

## Business Models in Live Video Streaming Platforms: A Comparative Case Study

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### Abstract

Live video streaming has become increasingly crucial for retail enterprises' success in the competitive online business environment in recent years. Many live streaming platforms such as Taobao Live and Tiktok have been founded and demonstrated unprecedented growth worldwide. Although a growing literature has focused generally on the impact of live video streaming, prior work has been limited in online education, online gaming, and, as a consequence, little is known about the difference between live video streaming platforms. Given this, this study examines the differences in the business model between traditional e-commerce platforms and social media platforms. The study takes Taobao Live and Tiktok as the research objects and uses the case analysis method and comparative analysis method to study the two business models. The business models are explained in terms of market positioning, management model, and profitability model. The results indicate that Taobao live focuses on products, and the emergence of live video streaming is to assist commodity trading. In contrast, Tiktok focuses on content, and live video streaming emerged to help content monetization. We believe that the findings will extend previous work on live video streaming, social e-commerce and offer reliable and essential insights for research and practice of retail management.

**Keywords:** Social E-commerce; Business model; Live video streaming; Tiktok; Taobao Live

### 1. Introduction

With the spectacular development of major new media social platforms, live video streaming (LVS) has become increasingly widespread and significant as innovative forms of content dissemination, and has gradually become a new medium of expression for people around the world. More specifically, the LVS industry has been identified as one of the few engines of economic growth due to its popularity and economic potential, especially in a highly dynamic economy such as China's. CNNIC (2020), for example, reported that China has the largest LVS market, having grown 16.7% in 2020, with 562 million live video users and more than 300 LVS apps available. With the lowering of the threshold of LVS and the diversification of interaction methods, more and more people are attempting to embrace this new form of online communication tools and online shopping tools (Zhao, 2016), especially during the COVID-19 pandemic.

Although the development of LVS industry has been good, its growth has slowly slowed down with the collapse of the Nation Live platform and Panda Live platform in November 2018 and March 2019 respectively (Guo, 2020). The demographic dividend is gradually disappearing and the growth rate of user size is

gradually slowing down. Both platforms and audiences have realized that content will be an important part of the platform's ability to make more profit, and all platforms are beginning to rediscover what works for them and how they operate.

According to Zhang Kaifu (2020), the director of Taobao is driven by the thriving LVS industry, with the number of offline businesses that flocked to Taobao having grown by 200%, which mirrors the fact that LVS occupies a pivotal position not only in the lives of China's Internet users but also China's economy. Among all the Chinese live e-commerce platform, Taobao Live and Tik Tok have occupied an important position in the past ten years, so this paper takes Taobao Live and Tik Tok as examples to study the differences between different LVS platforms and their development paths.

However, there is very little research on LVS platform comparative study, perhaps due to it being a relatively new phenomenon. Thus, we conducted this study to understand the difference between different LVS platforms and why people prefer different platforms. Understanding the issue would enable us to identify current pros and cons related to existing LVS platforms. Hopefully, the findings will extend previous work on live video streaming, short video, consumer behaviour, and suggestions for retailers to align their marketing strategies with different platforms.

## 2. Literature Review

### 2.1 Live Video Streaming

In e-commerce contexts, most researchers have identified live e-commerce is a new marketing model that brings live video streaming (LVS) to the online merchandising scene (Shi & Zhu, 2011). Live video streaming (LVS) refers to online broadcasts in real-time that facilitate business-to-consumer and business-to-business communication (Chang et al., 2020; Jiang et al., 2017; Zhang, 2018). The audiences can see and hear the broadcasters' explanation of the product in real time, and the live screen can also deliver a link to purchase the product, making it easy for users to purchase. The LVS maximizes the real-time communication and interactivity, allowing interested users to directly consult with the broadcasters on product-related issues, effectively enhancing the user experience and conversion rate, and making it easier to guide users' consumption behaviors (Shi & Zhu, 2011).

The popularity of LVS has attracted attention from researchers, who have explored virtual communities, social networks (Cheung & Huang, 2011; Edge, 2013; Scholz, 2011), platforms (e.g., Barekatin et al., 2015; Kaytoue et al., 2012; Pires & Simon, 2015; Wang, 2017; Zhang et al., 2017), social relationships among audiences (Hamilton et al., 2014; Smith et al., 2013; Holt et al., 2016), consumers' behaviors (Sun et al., 2020; Sjöblom et al., 2017; Kim et al., 2007), streamers' behaviors (Zhou et al., 2019), culture (Jia, 2018; Zhang & Su, 2017; Zeng & He, 2017) in the context of LVS. However, in the context of online marketing, research on LVS is not yet systematic. The impact of this emerging marketing communication model on consumer behaviour and the pathways of influence have not been fully investigated, and therefore a large number of empirical studies are still needed to explore it (Sun et al., 2020).

### 2.2 Platform

According to "2020 China Live E-Commerce Industry Research Report" (36KR Research, 2020), there are three main types of LVS platforms: traditional e-commerce platforms, shopping community platforms with e-commerce genes, which expand their marketing channels by means of live streaming, and social media platforms with their own network flow, which embrace e-commerce to promote flow realization.

Scholars attempted to analyse e-commerce platform in various ways. Most of them pay attention to the field of gaming platform, such as Huya and Douyu TV platforms (Gao, 2021; Liu et al., 2021; Zeng & Ou Yang, 2020; Wang & Wang, 2016). While in the context of online marketing, a limited number of studies have conducted behaviors about broadcasters' motives and viewers' motives across different platforms, including YouTube Live (Haimson & Tang, 2017; Pires & Simon, 2015), Twitch (Hamilton et al., 2014; Kaytoue et al., 2012; Pires & Simon, 2015; Wohn et al., 2018), Periscope (Tang et al., 2018; Friedländer, 2017), Taobao (Zhou & Hinz, 2015). However, few research has been conducted on the comparative study of different types of LVS e-commerce platforms.

### 2.3 Business Model

There are currently many definitions of business models among academics, and there is no uniform version. Thus, this paper adopts the version that a business model is the system of how to create and deliver customer value and corporate value (Johnson et al., 2008). The business model is mainly a three-dimensional model consisting of enterprise value, customer value and profitability.

### **2.3.1 Customer Value Proposition (CVP)**

The core of CVP is mainly how to determine how profitable a successful company can be. First, enterprises need to analyse from two perspectives: the profit-making group and the corresponding profit-making ability. When taking the customer's needs into consideration, the CVP is the value that the customer can provide to the company, and also the value of the company, is that what the company can provide to the customer. The company need to consider more clearly what age the customer is and what their economic income is. What are their needs? These questions will determine the development of the business over this time. In the process of development, a company should not only look at its own profitability, but also at the sustainability of that profitability. CVP is expressed externally as the value of the company's services and the value of the company's goods.

### **2.3.2 Enterprise Value (EV)**

CVP is the basis of enterprise wealth. However, if an enterprise wants to develop for a long time and gain lasting profits, it must create and enhance its own value. For example, when the economic crisis broke out, some enterprises, have been hit hard, unable to continue to operate, or even face the risk of closing down. This is because these enterprises did not pay attention to the creation of their own value in the process of development. In times of economic downturn, it is not enough for companies to rely solely on a single customer value to survive. A good business model for a company must be supported by the value dimension of the company in addition to the customer value dimension.

### **2.3.3 Profitability**

CVP and EV are two important dimensions that influence the successful development of a company. The profitability of a company is mainly judged on the basis of its ability to create sustainable value for the company. Only by continuously creating economic value will it be able to gain more opportunities and capture more market share.

Many research have already conducted on profitability of LVS platforms, for example, LVS platform mainly obtain stable income through the exploration of the live format (Jia,2018;Jian &Feng,2017;Liu,2017). Some consider the most central element of LVS is unique profit model from the perspective of operation(Jin,2017;Wen,2019). Some analyse the profit model from the perspective of stakeholders, such as broadcasters, guilds, LVS audiences, LVS platforms, software and hardware infrastructure providers, copyright holders and many other stakeholders(Yu & Xv,2017;Bai,2018).

## **1.2 Gaps in the literature**

In summary, although scholars have identified key concepts and categories of platforms, and recognize business model is a key issue in the LVS e-commerce literature (Lv,2020; Zhou et al.,2019;Liu et al.,2021), few studies are available in the LVS e-commerce context to treat the business model in a systematic way, or compare the differences between traditional e-commerce platforms and social media platforms.

To address the gaps, the essay will integrally analyze the business model between two kinds of platforms, including its platform and related techniques as well as the preventive solutions to the problems faced by it, which could be more comprehensively and reliable in the research of this aspect.

## **3. Methodology**

### **3.1 Research Design**

The research design for this investigation is a qualitative exploratory case study focusing on the business model between traditional e-commerce platforms and social media platforms. Two case studies of different but business model are used to illustrate different marketing strategy should be used in different platforms.

### **3.2 Case Selection and Data Collection**

For the two different platforms, the most representative and typical examples were selected from various webcasting platforms. According to the CBN Data, Taobao led the way among all Chinese traditional e-commerce platforms, with 250 billion gross merchandise volume in 2019. Besides, Tik Tok, the largest platform represented by short video (Fang et al.,2020) and social media platforms, reached 40 billion gross merchandise volume in 2019. Thus, Taobao and Tik Tok were selected.

Relevant data was collected from semi-structured/open-ended interviews, field observations, and secondary information sources including government reports, industrial studies, trade publications, company websites, and archived data.

## 4. Case Companies

### 4.1 Case One: Taobao Live

#### 4.1.1 Overview of Taobao Live

Taobao, a member company of Alibaba, is the number one e-commerce marketplace in China and one of the 12 most visited websites in the world (Alexa.com, 2015). Taobao is one of three retail e-commerce sites founded by Chinese e-commerce giant Alibaba Group, which has a market share of over 80% in China, as well as its business-to-consumer site T-mall, and its Jubao group buying site (Davis, 2014). Founded in May 2003, Taobao has nearly 500 million registered users and over 60 million regular visitors per day, while the number of products online has exceeded 800 million per day, with an average of 48,000 products sold every minute. By the end of 2011, Taobao's transaction volume peaked at 4.38 billion yuan per day, creating 2.708 million direct and full employment opportunities (Alibabagroup.com, 2011). Taobao is often compared to eBay due to its C2C (consumer-to-consumer) business model, and to Amazon due to its huge product variety (800 million items)

Taobao Live is an LVS platform launched by Alibaba, targeted at "consumer LVS" and allows users to buy while watching, covering categories such as beauty and makeup. Founded by Alibaba Group in March 2016, Taobao Live is stand by the Taobao e-commerce platform. More than 10 million mobile users watch LVS, and the number of broadcasters exceeds 1,000.

#### 4.1.2 Customer Value Proposition

Customer value proposition can also be called as market positioning. Market positioning focuses on answering the question of what a company does, explaining what the target customer groups have in common and what products or services are offered to them to create value. It also includes both consumer and product positioning.

Customer positioning consists of users and their consumption views. According to CBNDData consumer data, CNNIC's 46th Statistical Report on the Development of China's Internet, a professional institution for case and data analysis, Taobao Live 's female users account for 83%. When compared to other mainstream e-commerce platforms, and the proportion is higher than that of Jingdong and Pinduoduo platforms. Meanwhile, the proportion of male users is much lower than that of women, but the number of male consumers and customer unit prices are all showing an upward trend, which means that male consumers would be a potential consuming group. In terms of age, users are mainly centred between the ages of 20-40, with the overall age group on the younger side and the post-95 user group expanding. In terms of area, Baidu index shows that people from coastal, central and northern of China used Taobao live more frequently than other area. Consumer who like to watch Taobao live are basically from first-tier cities, and the reason is that consumers in first-tier cities have a strong economic level, without any restrictions on consumption, and are prone to impulsive consumption, contributing to the fan base of the LVS, as well as circular shopping. In contrast, consumers in second and third tier cities are relatively backward on economic level, and will only buy on Taobao Live when there is a demand for them. It is not conducive to retention of fans due to "casual" consumption. Thus, the fans in first-tier cities are the main consumers of Taobao Live.

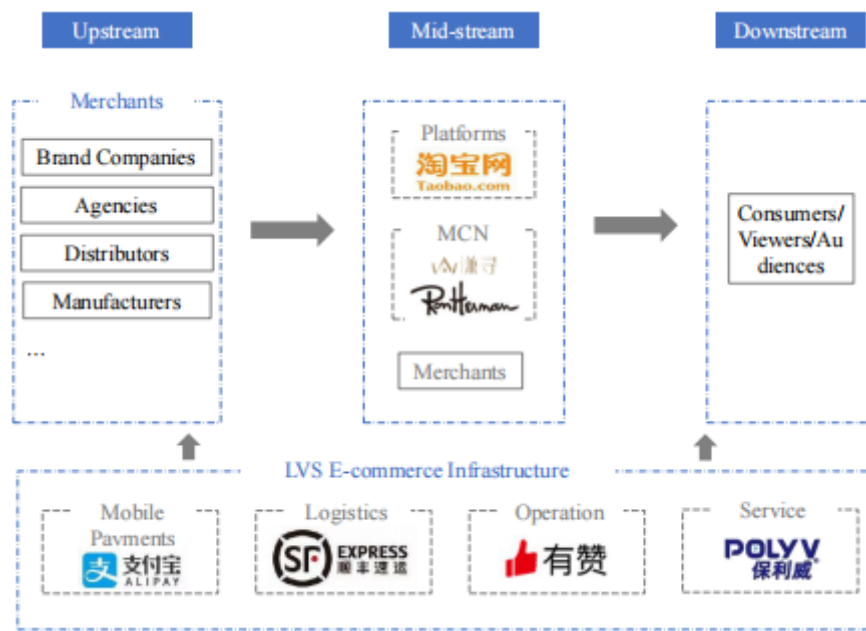
The second part of market positioning is product positioning. As a third-party platform, Taobao Live , sale all the goods provided by the merchants stationed in the platform, so it is necessary to analyze the characteristics of merchants and product categories. As Taobao Live sits on Taobao, the largest e-commerce marketplace in China, it has the advantage of the largest platform in the field of e-commerce. The broadcaster does not need to look for sources of goods or any retail companies, but only needs to focus on selecting suitable products. Besides, the high visibility of the platform and the high stickiness of users are the most important reasons for explaining why Taobao Live is able to achieve steady growth in performance.

From the perspective of product categories, Taobao live dominated by women's clothing, jewellery and accessories, food, beauty care and others, mainly the traditional vital commodities of the Taobao platform, and merchants are more active in participating in LVS. Beauty care, clothing, shoes and bags, jewellery are the three categories that are about twice as important as the overall average in Taobao live consumption. In contrast, books and audio-visual, car accessories, games/phone bills and other categories are relatively limited and less reliant on LVS. In addition, the bulk of retail enterprises such as automobiles and real estate and niche industries such as pets and cameras are equally rich in LVS product categories. The three industries that account for the most prominent and fastest-growing proportion of LVS in Taobao Live are women's fashion, jewellery and beauty care. In addition to outputting content and interacting with fans, broadcasters provide fans with low-priced products across the network to attract network traffic and gain their trust. Taobao Live broadcasters

usually require a low price guarantee for their products in cooperation with brands, especially the head broadcasters.

### 4.1.3 Enterprise Value

EV is usually measured by business model capability. The business model analysis addresses the "operational capability" of the company in the business model. Taobao Live, as a platform e-commerce, is located in the midstream of the LVS industry chain, and cooperates with Multi-Channel Network (MCN) organizations and merchants, facing both merchants and users, meeting the demands of both sides and creating a closed loop of industry ecology. Figure 1 shows the industrial ecology of the LVS e-commerce industry and also reveal the relationship between the three parties. From the perspective of merchants, merchants in the upstream are enrolled in Taobao Live, which provides platform services for them; from the perspective of users, Taobao Live provides merchandise display and shopping services for users in the downstream, when users consume on Taobao Live. In terms of MCN cooperation, MCN provides broadcasters for Taobao Live. In terms of physical flow, the cash flow flows out from the user side and flows into the merchant after transit on the Taobao Live platform, and the merchant ships directly to the user, which is a symbiotic, cooperative and mutually beneficial process for all three parties.



**Figure 1.** The industrial ecology of the LVS e-commerce industry

\*Note: Data was collected from 36KR Research and Everbright Securities Institute, only some companies are listed as representatives, not the whole industry.

In the upstream stage, merchants are mainly dominated by national brands. According to the "Tmall Double 11 Taobao Live Streaming Merchant Data Report", as of November 11, 2020, national brands accounted for 53% of the over 100 million merchants. According to the data released by Taobao Content E-Commerce Division, in 2019, more than half of the brand merchants gained new growth through LVS, and with 90% of the sessions on Taobao live platforms are self-broadcast by merchants. The phenomenon reveals that merchant self-broadcasting is the cornerstone of Taobao Live. Besides, new brands are significantly paying more attention to the LVS scene. Over 70% of new brands use LVS as an essential venue for them to bend the rules.

Traditional e-merchants such as Taobao have been in the flow anxiety stage due to their short user time. On the one hand, they have proposed a content-based strategy to increase user time, and in 2016 they piloted the promotion of live video with goods, incubated net stars internally and invested resources to drive GMV growth. On the other hand, they invested externally in Xiaohongshu and B Station and signed a framework agreement with Tik Tok for 7 billion RMB, which consumer can assess Taobao directly. As the leading e-commerce industry, Taobao took the lead in opening LVS business, incubating broadcasters such as Li Jiaqi and Weiya, continuously enhancing the internal weight of LVS in the ecology and promoting merchants to be stationed on the LVS platform.

### 4.1.4 Profitability

Taobao live platform must be supported by the profit model in order to further develop. At present, Taobao live is still in the capital investment stage, and has begun to explore the profitability. Taobao live mainly from the following aspects to obtain profit.

(1) Reward behaviour. Some call it "donation" in Twitch for reward behaviour, and some call it "applaud" on youtube. Through LVS, the broadcasters and the audiences can carry out interaction, and the audiences will buy virtual props to the broadcasters, which is the reward behaviour. It is also an essential source of income for the LVS platform. Due to the different values of the gifts, various special effects will appear on the screen of the LVS, such as fireworks. After receiving a gift, the broadcaster can convert it into RMB, and the platform will withdraw the corresponding share. In the Taobao live platform, reward and likes can directly reflect the LVS site's activity and give the broadcasters a top-ranking and a more prominent position for merchandise display. It can also attract more viewers to watch the live broadcast, and as the reward increases, the broadcaster's value will gradually increase.

(2) Advertising. Advertisers will generally place advertisements on the LVS platform page. In addition, some retailers will also let the broadcasters help them promote their products due to the spreading effect and the popular traffic brought by the broadcasters. Then, retailers will collect service fees through profit-sharing to gain profits. Moreover, this way of profitability through advertising should be based on the platform's users' numbers. Taobao platform can continue to expand the user channels and create a large number of great content.

(3) Traffic cashing. The content designed by Taobao live platform can increase the consumer's viewing time. Taobao live use the length of watching time, the number of online audiences, the number of platform visits, downloads, clicks and other ways to traffic cashing.

(4) O2O online and offline profit model. This model is a standard marketing model in recent years to drive offline business consumption with online marketing purchases. Moreover, it is ubiquitous in Taobao live platform. In the Taobao live platform, you can do soft advertising based on the live content and then push the purchase link of the goods to promote the online purchase and offline consumption and profit through this way.

## 4.2 Case Two: Tik Tok

### 4.2.1 Overview of Taobao Live

Tik Tok, a short video social software for musical creativity, incubated by Today's Headlines, launched on September 20 2016, is a short video community platform for all ages. Tik Tok officially launched its e-commerce commercialization at the beginning of 2018. During the period of a big sale on 2018 September 11, Tik Tok opened its shopping cart function and began its first attempt at LVS, with orders increasing by 1000%, 100,000 items sold and GMV exceeding 200 million yuan on that day, verifying Tik Tok's superb cash-generating ability. Tik Tok docked with Taobao, Tmall, Jingdong and other currently most mainstream e-commerce supply platforms, and finally became the platform e-commerce's big sales. Tik Tok has become a new entrance to sell goods, involving a wide range of product categories. As a short video platform, its turnover reached 500 billion yuan more than Taobao live in 2020, of which 300 billion yuan from the third-party platform, and Tik Tok completed only 100 billion yuan for consumers purchasing products on its e-commerce platform.

### 4.2.2 Customer Value Proposition

According to the data from Mian Chao Research Institute, for the gender distribution of Tik Tok LVS users, male users accounted for 57.6%, higher than the 42.4% of female users, which reveals that male users would like to watch Tik Tok LVS more than female users. For the age distribution of users, 25-30 years old users accounted for the highest percentage, reaching 25.7%. The geographical concentration of Tik Tok live users is high (Fei Gua data). The province with the most significant Tik Tok live users is Guangdong Province, accounting for 10.7%, and users are mainly concentrated in East and Central China, accounting for 43.5%. The city with the most significant number of audiences in Beijing, accounting for 2.66%. Users are mainly concentrated in first-tier and new first-tier cities and more developed cities in terms of economy and culture. Compared with One Smile, the overall activity of Tik Tok users is higher than that of One Smile in the distribution of active users in the average daily period, and the proportion of active users in Tik Tok is higher than that of One Smile at 19-21 o'clock. Tik Tok live users' usage hours are higher than those of One Smile in the distribution of weekly per capita single-day usage hours of live users.

Among the top 10 categories of total sales of Tik Tok live broadcast, food and beverage, men's and women's clothing, and skincare products became the top 3 categories. The average price of a single product in each

category in Tik Tok is higher than that in One Smile. The category with the highest average price difference is kitchen and bathroom appliances, with a difference of 116 yuan, followed by skincare, men's and women's clothing, home textiles and jewellery and accessories, with an average price difference of about 30 yuan, and makeup and shoes and hats and bags, with an average price difference of about 20 yuan. The average price difference of daily necessities and food and beverage products is the smallest. Tik Tok is dominated by national brands with high visibility and instagrammable brands.

#### 4.2.3 Enterprise Value

Tik Tok is not as mature as Taobao Live in terms of LVS, but on the contrary, it will be more mature in terms of the short video. Tik Tok's partners run through the entire industry chain. From the upstream, content producers are the leading content creators, including celebrities, weblebrities, KOLs and ordinary users, and MCNs can aggregate these content producers and then cooperate with Tik Tok. Short videos can be distributed through other content distribution channels, such as microblogs, WeChat, Qzone and other social media from the downstream. In the whole industry chain, advertisers will penetrate each link to promote their brands, and these members are partners of Tik Tok short video and constitute the closed ecological loop of short video together with the short video platform represented by Tik Tok.

In terms of content organization, by lowering the threshold for users to shoot, more templates and special effects stimulate users' willingness to produce original products. The content presentation is full of freshness and visual impact through a comprehensive vertical screen format, allowing users to immerse themselves in the content thoroughly. Content distribution is decentralized. In order to ensure the efficiency and decentralization of video distribution, Tik Tok has even added the algorithm recommendation model of Today's Headlines at the product level. In other words, with the technical support of the algorithm, Tik Tok can ensure that each video has an equal chance of being seen.

#### 4.2.4 Profitability

The cost of the Tik Tok platform exists in three main areas: first, the internal operation of the platform, which is used to maintain the operation of the various sections of the platform and the provision of products and services, including the investment and maintenance costs of servers and other infrastructure, product development and maintenance costs. Second, the marketing and promotion of the platform, which is used to enhance the platform's visibility and reach and acquire users. Third, the acquisition of quality content is generally coordinated with MCN organizations or internet celebrities to ensure the continuous output of quality content.

There are three main revenue models for Tik Tok short videos:

1. Advertising. It is the most intuitive and commonly used channel in the short video industry. Advertising is currently the most intuitive and commonly used channel in the short video industry, through patch ads, infomercials, advertising implants, and other ways to cooperate with advertisers.
2. The e-commerce channel. It provides more marketing opportunities for the short video industry and enriches the marketing methods of the e-commerce industry. With users' conversion as the goal, it can be achieved through third-party links or self-built shopping malls.
3. Star map platform. In order to be able to manage the transaction process efficiently, regulate the transaction process and help the parties involved in the transaction to avoid the risk of the transaction.

### 5. Finding

The study takes two different types of LVS platform giants Taobao Live and Tik Tok, as an example and analyzes their comparative business models as follows.

(1) In the customer value proposition, the study found that more women than men watch Taobao Live, while more men than women watch Tik Tok. Regarding geographical distribution, the users who watch Taobao Live and Tik Tok are concentrated in the first and second-tier cities. These cities are relatively more developed in terms of economic and cultural level. In terms of age, the age of Taobao Live users is older than that of Tik Tok users. The value of Taobao Live fans is higher. Fans have a firm purpose of consumption, which leads to a higher conversion amount of transactions. Moreover, Tik Tok live fan value needs to be improved. The platform algorithm distribution and operation logic are not conducive to gathering private domain traffic, and the emotional link between intense entertainment-minded fans and broadcasters is relatively weak. Tik Tok and Taobao are both top sale on food, skincare, and clothing in terms of product classification. Taobao Live and Tik Tok are dominated by domestic brands, while Tik Tok also joins the instagrammable brands. It is also because

Taobao is mainly commodity shopping. While Tik Tok started as a content platform, Tik Tok users' mindset is mainly entertainment, "Tik Tok, record the good life" is deeply rooted in people's hearts, in line with the current youth psychology, as well as instagrammable culture.

(2) In the part of enterprise value, traditional e-commerce platform, such as Taobao live, to live the LVS drives e-commerce transformation to expand customer acquisition channels, harvesting traffic while maintaining a certain degree of user stickiness. In contrast, Tik Tok, an entertainment content platform, has a rich pool of traffic. Through the LVS into the e-commerce industry is an attempt and explore the flow of cash. However, in transforming from an entertainment content platform to an "entertainment content + e-commerce" platform, Tik Tok will inevitably encounter the problem of reshaping the user's mind.

(3) Platform genetic properties are different. The LVS profit model is also different. From the carrier to the content form, live is experiencing more changes. The main modes of cashing are user bounty, undertaking advertising, shopping guide mode, content payment, game payment, and enterprise promotion. Tik Tok is more inclined to advertising and content payment, while Taobao Live mainly sells goods by merchants and O2O online and offline profit models.

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