Sitting at home and interacting with food producers in real-time: The impact of the interactivity of Live Streaming Shopping on consumers' food purchase intention

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Sitting at home and interacting with food producers in real-time: The impact of the interactivity of Live Streaming Shopping on consumers' food purchase intention

Abstract:

With the development of real-time video distribution technology and the popularization of social media, Live Streaming Shopping (LSS) has changed how sellers interact with consumers. More and more brands and sellers use LSS to broaden new marketing channels for food sales. The LSS food marketing model is still in the exploratory development stage and lacks relevant research. This study investigates the impact of LSS interactivity on consumers' intention to buy food. Based on qualitative research methodology, we interviewed 15 Chinese LSS experts. Through statistical analysis of IRAMUTEQ software and manual analysis, this study identifies the potential impact of two-way communication, para-social interaction, responsiveness, and immersion on consumers' intention to purchase food. We hypothesized that consumer-perceived value mediates the relationship between them. The findings of this study have important implications for the development and application of LSS food sales models.

Keywords: Live Streaming Shopping, interactivity, food purchase intention

Track: Digital Marketing & Social Media

1. Introduction

With the emergence and development of networks and new technologies, digital business models have evolved. Live Streaming Shopping (LSS) offers consumers a new channel and motivation to shop online due to the addition of live streaming technology. Its interactivity empowers direct and real-time two-way communication between sellers and consumers (Kang et al., 2021). This new online sales model shows excellent global growth potential, especially in China, the United States, and Southeast Asia. According to the 53rd Statistical Report on the Development Status of China's Internet Network released by China Internet Information Center (CNNIC) in March 2024, as of December 2023, the scale of China's webcasting users reached 816 million. Among them, the scale of LSS users was 597 million, accounting for 54.7% of the overall Internet users.

In the post-pandemic era, consumers increasingly demand higher quality and safety of food products. As a result, the market requires food sellers to innovate marketing models to change how consumers access product information. With the increase in mobile internet and smartphone penetration, digital marketing for food is proliferating. Especially given the immediacy and visibility of real-time video, LSS shows excellent potential for development. Currently, in the Chinese market, more and more food sellers use a variety of strategies and formats to introduce and market their products in LSS, such as picking and tasting fruits in an outdoor orchard or cooking a dish using one of the products for sale (Song et al., 2022). Multiple forms of interaction enhance consumer engagement and consumer trust. Moreover, consumers' perceived value and value co-creation during the purchase process significantly impact their purchase intention. Therefore, this study aims to investigate how LSS interactivity affects consumers' intention to purchase food through LSS through consumers' perceived value.

Based on the research questions, this study focuses on the following three areas: interactivity, perceived value, and food purchase intention. Firstly, Section 2 reviews relevant literature on LSS food marketing, including its current situation, the definition of interactivity and its characteristics of different dimensions, and various classifications of consumer perceived value. In Section 3, we will propose a conceptual framework for this study. In Section 4, this study will introduce the methodology, including research design, data collection, and data analysis. Then, statistical results and descriptive analysis will be presented in Section 5. In the last section, we will summarize the implications and limitations of this study.

2. Literature Review

2.1. Live Streaming Shopping

Live streaming shopping (LSS) has been an essential product of the evolution of digital commerce in recent years. Live streaming enables people to communicate in real time by breaking down time and geographical constraints through the technology of real-time video distribution (Xu et al., 2022). Its combination with e-commerce provides a real-time interactive channel for sellers and consumers (Cai et al., 2018). LSS is used extensively in the food sector. Its visibility and interactivity effectively improve the authenticity and transparency of product information (Sun et al., 2019; Zhang et al., 2022). According to previous studies, consumers' needs and motivations for purchasing food products through e-commerce differ from those in other categories (Liu & Lin, 2020; Quevedo-Silva et al., 2016). Compared to traditional forms of presentation, such as text and images, live streaming can provide dynamic and immediate product information (Xu et al., 2020). Real-time interaction brings consumers a sense of immersion while enhancing user stickiness and loyalty (Zheng et al., 2023). In addition, with the change in consumer concepts, more and more consumers tend to choose better quality and healthier food products. The perceived value of a product is one of the most important factors influencing consumers' purchasing behavior (Song et al., 2022).

With the development of media technology and social networks, the formats and models of LSS have become diverse. In recent years, sellers have increasingly emphasized the UI design of the LSS room (Sun et al., 2019) and the diversification of selling scenarios (Xu et al., 2020). The evolution of these formats enhances users' perceived interactivity, thus optimizing their consumption experience. Interactivity is seen as the most significant feature of LSS compared to other business models (Cai et al., 2018). It brings an immersive shopping experience to consumers to stimulate their emotional engagement (Kim et al., 2017). In addition, real-time interaction gives LSS a vital social aspect. The para-social interaction enhances consumers' perceived presence during remote shopping (Zhang et al., 2014).

2.2. Interactivity

Interactivity is commonly mentioned and studied in computer science, communication, and business, but there is no uniform definition of interactivity across different fields. Stromer-Galley (2004) argued that interactivity is both a function of the medium and exists in the perceptions created during the communication process. The advent of new communication technologies has changed the concept of interactivity in traditional media (Kiousis, 2002). Live streaming technology provides real-time presentation and two-way communication. Wu et al. (2024) defined LSS interactivity as a dynamic social interaction between people that can provide sellers with timely and personalized feedback. It exists between consumers and streamers and between consumers and consumers (Fan et al., 2024).

Previous studies have explored the characteristics and roles of different dimensions of interactivity. Purwanto and Kuswandi (2017) stated that interactivity is characterized by controllability, synchronization, and bidirectionality. Two-way communication contributes to perceived interactivity in social commerce, thus influencing consumer choices and decisions. In particular, LSS increases consumers' perceived value, primarily utilitarian and hedonic, through two-way communication between consumers and sellers. In social media and e-commerce environments, para-social interaction is derived from human interactivity. Para-social interaction is a virtual interpersonal relationship formed during the interaction between viewers and media characters (Koay et al., 2023). Face-to-face communication and real-time interaction in LSS contribute to the establishment of intimate relationships between streamers and viewers. Enhancing their social connection allows consumers to perceive trust and shrink perceived distance (Sun et al., 2019). Quiring and Schweiger (2008) consider interactivity as the potential for interaction offered by media that users have developed. At the action level, responsiveness is a fundamental feature that constitutes interactivity. It represents the intensity of the interaction, i.e., the speed and ability to respond to information (Kang et al., 2021). In the Internet environment, the sense of presence and immersion perceived by users determines their assessment of the context in the interactive system, which ultimately influences their behavior (Quiring & Schweiger, 2008). LSS brings social and experiential shopping to consumers. The immersion it provides to consumers becomes the primary dimension of LSS interactivity. Immersion refers to the feeling of emotional engagement and the level of concentration of the user watching virtual content in a particular environment (Cowan & Ketron, 2019; Fang et al., 2018). This engaging and interactive experience stimulates consumers' perception and engagement, influencing their shopping decision-making process (Joo & Yang, 2023).

2.3. Perceived value

Since the 1990s, consumer-perceived value research has generated interest (Sánchez-Fernández & Iniesta-Bonillo, 2007). Zeithaml (1988) defined value as the consumer's overall assessment of a product's usefulness based on perceptions of what he has received and what the product gives him. According to this description, perceived value is considered a one-dimensional concept. In contrast, some researchers have proposed a multidimensional interpretation of perceived value, including perceived price, perceived quality, perceived benefits, and perceived sacrifices (Sweeney & Soutar, 2001).

According to consumption value theory, consumers choose based on their perception of functional, social, emotional, epistemic, and conditional value (Sheth et al., 1991). Overby and

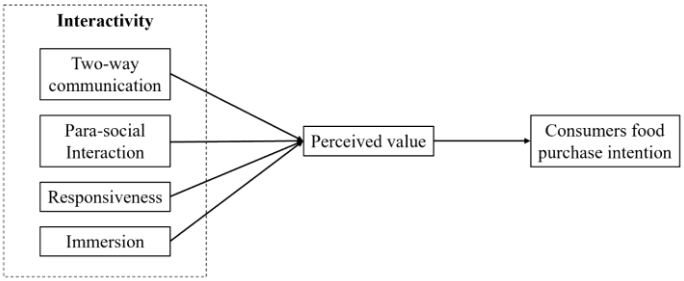
Lee (2006) identified two types of perceived value in online shopping: (1) utilitarian value (including price savings, service excellence, time savings, and selection dimensions) and (2) experiential value (including entertainment, visual appeal, escape, and interaction). Both types of perceived value have been shown to influence customer satisfaction positively.

Some researchers have emphasized the interactive, relative, and experiential aspects of value for the consumer (Vargo & Lusch, 2004). Concerning the study by Gan and Wang (2017), the authors found that hedonic value in online shopping is positively related to consumer satisfaction, which influences both the purchase intention of online customers. Ma (2021) states that hedonic motivation and value help explain why individuals engage in LSS activities. Based on the characteristics of LSS, interactive features, and social presence are essential indicators of purchase intention because they are positively correlated with LSS purchase intention.

3. Conceptual framework

Based on the literature review, we propose four dimensions of interactivity in LSS food marketing: two-way communication, para-social interaction, responsiveness, and immersion. Given that consumers' perceived value has been mentioned in many studies in the field of LSS, we argue that it plays a role in consumers' decision-making process of purchasing food through LSS. Thus, we developed a theoretical framework to explain the effect of LSS interactivity on consumers' food purchase intention mediated by perceived value (Figure 1).

Figure 1: Conceptual framework for the effect of interactivity in mediating perceived value on consumers' food purchase intention through LSS



4. Methodology

Based on our proposed framework, we hypothesize that different dimensions of interactivity and consumer perceived value impact purchase intention. Since LSS food marketing is in the initial stage of development, we lack relevant research findings and data. Therefore, this study adopted a qualitative research methodology through interviews with experts in the field of LSS. Based on the literature review, we drew up an interview guide, considering the themes and questions to be asked.

Given the emergence and successful development of LSS in China, between January 2023 and January 2023, we realized semi-structured interviews (N=15, S1-S15) with Chinese experts in the field of LSS. These interviews were conducted online. With the consent of all participants, they were audio-recorded and transcribed in full so that we could analyze and synthesize their views and comments. The length of each interview was between one and three hours. All these people have between 5 and 15 years of experience in the e-commerce sector and 2 and 6 years of experience in LSS. Among them are six people who sell food products through LSS.

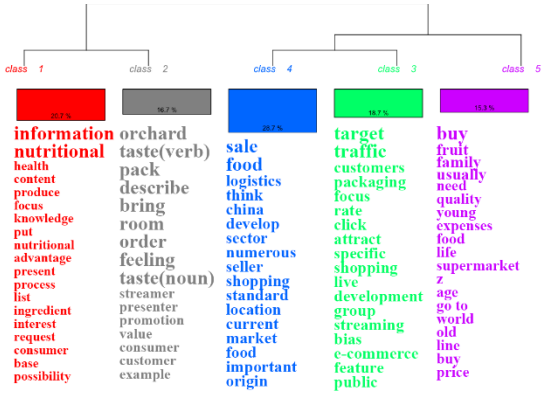
All interviews were transcribed using Python software and the Whisper large model. We carefully proofread and corrected all Python transcripts to precisely match the respondents' speech. Since the initial language of the interviews was Chinese, we translated all calibrated verbatim transcripts into French. To ensure the accuracy of the translations, we invited a bilingual French Chinese speaker who specialized in linguistics to review the translations. We analyzed these verified and translated transcripts for qualitative data statistics using IRAMUTEQ software. In order to gain a deeper understanding of the interviewees' verbatim scripts, we also conducted a manual thematic content analysis. All results were translated into English and checked.

5. Results

5.1. Role of interactivity and perceived value on consumer purchasing behavior

The IRAMUTEQ software categorized the total text of the interview corpus into different groups through lexicometric analysis. The generated Descending hierarchical classification (DHC) dendrogram (Figure 2) shows word clusters for five themes. Based on the lexical meanings of these words, we defined and elaborated these five themes: Food labeling (class 1), Interactivity (class 2), Marketing strategy (class 3), Food marketing (class 4), and Consumer type (class 5). The themes on interactivity corroborate the importance of LSS interactivity in food sales.

Figure 2. Five themes extracted from the interview corpus



As shown in Table 2, the word clusters for the topic of interactivity enumerate 24 words with a correlation of less than 0.05 to the topic. Among them are eight strongly correlated words, with a correlation of less than 0.0001. Based on the lexical properties and lexical meanings, we found that streamer (*p<0.00124*), presenter (*p=0.00283*), viewer (*p=0.02534*), and consumer (*p=0.00844*) can be summarized as streamers and consumers. There is a significant correlation between them and interaction. Then, the results showed that several perception-related words were significantly correlated with the interactivity theme, including feel (*p<0.0001*), taste (verb *p<0.0001*, noun *p=0.00035*), value (*p=0.00818*), and trust (*p=0.01896*). In addition, order (p<0.0001) was strongly correlated with this cluster.

Table 1. Statistics about corresponding words under the Interactivity cluster

ID	Effect s.t.	Effect total	Percentage	Chi2	Type	Form	P
0	4	4	100.0	20.55	Noun	Orchard	<0.0001
1	4	4	100.0	20.55	Verb	Taste	<0.0001
2	4	4	100.0	20.55	Verb	Pack	<0.0001
3	4	4	100.0	20.55	Verb	Describe	<0.0001
4	4	4	100.0	20.55	Verb	Bring	<0.0001
5	12	27	44.44	18.29	Noun	Room	<0.0001
6	5	7	71.43	13.85	Verb	Order	<0.0001
7	5	7	71.43	15.85	Noun	Feeling	<0.0001
8	5	8	62.5	12.78	Noun	Taste	0.00035
9	5	9	55.56	10.43	Nr	Streamer	0.00124
10	6	13	46.15	8.97	Noun	Presenter	0.00283
11	3	5	60.0	6.99	Noun	Value	0.00818
12	3	5	60.0	6.99	Noun	Promotion	0.00818
13	14	50	28.0	6.94	Noun	Consumer	0.00844
15	7	20	35.0	5.58	Noun	Example	0.01811
16	2	3	66.67	5.51	Noun	Trust	0.01890
17	2	3	66.67	5.51	Nr	Streamers	0.01890
18	2	3	66.67	5.51	Noun	Account	0.01890
19	2	3	66.67	5.51	Verb	Watch	0.01890
20	2	3	66.67	5.51	Noun	Fish	0.01890
21	2	3	66.67	5.51	Verb	See	0.01890
22	4	9	44.44	5.32	Noun	Impact	0.02109
23	3	6	50.0	5.0	noun	Viewer	0.02534

Therefore, based on the word clusters of the theme of interactivity, we distilled four perspectives of interactivity: communication between streamer and consumer, the consumer's sense of the taste of the food and the way it is described, the consumer's trust in the product and the streamer, and the consumer's perceived value. The results allow us to understand and confirm a correlation between streamer-consumer interactivity and consumers' perceived value and purchase behavior. This is consistent with our proposed framework.

5.2. Different dimensions of interactivity and the effect of consumer perceived value in LSS food marketing

In order to further validate the framework's different dimensions of interactivity in LSS food marketing and the role of consumers' perceived value, we manually analyzed the interviewees' verbatim transcripts. The results show that the interaction between streamers and consumers in LSS food marketing originates from information transfer, as S5 states that *"streamers should incorporate interactions with viewers in the process of presenting product information"*. The communication between them is mutual. LSS provides a channel for streamers and consumers to establish social relationships quickly. As S5 said, *"I will feel that the streamer introduces the product and promotes the product as if my friend is recommending*

the product to me. The closeness between me and the streamer will make me trust him". Through quasi-social interactions, their emotional connection shortens the distance the Internet brings. In the food sector, the taste and quality of food are the key to consumer choice. However, sellers cannot show consumers the advantages of their products when selling food online. S9 emphasized the importance of the streamer's words: *"Especially when the streamer describes the taste of food, some metaphors or empathy will make the audience feel that they are really tasting the food, which will bring the consumer perceived value"*. These approaches reflect the streamer's ability to respond to consumer needs and the intensity of their interaction with them. Additionally, live streaming leads to an immersive experience and a more significant emotional impact. S2 noted the impact of the LSS room scene on consumer perception: *"LSS at the origin will effectively increase the authenticity of the promotion and bring the feeling of direct selling at the origin and freshly picked food"*. Consumers perceive value in LSS food marketing in many ways, such as perceived price, perceived quality, perceived trust, and perceived emotion. S4 believes that *"through LSS, consumers can see the food very intuitively, and especially the LSS of the origin will make them feel that the fruits are fresh"*. S5 noted that *"LSS is useful in reducing consumer distrust when shopping online [...] I feel that consumers become more inclusive and accepting due to the perceived value that LSS offers"*.

6. Conclusions

Based on the literature review, the present study proposed a conceptual framework that hypothesizes the influence of different characterization dimensions of interactivity and consumer perceived value on consumers' intention to purchase food through LSS. Through qualitative research methods, we conducted semi-structured interviews with 15 Chinese LSS experts. Based on the qualitative data statistical analysis of IRAMUTEQ software and manual thematic content analysis, we identified critical dimensions of interactivity (two-way communication, para-social interaction, responsiveness, immersion) in LSS food marketing. We also found that LSS interactivity in the food sector affects consumers' perceived value. Therefore, we demonstrated our proposed framework on the impact of interactivity and perceived value in LSS food marketing. Regarding limitations, this study only collected and analyzed qualitative data from the Chinese market. Subsequent studies could focus on other countries' markets and take a quantitative research approach to validate the variables and framework. The results of this study complement the lack of research on the interactivity of LSS food marketing in the research field. This study provides a theoretical foundation and conceptual framework for subsequent studies exploring consumers' intention and behavior to

purchase food through LSS. Our findings contribute to brands and sellers' better understanding of the importance of LSS interactivity and consumer-perceived value for LSS food marketing.

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