

The Current State of the Livestream Shopping Market in the US

Leyong Yang^{1,a,*}, Yitian Jiang^{2,b}, and Lehan Xu^{3,c}

¹New York University, New York, 10016, US

²Soochow Academy, Suzhou High School of Jiangsu Province, Suzhou, 215007, China

³Suzhou Foreign Languages School, Suzhou, 215011, China

a. yly1650792609@gmail.com, b. jessiejyt@sina.com, c. graciexlh@gmail.com

*corresponding author

Abstract: The global live-streaming market was significantly impacted by the COVID-19 pandemic in the first half of 2020. In this study, we aim to analyze the current state of the live-streaming shopping market in the US from the outbreak's onset to the present, i.e., 2022. In our research, our primary core approach is around the modeling of machine learning clustering. First, we used R language to get data from Twitter, the mainstream social media in the US, then used common word text mining to analyze 5000 tweets. After several trials and analyses, we confirmed the division of eight subgroups and three large groups (platforms, live beauty streaming, and blockchain virtual currency) after the final data analysis session. These specific groups demonstrate which parts of Livestream shopping are of particular appeal to American customers, providing other marketing ideas for merchants and platform partners.

Keywords: live streaming shopping, consumer behaviors, marketing strategy, shopping motivations

1. Introduction

Ever since the explosion of social media on the internet, Livestream shopping has become a dominant force in retail. So, what is live-streaming shopping? Well, it is a means by which an individual can sell an item using a "live stream" on a digital platform or social media page (e.g., Facebook, YouTube, Taobao). It allows viewers from different countries to present their products in real time and communicates with the seller via instant messaging. Doing so takes the shopping experience from the offline world to the online one.

The COVID-19 pandemic significantly impacted the global live-streaming market in the first half of 2020. Millions of individuals at the time were required to stay at home, giving internet retailers a fresh avenue for product sales. This new industry was profitable for the US as well. In 2020 and 2021, live-streaming e-commerce was forecast to generate between six and eleven billion U.S. dollars in online sales [1]. These, however, pale compared to the gains made in the Chinese market over the same period. According to the report, China's retail e-commerce sales value amounted to around 2.64 trillion U.S. dollars in 2021, representing a 14 percent year-on-year growth [2]. When the data above are combined, the overall return of the two markets is very different.

At the same time, we saw that various large platforms in the US, like TikTok and Facebook, occasionally released notices about Livestream shopping, some of which were positive and others negative. These behaviors show that the businesses have been less than forthcoming about this new method for selling and buying for the previous two years, resulting in an unsatisfactory market value. Thus, we sought to find out what behaviors of the general public would cause the business to be so wary and what the future holds for the US Livestream shopping industry.

However, little research has examined the advantages and disadvantages of this industry in America today. In the part that follows, we first take a broad look at the background of the live steaming retail market before concentrating much on three factors, all of which are crucial to the smooth running of a market. First, we use the R model to collect relevant data from Twitter during the previous three years. As a result of the data analysis, we discovered other relevant variables that could influence the growth of live-streaming sales. Additionally, our analysis offers helpful advice on how merchants and third-party platforms might use live streaming more effectively for product marketing.

2. Literature Review

2.1. Livestream Shopping

Along with the enormous revenues that Livestream shopping has created, more and more individuals have begun to study the driving forces behind this new industry and its prospects for the future. Some researchers have studied the individual, internal factors, and direct, external stimulation elements that affect consumers' purchasing intentions in live streaming e-commerce [3]. Other scholars provide deep insights for "enhancing the differentiated consumer experience by analyzing the design features of mobile, Livestream shopping platforms" [4]. However, to better analyze the health of the current live-stream shopping market in America, it is necessary to examine the market's trajectory within the last three years. Therefore, we will focus our discussion on the following points: platform factors, anchor factors, and customer factors.

2.2. Multi-channel Economics

Our research discusses the prospects for live selling in the United States. One of the reasons we inferred is that there is a single sales channel for the product in the US. "Within-channel Direct Selling is far inferior to Cross-channel Spillover Effects" [5]. The single sales channel is reflected in all parts of the sales chain. Firstly, with regards to consumer behaviors and shopping styles, it is more of a brand's merchants who influence their brand's products, lacking an independent and objective third party, thus affecting their credibility. This kind of direct communication and explanation between the third party and the customer is entirely different from the communication between the brand and the customer, which can significantly reduce the distance, and a third party who is good at propaganda can primarily increase the purchasing power of the customer. Secondly, the third-party and platform channel links also need to be improved. Like in China, where live selling is very successful, third-party platforms consciously cultivate the third party, i.e., the seller with the goods. For example, provide data support, algorithm support, resource advertising support, etc. furthermore, the total sales of goods depend on these lead influencers/anchors. Therefore, we propose that the US invest more in cultivating third-party (head anchors). Because the US is far better than China in the celebrity industry, it shows that the US media advertising industry is very mature. So, if the big e-commerce platforms in the US can use this media well to promote big lead anchors, then it will also be considerable progress in selling live goods.

2.3. Anchor Factors

Livestream shopping is an online marketing method for sellers to show and sell products through a real-time streaming platform [6]. Unlike traditional TV shopping, consumers today do not rely on single pictures and texts; instead, they prefer to watch live streams and know more details about the products through displays and the explanation of streamers. They can also "send messages to streamers to ask questions or interact with them in real-time"[7]. We call these streamers 'anchors.' An anchor is the only one the consumers can talk to in this relationship. They play a vital role in the decisions consumers make. In other words, anchors' characteristics in Livestream shopping may "influence consumer attitudes and behaviors"[8]. In the research of Zhu and Li, they conclude that anchors' physical attractiveness, professional ability, and social attractiveness indirectly influence consumers' intentions to follow anchors' suggestions and recommend them to others. A good anchor can introduce all aspects of a product attractively and understandably; the consumer is attracted by either the product or the anchor. Case-in-point: Austin Li and Via are both highly successful streamers in China; millions of people enter their live chat rooms. When the link of a product comes out, the product is sold out within a second. Thus, if anchors have professional skills or strong personalities, consumers are more willing to pay for the goods theoretically.

2.4. Consumer Factors

Livestream e-commerce is a new business model that can conduct real-time social interactions. Such interactions are not only between consumers and presenters but also between consumers and consumers [3]. When the consumer repeats the actions or expectations of others as a guideline for his or her purchasing habits, "the phenomenon of conformity-consumer conformity purchase occurs. Some researchers find that conformity behaviors have a significant positive impact on customer engagement" [9]. When the real-time trading volume of goods in the direct broadcasting room increases, consumers will feel that other people share their shopping risks and then have purchase intention [10].

Furthermore, social identity theory and social identification concepts may also be practical to explain why customers, especially in China, are willing to choose specific platforms (streamers) over and over again [11]. Social identity theory posits that people hold various social identities along with their identities [12]. Usually, people prefer to categorize themselves into many social categories with which they identify and establish social identifications that represent their oneness or belonging to particular social categories. [13]. "This social identification process is primarily used to establish self-consistency, self-esteem, and self-enhancement." [14]. In addition, recent research on social networks has confirmed the critical function of identification in demonstrating beneficial effects such as consumption patterns [15].

3. Methodology and Data analysis

In our research, our primary core approach was the text-mining and data clustering. We first used the R to collect data from Twitter. We used R because it is more effective in data crawling and cleaning. We used Twitter as the data source because it is one of the mainstream social media sites in the US and does an excellent job in user speech and communication.

In the first step, we extracted 5,000 tweets from a sample of over 20,000 in the first stage to analyze them more effectively. In this process, we initially picked "Livestream shopping" as our hashtag and searched Twitter for relevant posts; unfortunately, little valuable information was obtained because this term is not widely used in the United States. As a result, we chose to utilize hashtags like "live," "live shopping," and "e-commerce," which are more often used in our everyday life. Due to the

COVID-19 pandemic-induced lockdowns, Livestream selling drew a larger audience. Therefore, we selected important time boundaries and set the data period from the outbreak's onset to the present.

In the second step, we used common word text mining to read out the 5000 standardized and cleaned data. Because we grouped the data by common words, in addition to removing stop words and stemming process, we removed words with high repetition rates to ensure the validity of the results. After several attempts, the seven most frequent common words were removed (e.g., 'Livestream shopping,' 'live shop,' etc.). After removing the familiar words, the remaining high-frequency words were considered helpful, such as "online," which appeared 146 times, and "video," which appeared 143 times.

In the third step, we used metrics to find the optimal number of clusters. After analyzing the four matrices of our predicted groupings, we concluded that the most optimistic number of the classification is 7-10 groups. We finally confirmed the division of 8 subgroups during several trials for our analyses. We then ran the machine learning clustering eight grouping program on this basis. Of the eight groupings that had been assigned, we performed a test of relevance and ranked the words based on relevance. The relevance was calculated with the following relevance formula:

$$\lambda \times p(w|t) + \frac{(1 - \lambda) \times p(w|t)}{p(w)}$$

In our examination, we set lambda as equaling 1 based on Sievert & Shirley's metrics result(see Sievert & Shirley). Then similarities were found in the first 5 of the words already sorted to determine what the machine was trying to tell us about the grouping pattern.

In the final data analysis session, we manually sorted and grouped the eight groups that had been formed again. After deleting some less informative groups (groups in other languages and more general groups), we identified the top three informative areas of research based on the clustering: platforms, live beauty streaming, and blockchain virtual currency.

4. Conclusions and Implications

The category "platform" is extracted from the fourth and sixth groups, where the first high-frequency word in the fourth group is Instagram. The first high-frequency word in the sixth group is TikTok, revealing that users and merchants are very concerned about the platform. At the same time, the 'platform' has contributed significantly to the business model's success and sales growth. As previously mentioned in multi-channel economics, the platform's essential part is providing traffic, hardware and software support, and cross-platform industry chain connectivity. However, according to the fourth and sixth groups of other high-frequency words, the customer and the business needs are not adequately addressed. For example, the words "need," "want," "China," and so on are not lacking. The reason for the first two is the lack of, while the third one in our analysis may be because live streaming is a significantly developed industry in China. Hence, customers and merchants are disadvantaged in terms of horizontal comparison and analysis platforms.

The category "virtual currency" is mainly extracted from group 2, as the top 5 rankings are blockchain and virtual currency, after removing irrelevant and high-frequency words from other languages. This is not a coincidence, as virtual currency is a trendy topic in the US, with many businesses, such as Tesla, supporting virtual currency transactions. Moreover, in an era where there are hundreds of virtual currencies, customers create a need to buy but do not know which one to buy. Therefore, combined with the high-frequency words of group 2, we found out that if we combine the purchase hotspot of virtual currency with live streaming, the Livestream industry will significantly develop. As mentioned before, the "anchor effect" is a way to provide customers with a visual

explanation and a more personalized and detailed presentation of product features. Therefore, for a high-investment, high-involvement industry like virtual currency, live-streaming can provide customers with excellent tools for success.

For the group "live beauty," we extracted the topic from the related words in the third group. In the third group, the top 5 high-frequency words are "link," "beauty," "watch," and so on, which fully reflect the high demand of customers and businesses in the field of beauty for women.

Our conclusion about this group is that Livestream sales of beauty products will be a critical live streaming area for the US as virtual currency live streaming. First, women are the number one consumer, which is recognized worldwide. Secondly, beauty is an area that requires a high level of engagement and experience. Women often need to experience the color or product quality before they can conclude. Finally, as before, the offline shopping experience is more troublesome and inconvenient than online. Therefore, if someone can experience the product for them online, they will be able to see the product's various features more intuitively.

5. Implications and Other Influences

Online shopping and paying have been adopted for a long time in China to ensure consumers' reliability. This is primarily because of the variety of products sold online. In online shopping apps such as Taobao, consumers can find goods that cannot be found anywhere within a minute. Another apparent reason is that online shopping is very convenient and time-saving. Most young people in China are now office workers, so they do not have enough time to buy food or daily life stuff in offline shops. Thus, they choose another alternative way to purchase goods: online shopping.

The second reason is the price gap between online and offline shopping. For example, in China, online products are much cheaper than those they see in shopping malls. Moreover, when consumers watch live streams, they will certainly get an extra discount and Giveaway. In contrast, during some interviews with American buyers, we learned that there is no such massive gap between the two ways in the US. Moreover, sometimes the offline one is even cheaper than the online one. In this circumstance, buyers will choose to go to shops as they can take a closer look at the products and enjoy a lower cost.

Another vital cause is the government policies related to Covid-19. Policies the Chinese government published have mainly two effects: the popularity of smartphones and lockdown. We will discuss this two one by one. First, wherever people go, they must show the 'health code' to the staff member to prove they do not have the covid. People need to download apps and fill in some tables online to get the code. In this case, smartphones are needed, so even the old generation in China owns phones and can use some essential phone functions. When technological problems are solved, live-streaming shopping is open to a broader range of the public, and the elderly become potential consumers. Some social media, such as Kuaishou, are targeted at this group.

To a great extent, policies regarding lockdowns significantly contribute to the development of live-streaming shopping. From January 2020 onwards, countless cities in China have experienced lockdowns at least once. During the lockdown, people are banned from going out of their community, unit, or some cases, even the door of their apartment. Workers work at home; students study at home. At first, everything went smoothly, but after a few weeks, firms could not afford the wages for so many people due to delayed production. As a result, thousands of people faced unemployment and started seeking new job opportunities. At this time, a low-threshold and high-income job came to their sights: streamers. Meanwhile, others must find a new way to tackle the tedious time. They need someone humorous to talk to and distract them from the pain of staying at home, and this is precisely what live-streaming shopping provides.

Acknowledgments

Leyong Yang, Yitian Jiang, and Lehan Xu contributed equally to this work and should be considered co-first authors.

References

- [1] Stephanie Chevalier. (2022, Nov. 17). Live commerce market size in the U.S. 2020-2026. Statista.<https://www.statista.com/statistics/1276120/livestream-e-commerce-sales-united-states/>
- [2] Yihan, Ma. (2022, Aug. 1). Retail e-commerce sales in China 2020-2026. Statista. <https://www.statista.com/statistics/289734/china-retail-ecommerce-sales/>
- [3] Yan, X. (2022). Influencing Factors of Consumers' Purchase Intention in Live Streaming E-commerce: A Literature Review. *Frontiers in Economics and Management*, 3(4), 187-194.
- [4] Xiao, Q., Wan, S., Zhang, X., Siponen, M., Qu, L., & Li, X. (2022). How consumers' perceptions differ towards the design features of mobile live streaming shopping platform: A mixed-method investigation of respondents from Taobao Live. *Journal of Retailing and Consumer Services*, 69, 103098.
- [5] Liu, Z., Zhang, W., Liu, X., Muller, E., & Xiong, F. (2022). Success and Survival in Livestream Shopping. Available at SSRN 4028092.
- [6] Wongkitrungrueng, A., Dehouche, N., & Assarut, N. (2020). Live streaming commerce from the sellers' perspective: implications for online relationship marketing. *Journal of Marketing Management*, 36(5-6), 488-518.
- [7] Sun, Y., Shao, X., Li, X., Guo, Y., & Nie, K. (2019). How live streaming influences purchase intentions in social commerce: An IT affordance perspective. *Electronic Commerce Research and Applications*, 37, 100886
- [8] Zhu, L., Li, H., Nie, K., & Gu, C. (2021). How Do Anchors' Characteristics Influence Consumers' Behavioural Intention in Livestream Shopping? A Moderated Chain-Mediation Explanatory Model. *Frontiers in Psychology*, 12.
- [9] Ou, C. C., Chen, K. L., Tseng, W. K., & Lin, Y. Y. (2022). A Study on the Influence of Conformity Behaviors, Perceived Risks, and Customer Engagement on Group Buying Intention: A Case Study of Community E-Commerce Platforms. *Sustainability*, 14(4), 1941.
- [10] Man, J., & Xiangzhi, Z. (2020). Influencing factors of consumers' purchase intention in the environment of e-commerce webcast based on SOR model [J]. *Journal of Huaibei Normal University (Philosophy and Social Sciences Edition)*, 41(04), 49-57.
- [11] Hu, M., Zhang, M., & Wang, Y. (2017). Why do audiences choose to keep watching on live video streaming platforms? An explanation of dual identification framework. *Computers in Human Behavior*, 75, 594-606.
- [12] Tajfel, Henri, et al. "An integrative theory of intergroup conflict." *Organizational identity: A reader* 56.65 (1979): 9780203505984-16.
- [13] Ashforth, B. E., & Mael, F. (1989). Social identity theory and the organization. *Academy of management review*, 14(1), 20-39.
- [14] Bhattacharya, C. B., & Sen, S. (2003). Consumer-company identification: A framework for understanding consumers' relationships with companies. *Journal of marketing*, 67(2), 76-88.
- [15] Algesheimer, R., Dholakia, U. M., & Herrmann, A. (2005). The social influence of brand community: Evidence from European car clubs. *Journal of marketing*, 69(3), 19-34.