The Network Traffic of Social Media Platforms in the Internet Celebrity Economy: A Case Study of TikTok and Little Red Book

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Abstract. The Information era began when mobile gadgets were widely introduced. People view numerous information on social media platforms, which consequently generates the concept called network traffic. To better understand the concept of network traffic in the Internet Celebrity Economy, it is crucial to examine how social media platforms function to prosper and thrive because they act as mediums to transfer information from place to place and earn profits from either live-streaming or advertisement based on the purchasing of online users. This paper conducts a case study of two prominent platforms—TikTok and Little Red Book—to evaluate their internal systems and external environments using the classic SWOT analysis. The internal system will be analyzed in two aspects regarding the strengths and weaknesses of the current performing system of these platforms. In addition, the market environment and modern trend will be illustrated in the external environment analysis, which involves both opportunities and threats. The analysis will not only show how these platforms compete to overtake others depending on their unique preponderance, but will also demonstrate factors that may undermine their dominant positions in the market. Furthermore, this paper provides relevant and appropriate strategies to assist these firms in achieving further development by obtaining more market share and increasing international competitiveness worldwide.

Keywords: network traffic, social media, Internet Celebrity Economy, information era

1. Introduction

The Internet Celebrity Economy refers to the digital economy where influencers market goods and services to consumers through online platforms. Network traffic pertains to the amount of data that traverses a network or platform at any given time, including the total number of viewers. Since 2016, companies have been investing in bloggers, and by 2019, live commerce has seen significant growth.

The Internet Celebrity Economy enables companies to develop and profit. ByteDance, for instance, earned approximately 25 billion dollars in 2022, a 79% increase compared to 2020. Additionally, the company contributed 275 million dollars in taxes in China, supporting the government budget. In 2021, TikTok announced that it had over 1 billion active users worldwide. By 2024, Little Red Book reported 300 million users uploading their vlogs.

With this in mind, this paper focuses on the network traffic of TikTok and Little Red Book. It will analyze their strengths, weaknesses, opportunities, and threats using SWOT analysis and provide relevant strategies aimed at facilitating the rapid development of social media platforms.

The first category of literature related to this paper concerns the development of the Internet Celebrity Economy. Xiuqing Chai [1] proposed that integration, quality, and intelligence are three critical perspectives for the future development of social Internet celebrity e-commerce. Shuai Cui and Yilu Zhang [2] highlighted that "live broadcasters" not only gained a substantial following during live broadcasts but also reaped significant economic benefits. Jingjing Ge [3] found that the Internet Celebrity Economy, particularly live broadcast e-commerce, has garnered considerable attention due to its impact on entertainment and consumption sectors. Jie Liu [4] asserted that Multi-Channel Networks (MCNs) emphasize building the personalities of Internet celebrities, while the popularity of Internet IP reflects the market's admiration for online engagement.

The second category of literature focuses on the development of TikTok. Binjuan Li and Hanbing Zhang [5] argued that TikTok's success lies in the continuous innovation of content, showcasing the originality of its bloggers. Libin Cai et al. [6] found that the popularity of Zibo tourism on TikTok has gone through three stages: initial exposure, popularity growth, and stable development. Shuang Chen et al. [7] observed that with TikTok's support, Mr. Zhang adapted to fashion trends, presenting himself

humorously as a Northeast man to create a unique account. Saiyi Qin and Haibo Wang [8] explored how TikTok can help cities achieve sustainable development, benefiting both society and the economy.

Additionally, the study of the Internet Celebrity Economy through Little Red Book is pertinent to this paper. Yalan Deng [9] proposed that for social media platforms, particularly Little Red Book, to thrive, they must emphasize human subjectivity and encourage original content production by establishing an effective platform mechanism. Lin Xia [10] noted that users of Little Red Book continue to aggregate through spontaneous sharing, forming an interest-based community with strong emotional interactions. Jingjing Zhang [11] pointed out that most content on Little Red Book is presented in the form of pictures and texts, facilitating efficient connections between brands and users. Haiyun Zhong and Jing Liang [12] explored how Little Red Book places greater emphasis on social relationships and interactions, leading social e-commerce platforms to adopt user-oriented marketing strategies.

2. Main Body

SWOT analysis, introduced in the 1980s by Heinz Weihrich, a professor of management at the University of San Francisco, provides a comprehensive evaluation by analyzing four aspects of a firm: strengths, weaknesses, opportunities, and threats. This analysis helps assessment teams understand the internal systems of a company and the external market environment. Consequently, leaders can develop risk-bearing strategies based on these insights. By doing so, companies can leverage their core competencies to maximize market share.

2.1. Strengths

Advanced Algorithm and Accurate Recommendations: TikTok's "accurate recommendation and positioning engine" labels users to create an environment rich in diverse content expressions, persuasive opinion output, and frequent information interactions. Similarly, Little Red Book uses a powerful big data algorithm to deliver user-generated content (UGC) notes accurately to users. Consequently, platforms like TikTok and Little Red Book can achieve precise recommendations based on advanced algorithms, providing users with engaging videos. This increases user stickiness, becoming a significant advantage in gaining market share in the Internet Celebrity Economy.

Large User Base and Wide Coverage: As of January 2024, TikTok has 809 million users in China, which has a total population of 1.4 billion, meaning approximately 57% of the population has downloaded TikTok. Additionally, about 55.4% of TikTok users are residents of third-tier cities and above, while around 29.2% reside in fourth- or fifth-tier cities. Little Red Book boasts 300 million monthly active users, with a significant proportion being under 30 years old. Therefore, TikTok and Little Red Book have extensive user bases with strong purchasing power and diverse needs based on their demographics. This extensive reach enables the platforms to generate more profit and make continuous improvements.

Utilizing Fragmented Time in Digital Media Consumption: TikTok and Little Red Book focus on producing short videos and texts, which occupy most of users' fragmented time. In a few minutes, users may not have enough time to finish reading a book or watching a movie, but they can browse through dozens of videos online. During these fragmented moments, most users' first reaction is to pick up their phones and browse these platforms, enhancing user retention through the formation and reinforcement of their habits. In addition, this fragmented content, combined with various sound and visual effects, can more easily stimulate users' senses and provide a sense of excitement. Some users may even lose track of time and become engrossed in the content. Thus, users become increasingly dependent on these platforms.

2.2. Weakness

Limited Means of Content Expression: When the frequency of uploading a particular type of video, such as gesture dances, becomes extremely high on TikTok and accounts for more than half of the total number of videos, coupled with unchanging scenes and backgrounds, these videos are not conducive to the diverse portrayal of vloggers. This homogeneity can result in a loss of interest among fans. Similarly, on Little Red Book, emotions and stories are conveyed primarily through images and text, which can become highly repetitive in structure. Consequently, users may experience aesthetic fatigue, leading to decreased engagement and activity.

Leakage of Users' Privacy: Social media platforms such as TikTok and Little Red Book may cause intentional or unintentional information leakage due to different users' understanding of personal private information, and the browsing and exposure of this information may be deliberately used by people with malicious intentions to harass users. Secondly, the company may not pay enough attention to the technical security of social media platforms, resulting in the illegal acquisition of important information such as data files after systems are breached. Furthermore, short video platforms can assess users' purchasing power and label them by collecting their daily browsing video preferences and shopping tendencies, then sell this information to advertisers.

Imperfect Examining and Verifying Mechanism: Among the numerous short videos, images, and texts, the platform often fails to review and remove illegal videos. These videos may include violence, crimes, and pornographic content, which can easily have a negative impact on the social atmosphere and public perception. The mechanism may also misjudge video content, removing or

punishing compliant content, which causes user dissatisfaction. All of these factors may damage the company's reputation and reduce consumer loyalty.

2.3. Opportunities

The Rapid Development of a New Generation of Information Technology: The advent of AI technology enables the creation of short one-minute videos using only images and brief descriptions, or the production of art, such as novels and paintings, based on keywords. Various special effects, like sound effects, can enhance the entertainment value of videos or pictures. Consequently, the cost of content production on major platforms is decreasing, attracting more bloggers to the industry.

The number of potential users keeps increasing dramatically worldwide as Internet penetration continues to grow. According to the ITU report, by 2023 the total number of people using the Internet reached 5.4 billion, accounting for 67% of the world's total population. Even in relatively less-developed African countries, the Internet penetration rate increased from 9.6% to 37% between 2010 and 2023. According to the 2023 Mobile Internet Connection Report by the GSM Association, 55% of the world's population (about 4.3 billion people) use smartphones. In South Korea, 94% of the population owns a mobile phone. In short, broader global Internet access will provide more potential customers for social media platforms.

The world economy is on the rise, and consumers' purchasing power is increasing. In 2023, the GDP index of most countries was impressive. For instance, the US GDP growth rate reached 2.1%, and China reached 3%. For underdeveloped regions such as Africa, the projected growth rate in 2023 was 3.8%, according to the African Development Bank (AfDB). As income and living standards increase globally, people are more likely to consume or invest, promoting economic activities and driving sales for social media platforms.

2.4. Threats

Policies Restricting the Operation of Social Media: The United States is considering a policy to prohibit the continued operation of TikTok in the country and has made progress in this regard, which could significantly hinder TikTok's ability to gain potential users globally. Additionally, China is increasingly focusing on the online time of teenagers, with youth mode settings reducing the online time of some users on platforms like TikTok and Little Red Book. Therefore, external policy interventions will largely determine the future direction of social media.

Excessive Competitors and a Saturated Market: There are numerous social media platforms. For example, popular platforms such as TikTok and Little Red Book, along with niche software unique to each country, often compete with each other. Among short video platforms, TikTok has gained a huge market share, but as it has made considerable profits, more competitors have entered the market. To seize market share and gain more dominance, these video platforms may offer favorable conditions to attract popular bloggers and increase platform downloads. Therefore, it is difficult for TikTok and Little Red Book to form a monopoly in the market, and they need to be vigilant about the strategies of competing products.

3. Conclusion

As major social media applications in China, platforms such as TikTok and Little Red Book have seen a steady increase in user numbers since their launch and have become leaders in China's social media industry. This paper has explained and analyzed the strengths of these two platforms, including advanced algorithms, accurate recommendations, and a large user base with wide coverage. However, they also face challenges such as limited means of content expression, which can lead to audience aesthetic fatigue. The platforms are presented with opportunities like the rapid development of new information technology and reduced content production costs, but they also face threats from policies in certain countries and regions.

The significance of this article's conclusions lies in the following four points: First, social media platforms like Little Red Book and TikTok should leverage their near-monopoly market positions to vigorously encourage users to post original videos and reward innovative content with actual financial support. Second, these platforms should use their powerful algorithms to scrutinize and penalize video content and channels that involve privacy breaches, information leaks, and other issues to foster a safe online environment. This could help gain policy support from more countries and regions. Third, social media platforms should fully utilize technological advances to produce videos that comply with the policies and values of various regions and impose strict penalties on videos that violate these standards. Lastly, platforms should actively explore and promote authors with different styles who have the potential to publish high-quality and innovative content, continuously stimulating user interest.

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