

Research on the Social Effects of the Digital Divide and Network Image Transmission: Taking Tik Tok as an Example

Lingwei Gao

*School of Culture and Creativity, Beijing Normal University-Hong Kong Baptist University United International College, Zhuhai, Guangdong, 519087, China
s230235017@alumni.uic.edu.cn*

Abstract: *With the continuous widening of the digital divide and the prevalence of online images in society, Tik Tok, as an emerging social media platform, attracts people's attention to its social impact. This paper aims to investigate the digital divide and social impact of Tik Tok image transmission and put forward the corresponding coping strategies. First, this paper introduces the rise of Tik Tok as an emerging social media platform and the hidden concerns of the digital divide in Tik Tok's prevalence. Second, the content of the digital divide and user groups and Tik Tok image transmission are analyzed, including user group differences, thresholds and expressions, and cultural integration. Third, this paper examines the social impact of the digital divide in Tik Tok online image transmission and coping strategies such as quantitative assessment, social dynamics, bridging and reduction, and equality and inclusion. Finally, the paper summarizes the research results and highlights the impact and reflection of the digital divide on society. Through research on the digital divide and Tik Tok, we can better understand the phenomenon of social media communication and provide society with references and coping strategies.*

Keywords: *Digital divide; Network image transmission; Social effect; Tik Tok*

1. Introduction

Network image distribution is one of the main tasks and general concepts of network distribution. Network image transmission can be divided into basic network image communication and non-basic network image dissemination, which consists of images, videos, animations, texts, voices, etc. For effectiveness and quality, network transmission also entrusts algorithms to screen and recommend network image transmission. Since the Internet, network image transmission has become the key to network transmission, and the digital divide has become an evaluation index. Different from traditional media, network image transmission puts more emphasis on interactivity, creativity, and diversity. Therefore, to address the digital divide issue, Tik Tok has provided a new platform for network image transmission.

Originally from Kuaishou, Tik Tok focuses on short videos, in which creativity includes self-expression and sharing and social media tools. In terms of content structure, the advantage of Tik Tok is that it is concise and clear, and it realizes content modernization by combining with users through filters, special effects, and music. However, this is only on the surface level. Today, Tik Tok has practiced a unique path of content + social + e-commerce. Tik Tok's overall advancement rewrites the rules and forms of network image transmission, reflecting users' needs and preferences, and rewrites social and cultural values, influencing individuals and groups. Therefore, we must have a global vision and pattern when discussing Tik Tok. Under the background of the digital divide, the proposition of Tik Tok network image transmission is put forward.

In short, the digital divide is a binding and guaranteed condition for implementing the Tik Tok network image transmission. Tik Tok has made progress, but there are also shortcomings in the current situation. At the same time, Tik Tok has not yet fully found an effective path to the digital divide and is still working hard to move forward. Therefore, Tik Tok needs to be improved and optimized, which is not only Tik Tok's responsibility but also society's responsibility.

Based on the above background analysis, this paper proposes a study on the digital divide and social effects of Tik Tok network image transmission to explore the relationship and impact of the digital divide

and Tik Tok network image transmission. The digital divide and the social effects of Tik Tok network image transmission are solved through theories and methods such as literature review and case analysis. Its main content is digital user segmentation and content analysis on Tik Tok network image transmission, social impact, and countermeasures of the digital divide in Tik Tok network image transmission etc., which effectively addresses the risks and challenges the digital divide poses and has theoretical and practical implications.

2. TikTok Social Media Phenomenon and Challenges Based on Digital Divide

2.1 Tik Tok: The Rise of an Emerging Social Media Platform

TikTok is a concept that develops in parallel with network image transmission, which has its own "imbued" with the concept of a social network and highlights the multi-orientation of content + social + e-commerce, reflecting the changes in users' needs and preferences since the Internet. However, when trying to use certain media standards to formulate the definition and nature of Tik Tok, it is still difficult to reach a consensus.

TikTok is a short video-based social media platform launched in September 2016 and developed and operated by Beijing Bytedance Technology Co., Ltd. The main function of Tik Tok is to allow users to express their life, hobbies, and creativity by shooting, editing, and sharing short videos of 15 or 60 seconds. TikTok also offers a wealth of filters, special effects, music, and other materials, allowing users to easily create interesting and textured videos. In addition, it also has strong social attributes. Users can interact with each other through point likes, comments, private messages, and attention, forming a large and active community. At the same time uses algorithmic recommendation technology to recommend personalized video content based on users' interests and behavior, thereby increasing user loyalty and satisfaction. Finally, Tik Tok also incorporates e-commerce functions, allowing users to purchase goods or services that appear while watching the video, thus realizing the integration of content and commerce [1].

TikTok has quickly achieved great success and influence as an emerging social media platform. As of June 2021, the Chinese Tik Tok app's monthly active users will reach 620 million, and daily active users will reach 340 million. TikTok's overseas version has over 1 billion monthly active users in more than 150 countries and regions worldwide. In addition, TikTok has changed the form and rules of online video transmission, users' transmission behavior and consumption habits, and even affected social values and cultural customs. Therefore, TikTok has become a phenomenon and a challenge that cannot be ignored in network image transmission.

2.2 Digital Divide: Hidden Worry in Tik Tok Social Media Transmission

The digital divide is an important measure of network communication and represents the fairness and efficiency of network transmission. Rogers and Kim discussed the different definitions of the digital divide from the perspectives of sociology and communication. Some scholars believe the digital divide is a degree of information asymmetry or the information gap between the rich and the poor. Precisely because the digital divide is a bit more social and belongs to the applied sciences aimed at social change. The history of digital divide research can be traced back to the industrial revolution [2]. Its main activities include the development and dissemination of information technology. The concepts and problems of the digital divide are closely related to the emergence and development of the Internet. Network transmission has become a key issue in narrowing the digital divide with the Internet. A major contribution of digital divide theory in the 21st century is proposing a multidimensional and dynamic analytical framework. Therefore, the digital divide concept initially focused on quantitative measurements based on standard attributes such as hardware devices and network access.

2.3 Social Effect: the Influence and Reflection of the Digital Divide on Society

Compared to network communication, social effects focus on the interaction between network communication and social change, characterized by dynamism and complexity. Although some scholars have questioned whether there is a direct relationship between network communications and social impact, most scholars believe that network communications can reasonably assess social impact. McLuhan et al. proposed a classic influence model of network communication that includes four elements: media, information, audience, and environment. Since then, this model has become a typical

tool for social effect, and the concept of social effect has been developed [3].

These scholars believe that network communication is important and that "the medium is the message." Network communication will affect society Only if media changes how people perceive and behave. So the social impact is the result of network communication. Some scholars generalize social impact in a two-way model. H. A linear model based on causation and a circular model based on interaction. The former focuses on the impact of network communication on society, while the latter focuses on social feedback, or social adverse effects, on network communication. Although the social effect has experienced some practical difficulties, from the perspective of development, which can promote the coordination and progress of network communication and society, social responsibility has gradually become the consensus of social affect research and practice.

3. Analysis of User Groups and Contents for Tik Tok Image Transmission Across the Digital Divide

3.1 An Analysis of the Digital Divide: Differences and Influences of Tik Tok User Groups

The essence of the concept of the digital divide focuses on information inequality. The digital divide is the application of sociological ideas to network communication. The digital divide framework has been introduced into the research field as a new alternative model to overcome traditional communication's shortcomings. The basic concept of the framework is that network transmission should ensure fair access and sharing of information; set quality and effect standards for network transmission output; "capture" users' needs and behaviors through data analysis and other technologies; use multidimensional and dynamic methods to measure the digital divide. The digital divide framework emphasizes the need to restructure the logic of network transmission, strengthen the social responsibility of network transmissions, and build a network transmissions environment consistent with users' interests, rights, capabilities, and participation. The Tik Tok framework for the digital divide is shown in Figure 1.

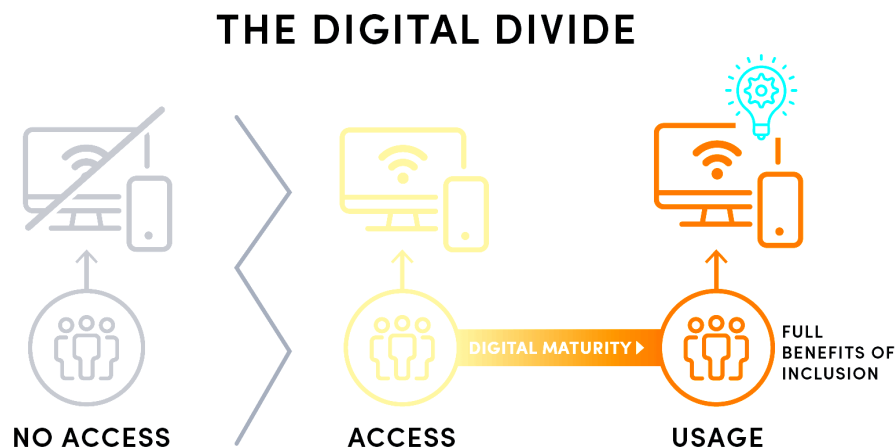


Figure 1: Digital Divide Framework

3.2 Threshold and Expression: The Emergence of the Digital Divide in the Generation and Transmission of TikTok Content

Content generation and transmission are the main functions of Tik Tok, emphasizing users' creativity and directly reflecting the diversity of users' lives and hobbies through short videos. Several elements of Tik Tok content creation and distribution are gradually taking shape, including materials such as filters, special effects, and music, and interactive methods such as likes, comments, private messages, and attention. TikTok content generation, transmission, and evaluation systems have gradually received attention, including algorithm recommendation, traffic analysis, e-commerce conversion, and other indicators [4]. However, from the digital divide perspective, some Tik Tok content practices are still at the stage of prioritizing quantity, and there are still contradictions with the logical framework and generation mechanism of the digital divide, which leads to threshold and expression issues.

3.3 Cultural Blending: The Digital Divide and the Social Interaction of Tik Tok Video Transmission

From the point of view of social interaction, cultural integration is the fundamental link between the transmission of Tik Tok images and the core embodiment of the Tik Tok image transmission. Therefore, users are the main generation logic in Tik Tok image transmission. Users are the main players in Tik Tok image transmission and the cultural actors in Tik Tok image transmission. At this stage, Tik Tok image transmission strengthens the control of cultural integration from the perspective of the digital divide. There are three primary forms: one is algorithm recommendation. A well-defined algorithm to achieve cultural integration between content generation and recommendation. The second is content review. Achieve content compliance controls by developing content specifications and labels and exposing content standards to users. The third point is the redesign of the internal process of user interaction [5]. Recently, TikTok and others have used technological innovation to enhance user interaction and improve user satisfaction. However, compared with the social effect, the cultural integration of Tik Tok image transmission needs further improvement [6].

4. The Social Effect and the Response of the Digital Divide in the Tik Tok Network Image Transmission

4.1 Quantitative Evaluation: Reveal the Characterization and Evaluation Method of Digital Divide in Tik Tok Platform

The fundamental difference between the digital divide and Tik Tok network image transmission lies in its social nature. The evaluation standard and digital divide criterion of Tik Tok network image transmission are aimed at social effects, and the development of Tik Tok network image transmission mainly reflects fairness and efficiency. In the analysis framework of the digital divide, accurate measurement, evaluation, monitoring, and improvement are the core values and the highest standard in developing Tik Tok network image transmission. The diversity of current Tik Tok user groups and differences in content types have created a multidimensional and dynamic digital divide. However, the Tik Tok platform has taken some measures such as algorithm recommendation, content review, user interaction, etc. The technical means are imperfect, and the Tik Tok platform also lacks an effective feedback mechanism. Therefore, this creates a "short board" of the digital divide, which affects the social effect of Tik Tok network image transmission.

4.2 Social Dynamics: An Analysis of the Social Effects of the Digital Divide on Tik Tok Network Image Transmission

The fundamental difference between social effects and Tik Tok network image transmission lies in its dynamic properties. The evaluation and social effectiveness criteria of Tik Tok network image transmission aim at social change, and the development of Tik Tok network visual transmission mainly reflects creativity and diversity. Within the framework of social effects analysis, accurate identification, analysis, prediction, and response are core values and the highest criteria for developing Tik Tok network image transmission. The influence of the current Tik Tok platform and the complexity of the social environment have led to a two-way and cyclical trend in social effects. However, the Tik Tok platform has recognized the importance of social effects, such as cultural integration, social responsibility, e-commerce conversion, etc. Since the actual means are still immature and the Tik Tok platform lacks an effective regulation mechanism, this has created a "short table" of social effects, influencing social changes in the broadcast images from the Tik Tok network.

4.3 Bridge Building and Reduction: Strategies and Practices for Addressing the Digital Divide

From a user perspective, Tik Tok cannot provide exactly what users need. Users use satisfaction evaluation as the main form of Tik Tok, but users lack relevant information and feedback mechanisms for content. The core of this problem may be the digital divide. In Tik Tok, the content is usually described as "popular", "recommended", "concerned", and so on. Its content ratings directly reflect the digital divide. However, most of these comments focus on the quantity of content, traffic, likes, and other information, and content quality, impact, and influence are relatively rare [7]. The quality, effectiveness, and impact of content are often difficult to obtain or measure. Information asymmetry and rating system imperfections directly lead to obstacles in content selection.

4.4 Equality and Inclusion: An Exploration of the Relationship between the Digital Divide and Social Inequality

Indeed, Tik Tok cannot avoid the "digital divide" as a social media in image transmission. In the social effects mechanism, the digital divide is a standard, effective measure and plays an important role for Tik Tok, which also makes the digital divide not only a quantitative concept but also a qualitative one. Therefore, the "popular" content has become the recommendation mechanism of Tik Tok [8]. The practical interpretation of Tik Tok is generally a path of content + social + e-commerce gradually formed based on users, although this path contains innovative attempts. From Kuaishou to Tik Tok, Tik Tok revolves around users' needs and preferences from beginning to end. Although Tik Tok should be committed to cultural integration to adapt to the requirements of social changes, however, with the digital divide magnified, this also creates a dilemma, namely social inequality. Overall, Tik Tok still has room for improvement in fairness and efficiency and needs to further improve its social responsibility, which is also an important issue.

5. Conclusion

TikTok has become a leader in network image transmission, bringing new challenges and demands to Tik Tok. TikTok symbolizes "creativity" and is an important means of network image transmission. It is also an urgent need to achieve social effects and maintain social responsibility, reflecting the inherent requirements of the digital divide. Under the leadership of social change, the digital divide is creating a theoretical analysis framework and a practical mechanism for Tik Tok network image transmission. Modern information technology, such as algorithm recommendation, has facilitated the Tik Tok network image transmission in recent years. Through content + social + e-commerce, empowering Tik Tok network image transmission and improving its fairness and efficiency, its value conforms to the internal logic of social effects. Therefore, based on the digital divide also provides a new path for Tik Tok network image transmission. In short, continuous improvement and development of Tik Tok network image transmission will help further narrow the digital divide and promote social transformation.

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