on Douyin. How do these factors affect the number of likes, the number of retweets, the number of comments and other communication indicators of short videos? Through in-depth study of these problems, it provides targeted optimization strategies and suggestions for content creators and platform operators, and provides useful references for research and practice in related fields.

1.3. Literature review

Gibbs and Colin were among the first scholars in the world to conduct Short video research, and their article "Short-form."may be long-tail for mobile video" [3], in-depth discussion of various functions of short video,

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pointing out that mobile short video will quickly occupy the dominant position in the media field. After Baidu academic website "short Video" search, found 171,000 pieces of information related to "short Video", focusing on photonics, information and communication, clinical medicine, etc. But research on journalism and communication is scarce. The only remaining part of the literature, based on the field of short video applications, makes case studies, such as Luck Chitwood's Social video success for brands on Vine and Instagram: your 6-10-15 seconds of fame [4] is an in-depth analysis of Vine and Instagram, two short video platforms, in order to discover their unique business potential.

In China, since the launch of Douyin platform, its short and fast short video content features and precise push algorithm technology cater to the social rhythm of fast-food consumption. Since its launch, Douyin has quickly occupied the market and become the most popular social media software. There are also a large number of papers with "Douyin short video" as the keyword on the Know network, most of which are about the operation model and specific video types of Douyin. For example, Chen Jiongzhaoh in the Communication Mode and Characteristics of Short Video Apps - Taking Douyin APP as an Example [5] pointed out the strong interaction, rich forms of expression, large audience and strong social influence of Douyin short videos. Gou Yuexuan's Research on Development Problems and Paths of Generalized Knowledge Short Videos -- Taking Douyin Short Video Platform as an Example [6] discusses the double-sided nature of Pan-Douyin short knowledge videos, which provide a lot of rich information to the audience and meet their information needs, but at the same time, there are problems such as imperfect supervision and bad information dissemination. This also means that when Douyin reformed the traditional media platform, it also brought the trend of vulgar and vulgar content. In Wan Wenji's book on the Phenomenon of Douyin Fever in the Perspective of New Media [7], by analyzing the short, fast and accurate, viral and revelry communication mode of Douyin, she realized the bad status quo of its content homogenization and three vulgarization. These literatures provide great help for the research on the factors influencing the communication effect of short video content in social media platforms.

2. Analysis of transmission characteristics of short video douyin

2.1. The basic characteristics of Douyin short video

As a short video social platform, Douyin has distinctive features in its short video content. In the first few years, the videos posted by ordinary users were usually limited to between 15 seconds and 1 minute. This short and concise form enabled users to quickly capture the core content of videos within a limited time, reducing the threshold of viewing and time cost. This is in line with contemporary fast-paced lifestyles and fragmented

reading habits, and requires creators to attract viewers within the first three seconds of the video. Secondly, Douyin short videos have created the form of vertical screen communication. Instead of the traditional horizontal screen with richer picture content and stronger narrative sense, it focuses more on small fields and micro-lenses, making the picture characters more concentrated and the audience more immersed. At the same time, the combination of music and content is emphasized. On the platform, users can freely choose background music or sound effects to add atmosphere and emotional color to the video. Not only enrich the expression of the video, but also make the video more infectious and contagious. Many popular videos on Douyin have gone viral due to their unique music choices and perfect combination with content.

2.2. Content type of Douyin short video

The short video content types on the Douyin platform are rich and diverse, covering many fields such as entertainment, life, knowledge and technology. Among them, entertainment and funny videos are one of the most popular content types on Douyin. Such videos are often presented in a humorous manner and can quickly elicit empathy and laughter from users. For example, some imitation, parody, dance and other videos are loved by users because of their unique creativity and fun.

In addition to entertainment and funny videos, knowledge and popular science videos are also becoming more and more popular on Douyin. This kind of video usually transmits some knowledge information or scientific principles in the form of short videos, which has high educational significance and value. For example, some videos of scientific experiments, history and culture, and common knowledge of life have attracted the attention of users because of the practicability and knowledge of their content.

In addition, daily life videos are also an important type of content on Douyin. This kind of video usually records the daily life of the user, showing the user's real life and emotional state, and allows the audience to see the appearance of life in a different environment from their own. This kind of video is loved by users because of its authenticity and closeness.

In addition, there are many other types of short video content, such as food, tourism, fashion, etc. These different types of video content together constitute a rich and colorful short video ecology of Douyin.

2.3. The transmission mechanism of short video Douyin

The communication mechanism of Douyin short videos mainly includes interactive mechanisms such as "like", "comment" and "forward" and popular video recommendation algorithm. First of all, users can like, comment and forward the video when watching the video, and these interactive behaviors can directly affect the transmission effect of the video. When users like or forward a video, the video will be seen by more people

and spread; When users comment on the video, they can not only express their own views and feelings, but also trigger discussions and interactions among other users, further increasing the visibility and spread of the video.

Secondly, the platform will also use popular video recommendation algorithms to recommend short video content that meets users' interests. Based on the analysis and mining of the user's viewing history, likes, comments and other behavioral data, the algorithm can accurately grasp the user's interests and needs, and recommend short video content that meets the user's taste. This personalized recommendation mechanism not only improves user satisfaction and stickiness, but also makes quality content easier for users to discover and spread. At the same time, the Douyin platform will also evaluate the quality and popularity of the video according to the number of likes, retweets, comments and other communication indicators, and recommend high-quality content to more users to watch and share. This evaluation mechanism based on user behavior and communication metrics can motivate creators to create more quality content and promote the healthy development of the entire platform.

3. Analysis of the factors affecting the dissemination effect of short video content

3.1. The influence of content quality on communication effect

Content quality is one of the key factors affecting the propagation effect of Douyin short video. First of all, the innovation and uniqueness of video content can attract users' attention and arouse users' interest, thus improving the communication effect. Innovative content tends to have higher reposting and sharing value, and can form word-of-mouth among users. Secondly, the practicability and value of video content are also important factors affecting the communication effect. Users are more likely to share content that is useful to themselves or others, so videos that are useful and valuable are more likely to be spread by users.

In addition to the innovation and value of the content, the production quality of the video will also affect its communication effect. High quality video images, sound effects and clips can enhance the viewing experience of users, increase user stickiness, and thus improve the communication effect. On the contrary, the production of crude, blurred video is difficult to attract users' attention, and the transmission effect will be greatly reduced.

3.2. The influence of user characteristics on communication effect

User characteristics are another important factor affecting the propagation effect of Douyin short video. First of all, the user's age, gender, region and other basic information will affect their preference and acceptance of video content. Different user groups have different

interests and needs for video content, so content created for different user groups will have different communication effects.

Secondly, the social attributes of users will also affect the transmission effect of videos. Users' social network relationships on social media have an important impact on their communication behavior. Users with extensive social networks and high levels of activity are more likely to share videos with more people, thus improving the effectiveness of video transmission. In addition, the number of fans, interaction frequency and other social attributes of users will also affect their communication behavior, and thus affect the communication effect of videos.

3.3. The influence of platform algorithm recommendation on communication effect

The algorithm recommendation mechanism on the Douyin platform has an important impact on the propagation effect of short videos. Douyin uses advanced algorithm technology to analyze and mine users' behavioral data and recommend video content that meets users' interests and needs. This personalized recommendation mechanism can accurately grasp the interests and needs of users, improve user satisfaction and stickiness, and then improve the communication effect of videos. At the same time, the algorithm recommendation mechanism can also optimize the display order and exposure of video content. The Douyin platform will evaluate the quality and popularity of the video according to the number of likes, retweets, comments and other communication indicators, and recommend the quality content to more users to watch and share. This evaluation mechanism based on user behavior and communication metrics can motivate creators to create more quality content and promote the healthy development of the entire platform. This personalized recommendation mechanism improves the user experience to a certain extent, but it also has an impact on the communication effect. On the one hand, personalized recommendation makes it easier for users to access the information they are interested in, thus enhancing the dissemination effect of information; On the other hand, it can also lead to the information cocoon effect, in which users are only exposed to information that matches their own views, thus limiting the diversity and breadth of information.

3.4. The influence of social network mechanism on communication effect

The core of social network mechanism is the rapid dissemination and diffusion of information. On social platforms, users make information flow quickly and spread widely through Posting, forwarding, commenting and other behaviors. This mode of communication breaks the time-space restrictions of traditional media, enabling information to cover a large number of users in a short time. At the same time, the decentralized characteristics of social networks also make each user may become a

node of information dissemination, further accelerating the flow of information. Social networking mechanisms also facilitate interaction and communication among users. Users can interact with other users through likes, comments, private messages and other ways to express their views and emotions. This kind of interaction not only enhances the social connection between users, stimulates the user's sense of participation and belonging, but also affects the communication effect of information. On the one hand, active user interaction can improve the visibility and influence of information; On the other hand, negative feedback from users may also lead to the dissemination of information being blocked or have negative effects.

Secondly, the social recommendation mechanism on the Douyin platform will also affect the transmission effect of videos. Douyin uses algorithms to analyze users' viewing history, likes, comments and other behavioral data to recommend video content that meets their interests and needs. This personalized recommendation mechanism can improve user satisfaction and stickiness, and thus improve the transmission effect of videos. At the same time, when a video is recommended to more users, its reach and influence will expand accordingly.

4. Optimization strategies and suggestions for douyin short videos

In *Entertainment to Death*, Neil Postman once wrote that "the form of media prefers some special content, so it can eventually control culture, and this change makes our culture shift from text-centered to image-centered" [8], criticizing that people pay more attention to images than ideas. The success of short videos is the best confirmation of this sentence. Today, with the rapid development of the Internet, the requirements of short video audiences are gradually increasing, which not only requires audio-visual feast, but also requires the sublimation of content.

4.1. Creative strategy analysis

In the creation of Douyin short video, we must first clarify the target audience and positioning. In *Text Poacher* [10], Henry Jenkins notes that what fans call "taste" is deeply rooted in social experience and reflects specific class interests. Audiences who grow up in different cultures have completely different ideas and social cognition. Creators need to determine their target audience groups and their interests, needs and viewing habits, so as to determine the theme and style of content and strengthen user stickiness. At the same time, creators also need to choose their own creative fields and styles according to their own strengths and advantages, constantly excavate and discover new creative points, combined with current affairs, social phenomena and other topics, in order to create short video content with novelty and uniqueness. This can not only attract users' attention, but also trigger users' resonance and discussion, and improve the communication effect of content.

4.2. Content optimization suggestion

4.2.1. Video quality and sound

High quality graphics and sound can enhance the user's viewing experience and increase user stickiness. Creators need to pay attention to video shooting and editing skills to ensure the clarity and fluency of the video picture; At the same time, choose the right sound effects and background music to add atmosphere and emotional color to the video.

4.2.2. Headings and tags

Titles and tags are key for users to search and discover videos. Creators need to carefully design titles and tags to ensure that they accurately describe the video content and capture the attention of the target audience. At the same time, creators also need to pay attention to hot topics and tags, and timely grasp the search trends and points of interest of users.

4.2.3. Interaction and feedback

In his 1973 book *Man, Woman, Message, Medium: An Overview of Human Communication*, Schramm argued: The probability of media selection = the degree of guarantee/effort of reward, [9] that is to say, when audiences choose media, they will consider the ratio between the reward they get and the degree of effort. The greater the ratio, the higher the possibility of audience choosing the media. Therefore, in order to increase the probability of media selection, it is necessary to increase the reward of audience as much as possible. In other words, a good short video creator should meet the diverse needs of the audience as much as possible. Interaction and feedback are important ways to improve content quality. Creators need to actively interact with users and respond to user comments and feedback; At the same time, by analyzing users' viewing data and behavioral data, we can understand users' preferences and preferences for content, and constantly optimize content to meet user needs.

5. Conclusions

Video content quality is the core of communication effect. Video content with high quality, unique, interesting and in line with users' interests and needs is more likely to attract users' attention and spread. The innovation, information and emotional resonance of video content have a significant impact on users' viewing and sharing behavior. Short video creators should focus on improving the quality and uniqueness of their content to attract users' attention and spread.

Secondly, user characteristics have an important impact on the communication effect. Users of different ages, genders and interests have different levels of acceptance and demand for short videos. Understanding the characteristics of target users, and making and promoting short videos according to their interests and needs can

significantly improve the communication effect. Understanding and meeting the needs and interests of target users is the key to improve the effectiveness of short video communication. Creators and platform operators should have an in-depth understanding of user characteristics through data analysis and market research to develop more accurate promotion strategies.

Finally, platform algorithm and recommendation mechanism are important factors that affect the propagation effect of short video. Platforms such as Douyin recommend relevant short video content to users through algorithms and recommendation mechanisms, thus affecting users' viewing behavior and dissemination effect. Optimizing algorithms and recommendation mechanisms and improving the accuracy and effectiveness of personalized recommendations are crucial to improving the communication effect of short videos.

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