

Analysis of Shopping Addiction Behavior of Douyin Users under the Background of New Media

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Abstract: As a product of new media technology, live streaming commerce has emerged as a popular consumption trend. With its interactive nature, the variety of live streaming commerce formats continues to expand. Notably, food-related live streaming commerce has gained significant popularity among consumers. Increasingly, people are engaging in addictive behaviors, purchasing food products through these platforms. This paper focuses on examining the addictive behavior of new media users in food commercial live streaming, using Douyin as a case study. The research delves into the relationship between users' addictive behavior and the various types of live streaming commerce, the interactive dynamics between users and anchors, as well as the role of big data algorithms used by new media platforms. By exploring these relationships, the study sheds light on the captivating aspects of food commerce live streaming and its impact on consumer behavior.

Keywords: live streaming commerce, new media, Douyin, shopping addiction

1. Introduction

Douyin is a dynamic short video community platform that caters to users of all ages, providing a space to create and share short videos [1]. In late 2018, Douyin introduced its live streaming function, opening up new opportunities for commerce and interaction. Since then, many merchants and ordinary users conducted commercial live streaming in Douyin. The types of food Commercial living streaming are one of the most popular live broadcasts, and people also have the behavior of “buying addiction”. The research focus of this paper revolves around the content products of food-related commercial live streaming on Douyin. In contrast to traditional e-commerce live streaming, Douyin possesses unique technical advantages and distinctive product characteristics. A pivotal aspect in forming the recommendation flow of food commercial live streaming on Douyin is the distribution of information based on intelligent algorithm recommendations [1]. The system effectively integrates diverse recommendation algorithms to deliver personalized recommendation streams to users, enhancing their engagement and immersive experience with the app's content. By exploring these aspects, the study aims to gain valuable insights into the impact of intelligent algorithms on shaping user interactions and preferences within the food commercial live streaming context on Douyin. The App platform with User Generated Content [2] as the content production mode effectively solves the contradiction between limited attention and massive content by adopting intelligent algorithm recommendation. It can not only meet the current information needs of users, but also tap the potential information needs of users through modeling. The platform enhances users' loyalty and satisfaction

by recommending short video content that meets their personal interests and hobbies. Among them, the recommendation algorithm plays a crucial role in understanding users' underlying value needs by analyzing their historical interactions. By leveraging this data, the algorithm can infer the content that users are likely to enjoy, enabling the provision of a personalized recommendation stream tailored to each individual user. The reasonable interaction between technology and content enhances the immersive experience of users. Therefore, the primary objective of this paper is to investigate the motivations driving Douyin users to watch food-related commercial live streams. The study will also explore the impact of the Douyin platform on users' behavior and examine how new media platforms functionally address users' emotional needs.

2. Analysis of Commercial Live Broadcast Based on Douyin

Founded in 2016, Douyin Company is a social media network company focusing on short video sharing. With the introduction of the "Douyin Live Broadcasting" feature in 2017 [3] and the subsequent expansion into e-commerce live streaming in 2020, Douyin has revolutionized the social media industry in China. Its unique user experience and advanced technology have attracted a substantial user base, leading to rapid growth and significant influence within the Chinese social media network industry. According to The Paper's first-quarter 2022 report on Douyin user demographics, the platform is predominantly popular among female users, with the majority falling within the age range of 25 to 30 years old. Moreover, a significant portion of users reside in first and second-tier cities, accounting for more than 60% of the total user base. Among the diverse content categories available on Douyin, education, food, travel, funny, and entertainment videos hold significant popularity, with education and gourmet foods claiming the highest share. Compared to traditional shopping platforms, Douyin prioritizes user experience, offering social and entertaining content with commerce as a supplement. In Douyin, short video creators, known as anchors, attract fans through high-quality content, eventually leading them to the live commercial rooms for product sales [1]. The process of accumulating and transforming fans in Douyin is longer than that of Taobao's live streaming, emphasizing the importance of popularity in Douyin's commercial live streaming. Unlike traditional e-commerce platforms, Douyin's sales primarily occur through live streaming [1]. Short video users play a significant role in Douyin's ecosystem, and the relationship between consumers and food anchors will be further analyzed [2].

3. The Influence of Food Anchors on Consumers' Addictive Behavior

The live broadcast room serves as a direct platform for consumers to make purchases. The host's actions are in sync with the viewers' interactions, making media an extension of the human body. Compared to traditional methods, live streaming commerce has significantly enhanced the efficiency of media usage, enabling users to watch live broadcasts on their mobile phones anytime and anywhere to gain real-time insights into products. Douyin's mobile application and vertical screen format align perfectly with users' habits. In this study, the author categorizes food-related live streaming commerce on Douyin into three types: the anchor introducing and commercializing food products, the anchor slow-broadcasting the process of eating food, and, at times, combining both approaches in a single live session. The third category involves collaborations with offline stores to showcase the food production or sales process. Regardless of the type, the ultimate goal of all food-related live streaming commerce is to attract consumers and drive product purchases [4].

3.1. Interaction Between Anchors and Consumers

3.1.1. Emotional Interaction During Living Streaming Commercial

The core of interactive ceremony chain is “participants’ mutual concern and emotional chain” [5], and interactive ceremony is the process in which users pay attention to and interact with each other and produce emotional chain. In an interactive ceremony, participants can finally get the emotional experience of “group unity, personal emotional energy, group symbols and moral sense”. Collins particularly emphasized the concept of “emotional energy” [6], which he believed was an important driving force for the development of interactive ritual chain. Ritualization has played a pivotal role in enhancing the emotional bond between anchors and consumers, leading to the emergence of “fan loyalty” as a significant indicator for influential anchors to negotiate with brand merchants [1]. As a result, the emotional energy generated during the live broadcast process has a profound and direct impact on users. The deep emotional connection established through rituals further cements the viewers’ attachment to the anchor, contributing to their engagement and loyalty to the brand or products being promoted. In the process of e-commerce live broadcast in Douyin, there is interaction among anchors, consumers and commodity content [7]. The establishment of e-commerce living platform enables anchors and consumers to freely discuss and conduct activities around the common concern of products. For example, in the process of watching the live, the anchor will invite users to join the fan group and name their fans as unique titles, and the members of the fan group will enjoy preferential treatment in the purchase of some goods. When leaving a message in the live broadcast room, the fan group logo of the participant will be displayed after the text. Douyin has also introduced the function of dialogue between users and anchor. Moreover, to maintain participant interest, anchors strategically distribute red envelopes at irregular intervals during the live broadcast. The money of these red envelopes is occasionally determined based on the fluctuation of participant numbers. In highly popular live broadcast rooms with high demand for products, anchors often organize limited-time snap-up events to incentivize fans to maintain a heightened level of interest in discounted products. By setting a time constraint, fans are encouraged to swiftly make purchase decisions, thereby stimulating increased viewership and participation in the snap-up. This approach effectively fosters a sense of urgency and excitement among viewers, enhancing their engagement and motivation to participate in the live broadcast and make timely purchases [8].

Through the fusion of physical presence and virtual space during the interactive process, external emotional behaviors serve as stimuli that generate emotional energy between participants. This emotional energy fosters the formation of group symbols and a sense of belonging, maximizing the participants’ emotional engagement. Consequently, participants are motivated to engage in circular interactions, such as making repeated purchases in the live broadcast room. The sense of community and emotional satisfaction derived from these interactions further reinforces users’ desire to participate and engage in live streaming commerce repeatedly [9].

3.1.2. The Shaping of Mobile Social Space in the Process of Live Broadcast

The new communication system has completely changed the basic dimensions of human life: space and time [10]. Regional disintegration is divorced from the significance of culture, history and geography, and re-integrated into functional network or image collage, resulting in mobile space replacing local space. The food commercial living streaming room is such a mobile meaningful space -“live food production or sales process”. The introduction of live broadcast technology disrupts the conventional understanding of the spatial relationship between places. Through seamless connection to mobile communication networks and the alteration of personal nodes, a mobile gourmet store, such as a live food commercial broadcast room showcasing the candy packaging process, is created. Real-

time interactions facilitated by the camera foster a sense of proximity, as if the audience is physically present in the same room, witnessing the candy packaging and delivery process. This immersive experience enhances viewer engagement and emotional connection.

However, it is important to recognize that this new form of space does not solely replace geographic space with cyberspace. Rather, it represents the integration and reorganization of media technology within daily life. Live broadcast media combines diverse communication forms, constructing novel communication situations while reshaping the context of everyday life. As a result, users feel more deeply involved in the viewing process, blurring the boundaries between physical and virtual spaces, and establishing a more intimate and interactive relationship with the content being presented.

3.2. Dramatic Marketing in the Live Broadcast Room

In mimetic theater theory, the term “performance” refers to the practice of “impression management” employed by individuals during their interactions in everyday situations. This concept views human interactions as a dramatic stage where individuals construct themselves akin to actors on a theatrical platform. Through their performances, individuals seek to gain recognition and validation from others, effectively managing the impressions they leave on those around them. In the living steaming of gourmet products, anchors usually perform exaggerated performances to show the delicacy of the products. Indeed, in the realm of live streaming commerce, anchors adopt various personas to captivate their audiences. Some anchors may portray themselves as a “big stomach king,” showcasing their voracious appetite, while others use exaggerated language to make the products appear more enticing. Additionally, certain anchors adopt a “knowledge-based” persona, providing in-depth explanations about the products on offer. Regardless of the approach, the audience witnesses products that have been skillfully “processed” by the anchor, amplifying their desire to make a purchase. Douyin continually adapts its content push strategy based on users’ interests, providing them with high-intensity and highly engaging content. As users are exposed to these stimulating experiences, they become more enticed to strengthen their behaviors by seeking out even more intense, sustained, and profound stimuli. This cycle of interaction creates a reinforcing loop, where Douyin’s content resonates with users’ preferences, prompting them to seek out more of the captivating experiences the platform offers. Consequently, users become increasingly engaged and addicted to the platform as they continuously pursue these high-intensity pleasures. In addition, some live broadcast rooms will establish a limited-time snap-up mechanism, which can buy goods at a cheaper price within a limited time, giving users a sense of satisfaction of “value for money”, and sometimes live broadcast rooms will attract users by means of “hunger marketing”. Overall, Douyin live streaming has deepened users’ addictive behaviors by meeting users’ emotional needs through a multi-pronged approach.

4. The Influence of the Douyin on Users’ Addictive Behavior

4.1. Collaborative Filtering Based on User Basic Information

The recommendation algorithm based on users’ basic information not only saves the time cost for users to find excellent content, but also enables the platform operators to have a comprehensive grasp of users’ detailed information, which helps adjust the platform development strategy, content production positioning and accurate advertising, and achieves a win-win situation for users and platforms. In the entire algorithm recommendation system [1], collaborative filtering based on user basic information is the most commonly used recommendation method. User basic information mainly refers to the basic information of users when registering accounts on the platform. If users log in through social media accounts such as QQ, Weibo and WeChat, it is the basic information of these

social media accounts, such as gender, age, constellation. Collaborative filtering algorithm based on users' basic information mainly considers the similarity between users. As long as the content that similar users like is found, such content can be recommended to other similar users. In practice, when the basic information of users A, B, C, and D exhibits a similarity level of over 90%, the platform can leverage this data to recommend content that users A, B, and C have shown interest in to user D. During the early stages of a user's engagement with a platform, the content recommendations they receive are typically generated through collaborative filtering, which takes into account the basic information of other users with similar preferences. Additionally, regional location plays a significant role in the algorithm recommendation process, providing valuable input for tailoring content suggestions based on users' geographical proximity and regional interests. Regional location plays a significant role in algorithm recommendations on Douyin. The platform uses GPS to identify users' locations and then pushes relevant videos accordingly, even if they don't access the same city module. On the homepage, Big Data automatically recommends "live broadcast rooms of interest" for regular viewers of commercial live broadcasts, alongside videos and shopping links related to the live broadcast. Geolocation accuracy extends to neighboring roads, further enhancing live broadcast recommendations. Notably, food-related commercial live broadcasts make up a considerable portion of local recommendations.

4.2. Accurate Recommendation Based on Users' Social Relationships

The biggest feature of social media is decentralized peer-to-peer communication, and each user is an indispensable part of the communication node [6]. The social behaviors such as users' attention, comments, likes and so on have become one of the important bases for the platform to consider users' preferences. Algorithm recommendation based on user's social relationship can be divided into two types: one is strong relationship recommendation represented by a social graph; the second is the recommendation of weak relationships represented by interest maps. Social atlas refers to the social network atlas constructed with real acquaintances such as relatives and friends, classmates and colleagues, club members and friends of friends as the main communication objects. In Douyin platform, once close friends such as relatives, friends, classmates and colleagues join in the social graph, users will usually pay attention to each other, and when they see videos posted by friends, they will also forward, post or like them. The platform will also give priority to recommending the content posted by close friends through algorithms. An Interest map refers to a social network map based on common majors, interests, hobbies, topics and so on. Currently, the algorithm recommendation of Douyin platform is mainly based on the weak relationship recommendation of the interest map. Upon opening the Douyin interface, users are greeted with the content flow pool on the homepage, allowing them to navigate through videos and live broadcasts by sliding up and down. The platform's recommended videos are primarily based on users' social interactions, such as browsing, likes, shares, and posts [2]. Through data-driven methods, Douyin explores users' interests, aiming to deliver entertaining content for their enjoyment. This "lazy interaction" approach significantly enhances user engagement and loyalty. However, this increased stickiness may also reduce users' willingness to explore other sections of the app. The probability of using nearby and attention modules may decline, as users become glued to the high-quality content shared by prominent users. As a result, centralization is further intensified, potentially leading to a less diverse content experience for users. In reality, users have diverse needs and preferences, and relying solely on a data-driven, weak relationship recommendation approach may not fully cater to individual tastes.

5. Conclusion

In conclusion, the addiction of users to video commercial live broadcasts is a widespread phenomenon in the live streaming business, influenced by various factors. This article examines the case of Douyin's gourmet live broadcasts and identifies three key strategies employed by the platform to attract viewers. The recommendation algorithm considers users' basic information and social connections, saving their time by offering personalized content recommendations. Moreover, the platform accurately recommends content based on the distinct characteristics of each live broadcast room, enhancing user engagement and participation. Furthermore, in the context of a consumer society, the practical value of products alone does not solely influence consumers' buying behavior. The combination of the live broadcast anchor's performance and the platform's algorithm greatly amplifies users' buying emotions, intensifying their addiction to purchasing products showcased in live broadcasts. The study, however, is limited in scope, focusing solely on Douyin users' addiction to live food content from the perspectives of the anchor and the platform, without employing quantitative methods and lacking in-depth and targeted research.

In future research endeavors, the aim is to broaden the scope and universality of the study beyond food-related commercial live broadcasts. By exploring the decisive factors that commonly contribute to users' addiction to live shopping, the research seeks to deepen the understanding of user behavior and addiction in the live streaming commerce domain. Through more targeted investigations, a comprehensive understanding of user addiction to live shopping can be achieved.

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References

- [1] Yang Y, Ha L. Why people use TikTok (Douyin) and how their purchase intentions are affected by social media influencers in China: A uses and gratifications and parasocial relationship perspective[J]. *Journal of Interactive Advertising*, 2021, 21(3): 297-305.
- [2] Chen Z, He Q, Mao Z, et al. A study on the characteristics of douyin short videos and implications for edge caching[C]//*Proceedings of the ACM Turing Celebration Conference-China*. 2019: 1-6.
- [3] Douyin official Website. 2023 <https://www.douyin.com/>
- [4] Xiang Yang. The Communication Mechanism and Guidance Strategies of "Eating and Broadcasting" in the Context of Media Culture—Taking Bilibili as an Example [J]. *Journal of Harbin University*, 2022, 43(12): 105-108.
- [5] Collins R. *Interaction ritual chains*[M]. Princeton university press, 2004.
- [6] Zhang M, Liu Y, Wang Y, et al. How to retain customers: Understanding the role of trust in live streaming commerce with a socio-technical perspective[J]. *Computers in Human Behavior*, 2022, 127: 107052.
- [7] Lu B, Chen Z. Live streaming commerce and consumers' purchase intention: An uncertainty reduction perspective[J]. *Information & Management*, 2021, 58(7): 103509.
- [8] Dolezal L. The phenomenology of self-presentation: describing the structures of intercorporeality with Erving Goffman[J]. *Phenomenology and the Cognitive Sciences*, 2017, 16: 237-254.
- [9] Fadillah F, Kusumawati N. Factors affecting makeup products online impulsive buying behaviour on TikTok[C]//*Proceeding book of the 6th International Conference on Management in Emerging Markets (ICMEM 2021)*. 2021.
- [10] Castells M. *The Rise of the network society Volume 1 With a new preface*[J]. *Book The Rise of the network society*, 2009, 1: 91.