

Key Factors in Virtual Gift Buying Behaviour in the Live Game Category Streaming: A Social Cognitive and Cultural Perspective

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Abstract: As live streaming based on a variety of content is growing globally, viewers are becoming accustomed to a model that allows them to interact with content creators in real time; as a result, commercialization businesses based on live streaming are proliferating. These commercialization businesses include live-streaming platforms offering virtual gifts that viewers can purchase to give to content creators, purchasing a streamer's fan badge to show continued support for the streamer, or purchasing merchandise from the streamer's merchandise window, among others. Among them, virtual gifts are the paying behaviour with the highest percentage of viewers. Based on this background, studying what influences consumers' decisions about virtual gifts is essential. This paper adopts a literature review approach to analyze several academic literatures as well as identify the key factors, social, cultural, and psychological, of virtual gift purchasing behaviours of consumers in the live gaming industry, and comb through the key findings of these current studies. In addition, this paper also proposes future research directions and relevant suggestions for specific practices based on the above factors, providing ideas and references for researchers and practitioners of virtual gift marketing. Due to the diverse perspectives of existing related research, the integration, analysis and recommendations in this paper will be of significance to future researchers and stakeholders in systematically understanding viewer behaviour, helping the function of virtual gift rewards on live broadcasting platforms in China, and enhancing the economic benefits as well as live broadcasting viewers' experience.

Keywords: Virtual gifts, Purchasing behaviour, Live gaming, Social cognitive factors, Cultural factors.

1. Introduction

Initially, gamers began to use live streaming platforms to communicate and share gameplay more intuitively [1]. With the increasing popularity of the live broadcasting business, this mode is increasingly accepted and recognized by the public, providing more opportunities for viewers to interact with the streamers [1]. However, virtual gifts are a paid function that must be addressed in the interaction process between streamers and viewers. This is because, as a digital commodity, virtual gifts have become an important bridge connecting viewers with streamers and fans with content creators. This is because viewers seek to establish and maintain social relationships with

content creators and other viewers by giving virtual gifts. These relationships include "Para-Social Relationships" (PSR), which refer to the hypothetical friend-like relationship between viewers and media content creators, and "Social Presence" (SP), which relates to viewers' perception of other viewers in the live stream [2]. Therefore, the above indicates that today's live stream viewers are not satisfied with free chatting and communication with streamers on live streaming platforms to maintain their relationship with their favourite streamers. For these viewer-streamer interactions, they use virtual gifts as a medium to show their support and love for the streamers by showing their presence to the streamers or other viewers more than just typing text in the chat box. So, this paid feature converts free viewers who want to interact with the streamers to paid viewers, bringing additional financial gains to the platform.

The facts prove it. From the data, in China, one of the regions where the game live broadcasting industry is developing rapidly, giving rewards and gifts to game streamers is the highest percentage of paying behaviour of game live broadcasting users, amounting to 66.3%, followed by purchasing products brought by game streamers [3]. Viewers' expenditure on virtual gifts on some platforms even accounted for 80% to 90% of the platform's total revenue, reflecting the importance of virtual gifts in the live broadcasting economy [4]. The reason for this is that, from the point of view of the reasons for users to watch live game consumption, they think that "the content of the live broadcast meets my needs" (45.7%), "the streamers have more talent and is good at it" (42.5%), and "the content of the live broadcast has a value" (35%) are more likely to promote consumption behaviour, so "satisfying needs" is the fundamental motivation for consumption behaviour [4].

This is evidenced by data from Zhu, Yang, & Dai's study, which shows that the total value of a gift is usually higher when the number of viewers of a live-streaming channel and the amount of time they spend on the channel are higher. More viewers can interact and give gifts, directly increasing the total number. At the same time, the longer viewers stay on the channel, the more the live broadcast attracts viewers [5].

However, "content appeal" and "demand" are vague concepts. The content of a live broadcast can be the gameplay of the host, or it can include elements such as the host's high-frequency interactive behaviour or the community cohesion of the host's fans that the host has called upon during the broadcast, as well as virtual gifts that are inherently interactive, such as gift effects that allow for interaction with the host, or gifts that can be used to trigger a specific gameplay action by the host automatically. Despite these findings, researchers and practitioners still need to identify why live streaming meets the needs of viewers. Therefore, in recent years, more and more studies have focused on virtual gift-buying behaviour from multiple perspectives to learn more about the factors influencing consumer behaviour and the motivation to give gifts.

However, the existing research results are scattered and need a systematic review and integration. Therefore, this paper aims to review the existing literature, identify the critical factors of virtual gift-buying behaviour, and provide directions for future research. This study's significance synthesizes existing research results on virtual gift-buying behaviour. From the existing studies based on Chinese and Korean live game platforms, this paper explores the key factors influencing viewers' virtual gift purchasing from two perspectives: social cognition and culture, respectively. Based on this perspective and on improving the attractiveness of live broadcasting, specific practical suggestions are made to meet the needs of viewers to achieve higher economic revenues from virtual gifts. This paper not only helps researchers understand the factors of virtual gift-buying behaviour more comprehensively but also provides valuable practical implementation suggestions for live streaming platforms and content creators to optimize the user experience and the business model. This paper will identify the key findings of the current study, as well as propose future research directions.

This paper intends to develop the research through the following steps: first, the research and motivation of this paper are introduced in the introduction; second, this paper will conduct a literature

review by combining the research findings on how these factors influence consumer behaviour from social, cultural, and psychological aspects, respectively. Finally, the paper will identify why live-streaming content can satisfy consumers' needs for virtual gifts and provide concrete suggestions for future research directions and practitioners in China.

2. Literature Review

Through a literature review, this paper focuses on the social, cognitive, and cultural factors of consumers' purchase of virtual gifts.

2.1. Social Cognitive Factors

First of all, viewers' buying virtual gifts for streamers is based on the fact that live broadcasting satisfies their desire to increase their sense of social presence.

Yu et al. collected data through an online questionnaire and analyzed data from live broadcasting platforms in South Korea based on social interaction theory and community belonging theory. Their study found that the higher the viewer's engagement, interaction with the streamers, and sense of community belonging, the more likely the viewer's gift-giving behaviour was to be stimulated, and the more emotional connection with the streamers, the more likely the viewer's willingness to give gifts was to be strengthened. Viewers demonstrate their social status and gain recognition from others by purchasing virtual gifts. Specifically, streamers will ask fan members in the fan community built around the streamers to demonstrate their loyalty or identify themselves among other viewers in various ways, including giving virtual gifts [6].

In addition, Gong et al. used a Heckman two-stage regression model to analyze the antecedents of viewers' gift-giving behaviour by observing real-time data from 988,829 viewers on the Chinese Douyu live streaming platform. The main findings are that self-expression, proposed social relationship, and live-streaming loyalty all positively affect the monetary value of virtual gifts given by viewers; when viewers feel a sense of group presence, they will consolidate this relationship by giving gifts to show their unique position in the group. In addition, viewer presence has a negative moderating effect: when a viewer sees that many other viewers are giving gifts, he may feel pressured to give gifts, even though he may not have wanted to show himself by giving gifts [7].

Li & Guo's study explored viewers' motivations for interactive behaviours in live game streaming, including information sharing, social presentation, trend following, sense of belonging, and killing time. The study found that information sharing, trend following, and sense of belonging significantly influenced the frequency and amount of virtual gifts sent by viewers. The study explicitly suggests that because virtual gifting publicizes the giver's nickname and the gift's type or value, high-value virtual gifting also gains prominence and a sense of belonging among the viewer community. Therefore, the study concluded that virtual gifts mainly reflect the need to integrate into the community and convey emotions and are a means for viewers to "seek recognition" in live game broadcasting [8].

2.2. Culture Factor

Cultures specific to different regions influence consumer behaviour. For example, in China, the specific social culture significantly influences the relationship between Chinese viewers and streamers, which makes viewers want to give virtual gifts to enhance their sense of personal achievement and group belonging within the scope of streamers and other viewers.

Chen & Wu's study explored the effects of streamers' characteristics, viewers' cultural characteristics, immersion experience, and emotional attachment on viewers' behaviours, and the results showed that streamers' charisma, viewers' cultural background, and immersion experience

significantly influenced viewers' willingness to purchase virtual gifts. Among them, viewers' sense of face has the most significant impact on the sense of belonging. In China, the unique "face" culture of social interaction motivates viewers' purchasing behaviour. These regional social cultures encourage viewers to actively connect with streamers and other viewers to enhance their sense of belonging to the community. This can be reflected in how viewers show their recognition, understanding, and support for specific live broadcasts of streamers and other viewers by giving virtual gifts to increase their sense of personal fulfillment in the group [9].

A study that also deals with the influence of Chinese society and culture on live streaming comes from Guan et al. They explored the effects of social presence, self-presentation, two-way communication, and streaming experience on viewers' intention to purchase virtual gifts while considering the role of cultural characteristics. The study's main findings were that social presence and self-presentation significantly enhanced viewers' purchase intention. In contrast, the streaming experience enhanced viewers' purchase intention, prompting them to purchase virtual gifts to perpetuate the pleasurable feeling. In a highly socialized environment such as China, such social perceptions contribute to developing a midstream state, making viewers more inclined to express their support for the streamers and other viewers by purchasing virtual gifts [10].

3. Research Methodology

This study will conduct a literature review based on secondary data, including existing academic literature, conference articles. The research design includes literature search, literature screening, theory extraction and synthesis.

This study conducted global literature screening through multiple databases with the keywords "game live streaming virtual gift" and "gift-sending in game streaming." The scope of the screening was literature published between 2017 and 2024. After obtaining the search results, the researchers further excluded the literature not related to the research topic by looking at the titles and abstracts of the literature. The final literature included needed to meet one of the following criteria: first, the literature met the research topic related to consumers' rewarding behaviour for virtual gifts; or, the research topic covered e-sports category live streaming related; and lastly, the literature provided results. Due to the limited number of studies on virtual gifts under the game category live broadcasting platform, a total of 15 relevant research literature were finally screened out, and this paper demonstrates that they have the six with the most substantial relevance to the topic of this paper. Existing studies mainly focus on business economics while involving social behaviour, psychology, computer science, and other subjects.

4. Discussion and Insights

Taken together, the key findings of the above literature show that social and cultural factors all significantly impact viewers' virtual gift-purchasing behaviour on Korean and Chinese game-based live-streaming platforms. First, viewers' social cognitive factors most significantly influenced their purchasing behaviour. Viewers demonstrated their status in the viewer community by purchasing and giving virtual gifts to hopefully enhance their emotional connection and identification with the host and the community.

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Second, the cultural background of the live broadcasting environment also significantly affects viewers' purchase intention. In different cultures, for example, in China, due to the influence of "face"

culture, viewers show a more profound willingness to purchase virtual gifts to face the pressure from other viewers and to show their sense of achievement by giving virtual gifts to streamers.

Although there are differences in research methods and theoretical frameworks among different studies, they all empirically demonstrate the importance of social cognition and cultural factors in influencing the consumption decisions of live-streaming viewers. For live streaming platforms and content creators, this paper helps them to understand how to define attractive "content" and viewers' "needs," as mentioned above. Based on the above findings, this paper suggests that what helps viewers to increase the length of time they spend in the live streaming room is likely to come from the interactive live streaming room; high interactivity helps the live streaming content to be more appealing, which makes the viewers more willing to stay in the live streaming room for a more extended time to interact with the streamers. Secondly, viewers demand increased identification within the viewer community and a sense of personal fulfillment within a particular culture by consuming virtual gifts.

Based on the above analysis, this paper offers the following recommendations for practitioners from China. First, based on social cognitive factors, streamers and live-streaming platforms can design more interactive features based on virtual gift purchases to enhance viewers' connection with their "fanbase," i.e., the community built around the anchor. For example, increasing the exclusive chat room and fan community homepage or from the platform side to guide the anchor in the audience interaction, such as carrying out based on the number of virtual gift streamers with the audience to play the game activities. The alternative is introducing AI technology in the live broadcast room in real-time instead of the anchor and the audience interaction or some rewarding small question-and-answer session to increase emotional connection.

From the anchor's point of view, AI technology also carries out emotional analysis; real-time monitoring of the audience's emotional changes in the live broadcast process, real-time feeling of the audience's needs and thus timely adjustments to the anchor's live broadcasts, discourse strategy.

In addition, streamers and platforms can use cultural characteristics to stimulate Chinese viewers' consumption behaviour by designing high-value virtual gifts so that viewers can show their social status in the group. For example, a demerit point system is introduced, where points are earned through viewing hours, frequency of interaction, and number of gifts given, and points are exchanged for high-value gifts with higher picture quality and a range of special effects. This gamification mechanism motivates viewers to participate in the interaction for a more extended period and provides better incentives for viewers to spend money on rarer and more expensive gifts.

Future research directions can be centred on the following two aspects. First, there is a need to explore further the differences in virtual gift-purchasing behaviour in different cultural contexts. For example, the cultural differences between high-context and low-context countries to study the similarities and differences affecting consumer decision-making in live gaming platforms in different country regions. This will help understand cultural context's impact on virtual gift-buying behaviour globally. Secondly, the development of AI technology is positively affecting the live-streaming industry. Based on the user behaviour prediction and personalized recommendation aspects of this technology, researchers can conduct a more detailed study of virtual gift consumption behaviour in the gaming category in the live broadcasting industry to enhance the overall user experience and platform revenue.

In addition, the research in this paper has the following areas for improvement. First, as this paper mainly relies on secondary data for the literature review, although it can summarize the different conclusions demonstrated by multiple works of literature, it needs more empirical research based on data, which may limit the accuracy of the findings.

In addition, although this study discusses the cultural factors of consumer behaviour, it mainly focuses on the Chinese context. The Chinese "face" culture plays a vital role in virtual gift-purchasing

behaviour, but whether this finding applies to other cultural contexts requires further research and proof. Future research should conduct comparative studies in different cultural contexts to reveal the impact of cultural differences on virtual gift-buying behaviour.

5. Conclusion

This paper identifies the critical roles of social identity and cultural factors in consumers' consumption behaviours towards virtual gifts in live game broadcasting based in China and South Korea through a literature review of existing research findings. These findings suggest that social cognition, such as community identity, significantly influences consumers' purchase intentions. Meanwhile, cultural factors such as social presence and self-presentation significantly affect purchase intention in different cultural contexts, and the streaming experience further enhances viewers' intention to purchase virtual gifts to keep pursuing this pleasurable feeling. Especially in China, the "face" culture motivates the purchase behaviour.

Reviewing the existing literature, this paper proposes specific practice recommendations for stakeholders from the above two perspectives. This paper suggests that practitioners can increase the amount of interaction by designing features that increase interaction, such as a fan page, or by introducing the help of AI technology to conduct real-time Q&A in the live broadcasting room. In addition, from the perspective of live broadcasting, AI technology can help streamers adjust the interaction strategy of live broadcasting heavily through sentiment analysis. In addition, based on the cultural perspective, practitioners can increase the social status of viewers in Chinese face culture by unlocking gifts with more significant special effects or more expensive gifts for viewers based on their viewing hours or consumption amount.

The findings of this paper are instructive for practical applications. Understanding these factors can help optimize the user experience and business models for live-streaming platforms and content creators. Therefore, understanding these factors is more helpful for them in understanding how to satisfy viewers' needs. Future research should further explore the differences in virtual gift purchasing behaviour across cultures and how the application of emerging technology AI can influence consumer behaviour in the future.

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