

# Prediction of the development scale of live e-commerce based on data analysis and research on influencer impact

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**Abstract.** With the development of the internet, live e-commerce has emerged, where different influencers and product types correspond to varying marketing results. This paper focuses on the live e-commerce industry, reviewing the related research of domestic and international scholars such as Zhao Hongmei and Han Haoliang. It analyzes and predicts the types of influencers and various products, presenting the basic situation and statistical data of the online live streaming marketing market, and forecasting the future market scale. In addition, the paper takes Li Jiaqi and Dongfang Zhenxuan as examples to analyze the characteristics of similar influencers and the factors influencing their impact. A series of conclusions are drawn, which are of significant practical importance for understanding the development trends of live e-commerce.

**Keywords:** live e-commerce, influencers, predictive models, impact analysis

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## 1. Introduction

With the continuous rapid development of the internet, the e-commerce industry has undergone tremendous changes, giving rise to live-streaming marketing. A large number of self-media influencers have entered the live e-commerce industry to promote products through live-streaming. In the live e-commerce industry, different influencers and product types correspond to varying marketing results. This study focuses on analyzing and forecasting influencer types and different product categories, which has significant practical implications for understanding the development trends of live e-commerce.

Zhao Hongmei [1] studied the issue of agricultural product live-streaming marketing paths. She collected data such as the number of internet users in China as of June 2022 from the China Internet Network Information Center and data on online sales of physical goods in 2020. She built an analytical model covering the connotation, significance, patterns, problems, and optimization paths of agricultural product live-streaming marketing. The study concluded that agricultural product live-streaming marketing is an essential component of agricultural modernization and digital transformation, capable of improving sales efficiency and expanding markets. Han Haoliang [2] and others studied the impact of influencer live-streaming on consumer purchasing behavior in the context of big data. They proposed methods to analyze shopping consumption patterns and the influence of big data technologies, collecting data on the integration of social media and e-commerce, as well as consumer behavior feedback under influencer live-stream shopping. They constructed a model analyzing the influence of influencer live-streaming on consumer purchasing behavior and pathways to enhance purchasing innovation. The study concluded that influencer live-stream shopping is flourishing, but it also faces issues such as trust, product quality, and underage consumption. Li Guoxin and others [3] studied the impact of influencer group size on brand live-stream sales performance. They proposed an empirical research method and collected relevant data from the cosmetics industry. Using data analysis and statistical tests, they built a model to examine the relationship between influencer group size and brand live-stream sales performance. The study concluded that influencer group size has an inverted U-shaped effect on brand live-stream sales performance. Jiang Fang and others [4] studied the selection of business models in live-streaming e-commerce. They proposed a method for inductively analyzing different live-streaming business model types and collected data, including materials and case studies from the live-streaming industry. They developed an analytical model for classifying live-streaming business models, concluding that four major business model choices exist in the live-streaming sector. Li Liping [5] studied the impact mechanisms of agricultural product e-commerce live-streaming on consumer purchasing intentions. She proposed a method for analyzing influence mechanisms and collected data related to agricultural product e-commerce live-streaming and consumer purchasing intentions. Through data analysis and theoretical deductions, she built an analytical model to examine the mechanisms by which agricultural product e-commerce live-streaming influences consumer

purchasing intentions. The study concluded that agricultural product e-commerce live-streaming impacts consumer purchasing intentions through various mechanisms. Guo Yu [6] researched the innovation pathways of live-streaming e-commerce models based on big data analysis. He proposed methods for exploring innovative paths and collected data on the current state of the live-streaming e-commerce industry and the application of big data. He constructed an analysis model for the innovative pathways of live-streaming e-commerce models based on big data and concluded relevant pathways for innovation in live-streaming e-commerce models. Zhao Yanfei and others [7] studied the impact of the perceived value structure of live-streaming e-commerce on consumer purchasing intentions. They proposed an empirical research method and collected data on consumer perceptions of live-streaming e-commerce value and purchasing intentions. Through questionnaire surveys and statistical analyses, they developed a model to analyze the relationship between the perceived value structure of live-streaming e-commerce and consumer purchasing intentions, concluding that the perceived value structure significantly influences purchasing intentions. Dong Yanzhe [8] studied the current status, problems, and optimization pathways of live-streaming e-commerce. He proposed a review analysis method, collecting data from various aspects of the live-streaming e-commerce industry. He constructed an analytical model of the industry's current situation, problems, and optimization paths, and concluded that live-streaming e-commerce faces several issues with corresponding optimization pathways. Wang Chenxu [9] studied the impact of live-streaming e-commerce on the transformation and upgrading of traditional enterprises. He proposed an influence research method and collected data on the current status of traditional enterprises, the development of live-streaming e-commerce, and their relationship. He built a model analyzing the impact of live-streaming e-commerce on the transformation and upgrading of traditional enterprises and concluded relevant findings regarding this impact. Chen Yishi [10] and others studied the factors influencing consumer purchasing intentions in e-commerce live-streaming. They proposed a factor analysis method, collecting data on consumer feedback on e-commerce live-streaming and related purchasing intentions. Through questionnaire surveys and statistical analyses, they constructed a model analyzing the factors that influence consumer purchasing intentions, and concluded the key factors involved in influencing consumer purchasing intentions. Guo Xiaojuan [11] studied the characteristics and innovation models of Douyin e-commerce. She proposed an exploratory analysis method, collecting data on Douyin e-commerce platform operations, user behaviors, and market competition. She developed an analytical model for the characteristics and innovation models of Douyin e-commerce and concluded that Douyin e-commerce has distinct characteristics and innovative models.

Wang [12] studied how short video creation can maximize sales in live-streaming e-commerce. He proposed methods to analyze short video creation for sales enhancement, collecting data on short video creation and sales in the live-streaming e-commerce sector. He built a model to examine the relationship between short video creation and live-streaming e-commerce sales, concluding that specific short video creation points are key to maximizing sales. Yongbing and others [13] studied how influencers can enhance consumer engagement and brand equity in live-streaming e-commerce. They proposed methods to explore ways influencers can improve consumer engagement and brand equity. They collected data on influencer behavior, consumer feedback, and brand equity in live-streaming e-commerce scenarios. They built a model analyzing the relationship between influencer behavior, consumer engagement, and brand equity, and concluded the effective ways influencers can enhance both. Liu [14] studied methods for identifying consumer emotional tendencies in the "live-streaming + e-commerce" model. He proposed a method for recognizing consumer emotional tendencies and collected data on consumer reviews and interactions in live-streaming e-commerce settings. He constructed a model to identify consumer emotional tendencies in this model and concluded effective methods for identifying these tendencies. Dawei [15] studied the short video platform communication model from the perspective of the e-commerce live-streaming boom. He proposed methods to analyze the communication model of short video platforms in the e-commerce live-streaming boom. He collected data on short video platforms during the live-streaming e-commerce boom and built a model analyzing the relationship between the live-streaming e-commerce boom and the communication model of short video platforms, concluding related findings on communication models. Huang and others [16] studied the research progress of live-streaming e-commerce based on CiteSpace. They proposed a method for using CiteSpace to analyze the research progress of live-streaming e-commerce. They collected relevant literature data from the live-streaming e-commerce field and used bibliometric analysis and visualization techniques to develop a model for analyzing the research progress of live-streaming e-commerce, concluding the current status, hotspots, and trends in the field.

In summary, the live-streaming e-commerce industry remains a relatively new field. Existing studies have analyzed some basic aspects and statistical data of the industry, but there are gaps in the analysis and forecasting of the marketing influence of e-commerce influencers, as well as their product types and sales capabilities. This paper analyzes the market share and growth rate of different products in the live-streaming e-commerce sector, the market share of different influencer types, and the live-streaming characteristics of specific influencers. It also provides certain analyses and forecasts regarding the development of the live-streaming e-commerce industry.

## 2. Online live streaming marketing data analysis

### 2.1. Overview of online live streaming marketing

Since 2018, online live streaming e-commerce platforms have rapidly emerged and steadily developed. To date, many live streaming platforms have emerged, with Taobao Live, Douyin E-commerce, and Kuaishou E-commerce being some of the most prominent. The user base has continuously expanded as these platforms have improved. Currently, Taobao boasts over 1 billion

annual active users, while the emerging live streaming e-commerce platform Douyin has over 600 million monthly active users. As of 2023, Kuaishou also has over 600 million monthly active users.

2.2. Analysis of the online live streaming market scale

According to the 53rd “Statistical Report on the Development of the Internet in China” published by the China Internet Network Information Center, as of December 2023, the number of online live streaming users in China reached 816 million, accounting for 74.7% of the total internet users. Among them, the number of e-commerce live streaming users reached 597 million, making up 54.7% of the total internet users.

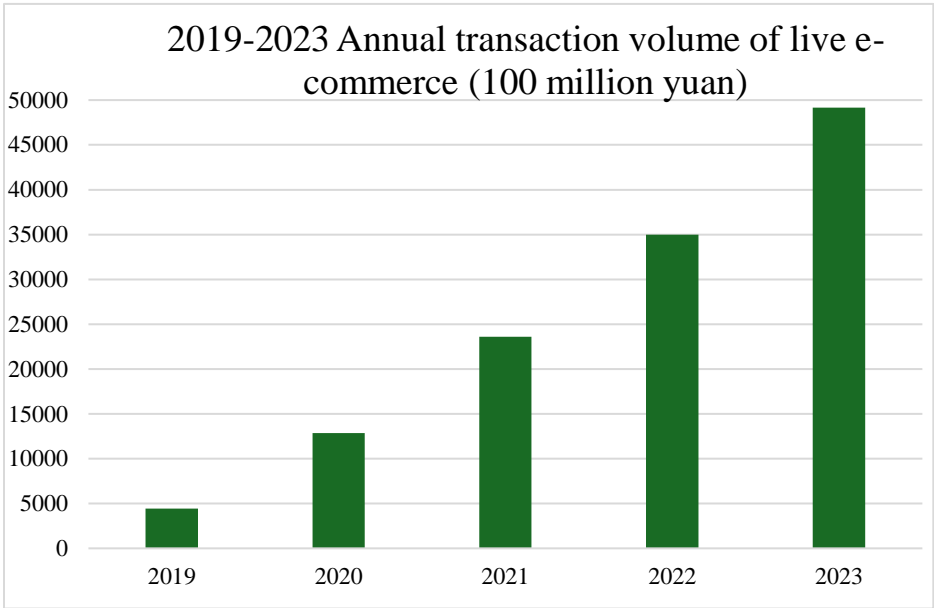


Figure 1. Annual transaction volume of live e-commerce (2019-2023)

The live e-commerce industry has shown rapid growth: as shown in Figure 1, the number of e-commerce live streaming users was relatively low in 2018 but increased year by year. From 2019 to 2024, the transaction volume of China’s live e-commerce industry saw a significant year-on-year increase, from 443.75 billion yuan in 2019.

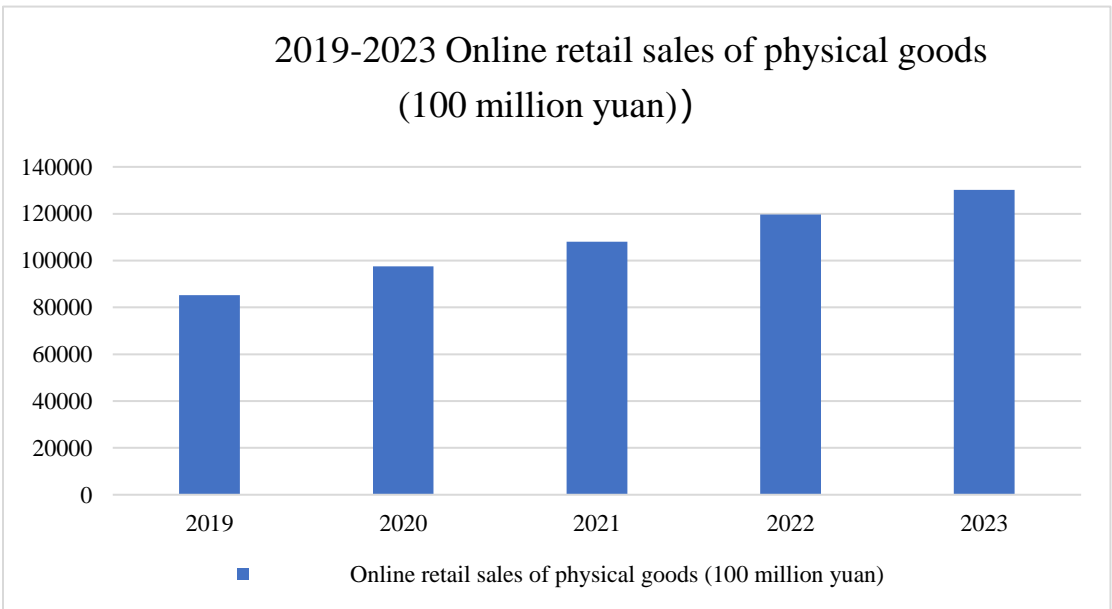
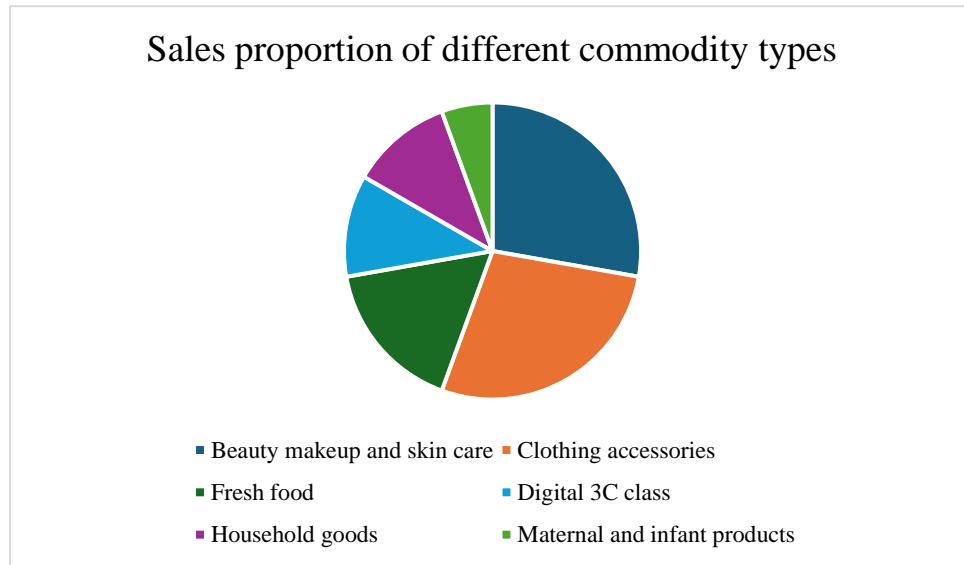


Figure 2. Online retail sales of physical goods (2019-2023)

As shown in Figure 2, the online retail sales of physical goods in China have been rising annually from 2019 to 2023. In conclusion, the live e-commerce industry in China has experienced rapid development in recent years, with an expanding user base, increasing transaction volumes, and continuous growth in industry penetration.



**Figure 3.** Sales proportion of different commodity types

As shown in Figure 3, the types of products sold via online live streaming are quite diverse. The mainstream product categories include beauty and skincare, fashion and accessories, food and fresh produce, digital electronics (3C), home goods, and maternal and child products, each of which occupies a different share of the market.

### 3. Forecast model of the online live streaming marketing market scale

#### 3.1. Data collection

According to the Q1 2024 report from Taotian Group (which includes Taobao, Tmall, etc.), the revenue for the first quarter of 2024 was 113.337 billion yuan, a year-on-year decrease of 1%. The revenue for the second quarter was 98.994 billion yuan, showing a year-on-year increase of 1%. The revenue for the third quarter was 98.994 billion yuan, also showing a year-on-year increase of 1%. The revenue for the fourth quarter is projected to be 136.09 billion yuan, showing a year-on-year increase of 5%.

#### 3.2. Forecast model

Based on the quarterly revenue report for Taotian Group in 2024, a regression model was used to derive equation (1):

$$y=61.955x+963.74 \quad (1)$$

Substituting  $x=5$  into the equation, the predicted revenue for Q1 2025 is approximately 127.3515 billion yuan.

From Figure 2.1, the regression equation for e-commerce transaction volume from 2019 onward is derived as:

$$y=11161(x-2018)-8468.8 \quad (2)$$

Substituting  $x=2024$  and  $x=2025$  into the equation predicts that the live e-commerce transaction volume for 2024 will be approximately 5849.72 billion yuan, and for 2025, it will be approximately 696.582 million yuan.

From this, it can be seen that the scale of online live streaming e-commerce is already substantial and will continue to expand in the coming years.

### 4. Analysis of influencer power in live streaming e-commerce

#### 4.1. Analysis of streamer characteristics

In the field of live streaming e-commerce, the influence of streamers is crucial. Taking the two major e-commerce streamers on the Douyin platform, Li Jiaqi and Dongfang Zhenxuan, as examples: Li Jiaqi covers a wide range of product categories, including

beauty and skincare, household items, food, maternity and baby products, pet supplies, fashion, and trendy toys & IP products. During his live streaming sessions, Li Jiaqi provides detailed product descriptions, including ingredients, effects, and target audiences, personally tests products to demonstrate their effects, emphasizes exclusive discounts for the live stream, and actively engages with viewers to enhance their sense of participation. In 2024, Li Jiaqi's sales revenue reached 2.53 billion yuan. During the Double 11 shopping festival, he participated in nearly 1,700 brands, with over 4,000 product links and more than 2 million completed orders. As of now, Li Jiaqi has over 35 million followers on the Douyin platform. The Dongfang Zhenxuan team, on the other hand, covers a variety of product types, including agricultural products, household items, beauty and skincare, books, and cultural tourism resources. The streamers in this team, benefiting from strong educational backgrounds, integrate knowledge explanations into their sales pitches. For example, Dong Yuhui introduced rice by associating it with famous poems, promoted local specialties while spreading traditional cultural knowledge (such as showcasing Anhui's unique arts in a special session), and added fun to live streams with short skits. In terms of sales, Dong Yuhui's "Yuhui Together" team had generated over 9.3 billion yuan in sales from about 621 live streams by January 7, 2025, and over 1 billion yuan in sales in the 80 days following their independence.

#### 4.2. Evaluation factors of streamer influence

E-commerce streamers with significant influence typically possess the following characteristics:

**Good Image and Credibility:** Without a solid reputation, e-commerce streamers often struggle to gain the trust of their followers. For instance, Li Jiaqi's image collapsed after the 79-yuan eyebrow pencil incident, causing a loss of over a million followers.

**Professional Knowledge and Skills:** Streamers need to have a deep understanding of the products or fields they cover. For example, beauty streamers should be familiar with various cosmetics, while game streamers must master the rules, strategies, and characteristics of the games they play. Only with solid professional knowledge can streamers provide accurate and valuable information, answer viewers' questions, and build trust.

**Mastery of Live Streaming Techniques:** Streamers who excel in communication and have good control over pacing can effectively convey product information to viewers and encourage purchases.

**A Solid Fan Base and Precise Targeting:** Streamers with a large and targeted audience can usually bring in more traffic and attract more people to make purchases.

### 5. Conclusion

In summary, this paper collects relevant research on live streaming e-commerce from both domestic and international sources and points out the current gaps in analyzing and predicting the sales influence of e-commerce streamers. By analyzing the industry overview and scale, and using regression models along with data from Taotian Group's revenues, this paper predicts the future market scale. Taking Li Jiaqi and Dongfang Zhenxuan's team as examples, the paper analyzes streamer characteristics and concludes that key factors for streamer influence include image credibility, professional skills, live streaming techniques, fan base, and precise audience targeting.

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