



**THE FACTORS INFLUENCING IMPULSIVE BUYING
BEHAVIOR OF CUSTOMERS IN E-COMMERCE**

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ABSTRACT

In the Chinese e-commerce industry, live-streaming has been recognized by traditional retail e-commerce as a fast and effective sales channel, promoting mass consumption, improving e-commerce sales performance, and leading the new development of global e-commerce. The purpose of this study is: 1) to explore the factors influencing customer purchases in Chinese live commerce rooms. 2) to verify that customer audiovisual experience, customer heart flow experience, and product attributes have a positive impact on customer impulsive buying behavior in live commerce rooms. This paper selected Taobao Live in China as the research subject and collected customer data through questionnaire survey, with a sample size of 400, using the quantitative research method to analyze the data.

The study results show that: 1) Customer purchases in live commerce rooms are influenced by the customer audiovisual experience, customer heart flow experience and product attributes. 2) The customer audiovisual experience, customer heart flow experience, and product attributes significantly positively influence customer impulsive buying behavior in live commerce rooms.

Studying customer impulsive buying behavior in live commerce rooms has strong practical value for accelerating the circulation of goods in the market and improving the marketing effectiveness of enterprises.

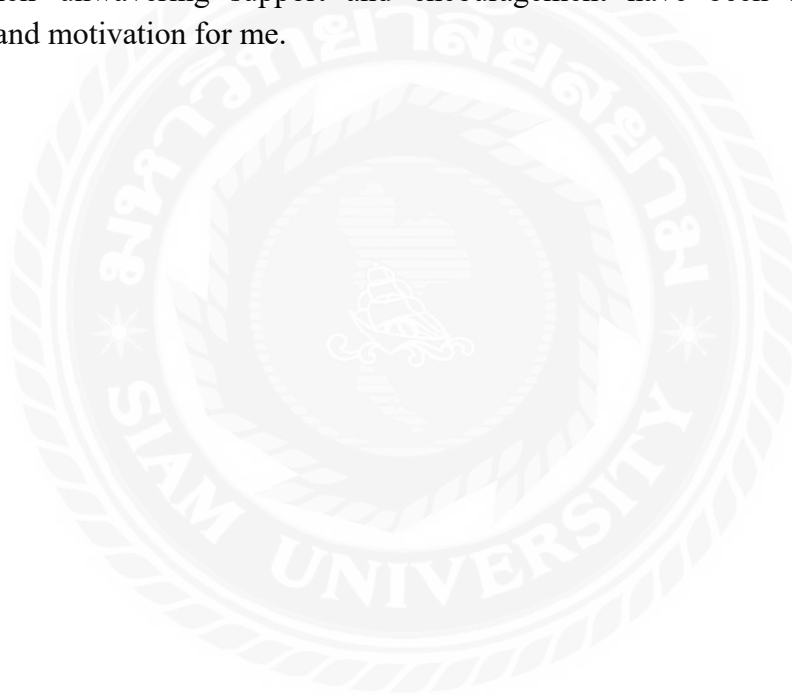
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Declaration

*I, CUI KONG MING, as a result of this, certify that the work embodied in this, independent study entitled "**The factors influencing impulsive buying behavior of customers in e-commerce**" is a result of original research and has not been submitted for a higher degree to any other university or institution.*

Cui Kong Ming

(Cui Kong Ming)

APR 5, 2024



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Chapter 1 Introduction

1.1 Background of the Study

Since 2011, with the development of Internet technology and the popularity of mobile terminals, online live-streaming has gradually become a norm in social life and has evolved into a new trend in online business (Hu et al., 2017). The model of selling products or services through live streaming has also become an important marketing method for enterprises (Chen et al., 2020). For example, live video platforms like Douyin and Kuaishou have integrated e-commerce functions, and e-commerce apps such as Taobao and JD.com have also embedded live-streaming modules.

live-streaming purchases are a common customer behavior characterized by a spontaneous, irresistible, powerful, sustained, and immediate desire to purchase products (Rook, 1987). impulsive/unplanned purchases account for about 60% of customers' shopping baskets (Mattila & Wirtz, 2008), and the likelihood of online live-streaming purchases is 5% higher than offline purchases (Nielsen, 2017). The significant impact of impulsive behavior on customer purchases indicates its importance in retail business (Hausman, 2000). It helps retailers increase sales (Park et al., 2012) and enables customers to achieve immediate self-fulfillment through purchases (Verhagen & Van, 2011). Although live-streaming purchases may lead to increased returns and irrational consumption (Lim, 2017), customers' purchase decisions are more or less influenced by live-streaming. Therefore, factors that promote customer purchases in live-streaming rooms have attracted widespread attention in the e-commerce environment.

Against the backdrop of constructing a new development pattern with the domestic cycle as the mainstay and the domestic and international dual cycles reinforcing each other, live-streaming has been recognized by traditional retail e-commerce as a fast and effective sales channel, becoming a driving force for promoting mass consumption and realizing the domestic cycle. It is of great significance for enhancing the sales performance of e-commerce and leading the new development of global e-commerce. In recent years, with the development of Internet technology and the popularization of mobile terminals, live-streaming has become a global trend and gradually entered the public's daily life. In live-streaming, individuals can freely participate in the host's room, send virtual gifts to their favorite hosts, and purchase products recommended by the hosts. This model of selling products or services through live interaction, known as live commerce, has also become an important marketing tool for enterprises. For example, under the impact of the COVID-19 pandemic, the era of "everyone live-streaming" has arrived, and the live commerce market has reached a historic high. In 2020, the scale of China's live e-commerce market reached 961 billion yuan.

With the close integration of live-streaming and e-commerce platforms, live commerce, a new business form that promotes the sales of products/services through

real-time interaction during live broadcasts, has emerged as an important means of product sales and brand promotion in the era of "new retail". It not only immerses customers in live shopping but also realizes the linkage between online and offline marketing, attracting customers from different time and space backgrounds, and demonstrating natural advantages in product display, time cost, shopping experience, and sales logic. Compared to traditional social media, the advantages of low cost, convenience, and strong interactivity of digital live commerce marketing make it highly favored. In the era of ubiquitous connectivity and the new development pattern of "dual circulation", live commerce, through organic integration with the social value chain and various cultural ecosystems, is giving birth to more new industries, new formats, and new models (Zhao & Liang, 2021). On the other hand, academic attention to online live-streaming is also growing, with existing studies focusing on user intentions (Long & Tefertiller, 2020), sustained attention (Hu et al., 2017), gift-giving (Li & Peng, 2021), and shopping intentions (Ma, 2021). With the rapid development of online live-streaming, the concept of live commerce is gradually gaining general recognition in academia (Chen et al, 2021), but its development is still in its infancy.

As a prevalent consumer phenomenon, offline live-streaming purchases account for 60% of customer purchase decisions, while online customers' purchases in live-streaming rooms are even more pronounced. In particular, live commerce enables vivid product demonstrations and deepens real-time interaction between hosts and customers, making it easier for customers to make purchases in live-streaming rooms. Therefore, studying customer purchases in live-streaming rooms has strong practical value for accelerating the circulation of goods in the market and improving the marketing effectiveness of enterprises.

Although academia has maintained a certain level of interest in live commerce and customer purchases in live-streaming rooms, theoretical research lags far behind business practices and remains relatively scattered and lacking in systematicity.

1.2 Questions of the Study

As a new and more powerful marketing approach, the live-streaming environment can have significant effects on customer purchasing behavior. Under the influence of live-streaming platforms, customer purchasing behavior may become more impulsive. Various factors can affect customer purchases in live-streaming rooms. Based on the current development status of live commerce and existing research, this study aims to explore the following four research questions:

1. What factors influence customer purchases in live-streaming rooms in China's live commerce?
2. Are customer audio-visual experience, customer heart flow experience, and product attributes positively correlated with customer impulsive buying behavior in live-streaming rooms in live commerce?

1.3 Objectives of the Study

The acceptance of "e-commerce + live-streaming" varies among customer groups, and therefore, this paper focuses on customers who have participated in e-commerce live-streaming. Based on the characteristics of e-commerce live-streaming rooms, group dynamics theory, emotional marketing theory, and rapid decision-making theory, this study investigates the influence of e-commerce live-streaming on customer purchases in live-streaming rooms. The theoretical framework for the impact of e-commerce live-streaming on customer purchases in live-streaming rooms is constructed with customer audio-visual experience, Customer Heart Flow Experience, and product attributes as independent variables and customer impulsive buying behavior in live commerce rooms as the dependent variable. The main aim is to explore the inherent connection and mechanism of e-commerce live-streaming on live-streaming room purchases, providing theoretical and empirical evidence for the formulation of marketing strategies by e-commerce platform merchants based on the research results of this paper.

Identifying existing problems and proposing targeted improvement strategies, this paper aims to guide live-streaming platforms, merchants, and hosts. The specific research purposes are as follows:

1. To analyze the influencing factors of customer purchases in live-streaming rooms in Chinese live commerce.
2. To investigate whether customer audio-visual experience, customer heart flow experience, and product attributes have a positive impact on customer impulsive buying behavior in live commerce rooms.

1.4 Scope of the Study

This study's survey questionnaire was only filled out anonymously by individuals who had previous consumption experiences on live-streaming platforms. It was explicitly stated that the questionnaire content was solely for academic research purposes. To prevent individuals from filling out the questionnaire multiple times, IP

addresses were tracked. For items with reverse scoring, the data were scored accordingly. Additionally, the questionnaire interface included a judgment mechanism to determine whether the respondent had previous consumption experiences on live-streaming platforms, and respondents who had not watched live-streaming were excluded. The questionnaire was accurately distributed through the "Credamo Platform" sample library, and cash rewards were given to participants who provided high-quality responses. A total of 482 questionnaires were collected, and after excluding invalid responses, 400 valid questionnaires were obtained, resulting in an effective rate of 82.99%. The composition distribution of valid samples was reasonable, ensuring the feasibility and scientific validity of the questionnaire. It also ensured the credibility of the survey and the effectiveness of the research.

The data for this study were obtained from domestic live-streaming customers. When recruiting participants, detailed information about the research objectives, procedures, expected benefits, and ethical considerations was provided, and all participants were required to click on an informed consent statement. Considering the concentration of sample sources and the convenience of research, we mainly distributed the questionnaire through the platform from January 2024 to March 2024, lasting for 91 days.

1.5 Significance of the Study

(1) Theoretical Significance:

Firstly, it helps guide businesses, merchants, and hosts to clarify the key points of live commerce, and based on the type of platform they are on, choose a more suitable communication style to provide direct guidance for improving the conversion rate of live commerce sales.

Businesses and hosts should adopt a customer-centric mindset and match their communication styles with the characteristics of the selected sales platform. Then, live-streaming platforms, businesses, and hosts should fully stimulate customers' quasi-social interactions during live-streaming, inspiring customers to have positive cognitive and emotional experiences. Finally, businesses and hosts should use big data to profile customers and adopt different marketing strategies for customers with different levels of loneliness. By effectively using communication style matching strategies, the effectiveness of communication style matching strategies for businesses and hosts can be improved.

Secondly, it helps guide businesses, merchants, and hosts to grasp the key points of live commerce, pay more attention to the personal cognition of live-streaming customers, implement differentiated marketing strategies, and provide important theoretical guidance for improving the effectiveness of live-streaming marketing.

live-streaming platforms and hosts should pay attention to the personal cognition of live-streaming customers. As the new feature of customer's relative deprivation in the context of mobile internet, live-streaming platforms and hosts should implement differentiated marketing strategies for customers with different levels of relative

deprivation, fully utilize the social nature of live-streaming platforms, pay more attention to communication with customers, improve the efficiency of non-customers usage, increase customers' sense of pleasure and immersion, and formulate reasonable business strategies based on the personalities and habits of customers in the Eastern cultural context, telling good marketing stories.

(2) Practical Significance:

Firstly, it helps guide businesses, merchants, and hosts to clarify the path of live commerce, pay more attention to product attributes, strictly control product quality, and use more flexible language to provide important management strategies for improving the effectiveness of live commerce marketing.

Businesses and hosts should set reasonable prices, implement diversified marketing activities, create a sense of scarcity for products through limited-time and limited-quantity marketing strategies, effectively showcase product quality, enrich product usage scenarios, fully demonstrate the versatility of products, make customers recognize the usefulness of products, guide customers to generate positive perceptions and increase purchases in live-streaming rooms. Additionally, targeted marketing strategies should be implemented based on the weighted impact of product attributes obtained from research.

Secondly, it helps guide businesses, merchants, and hosts to understand the mechanism of live commerce, pay more attention to scene creation, and design platform interfaces, information content, and navigation designs reasonably and effectively to provide important countermeasures and suggestions for improving marketing effectiveness.

Businesses and hosts should use information technology as an interactive medium and transmission bridge between themselves and customers, develop convenient and easy-to-control communication channels, clear layouts, and concise links, compensate for the lack of direct sensory perception of products by customers, enhance the activity of live-streaming platform interfaces and hosts, and attract more customers to participate. At the same time, platform designs should incorporate experiential elements and provide platform interfaces that are easy to operate, personalized, and interesting from the customer's perspective, deepening customer satisfaction and immersion, thus effectively increasing purchases in live-streaming rooms.

Chapter 2 Literature Review

2.1 Introduction

The literature review of this study is based on the analysis of impulsive consumption factors in live commerce using theories of group dynamics, emotional marketing, and rapid decision-making (Bai & Liao, 2014). Adopting a literature review approach, it aims to clarify the factors influencing impulsive consumption by customers. The paper conducts a review and analysis from three aspects: research related to live commerce, research related to customer purchases in live-streaming rooms, and research related to "people, products, and settings." After reviewing the literature in each aspect, a summary is provided, aiming to understand the relationship between this study and existing literature research, grasp the development context of the research, and lay a theoretical foundation for subsequent studies.

The factors influencing customer purchases in live-streaming rooms in live commerce involve multiple theoretical foundations, including areas such as social psychology, marketing, and consumer behavior. Below are some of the main concepts and theories:

2.2 Literature Review

2.2.1 Live Commerce

In the last five years, due to the development of Internet technology and the popularization of mobile terminals, online live-streaming has gradually become a social norm and has evolved into a new trend in online business (Hu, 2017). In online live-streaming, individuals can become broadcasters and share their real-time videos, or participate as viewers in their favorite broadcasters' rooms, ultimately achieving flat, equal, and real-time communication between users and broadcasters, and among users themselves (Zhao, 2018). In addition to this real-time interactive "performance," live-streaming is also often used as an effective marketing tool. live-streaming enhances the authenticity, visualization, and interactivity of online shopping, focusing on customers' more detailed and vertical needs, attracting potential customers, improving conversion rates, and achieving faster sales results (Hu & Chaudhry, 2020). For example, traditional e-commerce platforms such as Taobao and JD.com have all launched live commerce activities. Academic research accompanying the practice of live commerce also recognizes the importance of live commerce, although it has attracted attention for a relatively short time, it is in a period of rapid growth. This section mainly focuses on reviewing the concept of live commerce and related research derived from it.

The traditional e-commerce product sales model is limited by information technology, and merchants introduce product information to customers through single forms such as pictures and text. In this model, customers can only browse unidirectionally, read static product content (such as text, pictures, recorded videos, etc.) online to obtain product information, need to spend a lot of effort to find products,

compare alternatives, and evaluate based on different types of information. They cannot comprehensively, accurately, and real-time grasp product information, nor can they enjoy the practical value and entertainment experience brought by product purchases. Therefore, customers' purchase of products may involve a series of uncertainties and risk perceptions, reducing the purchase rate of products to some extent (Xu et al., 2020).

On the other hand, online live-streaming platforms create a virtual live space for broadcasters, providing customers with a platform to watch live broadcasts and obtain dynamic and accurate information. Customers can establish virtual social relationships with broadcasters, achieve real-time interaction, and enjoy relaxed and entertaining moments while watching attractive broadcasters (Sjoblom & Hamari, 2017). Live commerce, as a new business model, has emerged and shown enormous potential. Benefiting from the continuous development of information technology, it has evolved from e-commerce and traditional TV live shopping to forms of live commerce that provide real-time interaction, accurate product (service) information, and bring customers a "real" feeling, attracting customers to immerse in purchases. It includes a network environment formed by live media space, live media technology, and infrastructure, providing real-time interaction, entertainment, social activities, and business models with seamless clues (Wongkitrungrueng & Assarut, 2020; Xu et al., 2020). In summary, although existing live commerce has attracted the attention of some scholars, a complete, targeted, and operational live commerce framework has not yet been formed. The impact path, mechanism, and boundary conditions of live commerce on customer behavior have not been fully clarified.

By reviewing existing research, live commerce has the following characteristics: first, the research area is relatively concentrated, mainly focusing on East Asia and South Asia countries. For example, most existing research samples are from live-streaming customers in China, South Korea, and Thailand. China's rapid development of live commerce is representative (Ming, 2021). A large part of the existing research samples are concentrated in China, so studying the behavior of live-streaming customers in China is valuable. Second, there are obvious differences in research emphasis. A large amount of research in China belongs to qualitative analysis, with a more macro perspective analyzing the current situation, problems, and countermeasures of the live commerce industry. Research outside China is mostly empirical research, mostly focusing on the micro-level of a specific factor. By surveying Chinese live-streaming customers as micro-level samples, this study contributes new knowledge to the study of live commerce in the Chinese context. Third, the research is relatively broad and not systematic. Most existing research combines the characteristics of live e-commerce with communication, starting from a specific point such as attractiveness, customer audio-visual experience, and immersion theory, lacking a comprehensive consideration of constructing an impact model from a holistic perspective. Moreover, the methods are relatively single, with almost no mixed research methods to mutually verify or further analyze the conclusions.

To further clarify the connotation of live commerce, it is necessary to understand

the types of live commerce that may exist. Scholars have proposed different classification criteria based on their research scenarios, research purposes, and research perspectives. One type is to classify live commerce according to the type of live-streaming platform, including commercial activity live-streaming platforms (such as Douyin and Kuaishou), e-commerce mobile applications integrated with live-streaming functions (such as Taobao and JD.com), social websites with added live-streaming functions (such as Facebook Live) to promote sales (Wongkitrungrueng et al., 2020). Another type is to classify live commerce according to the type of broadcasters, including daily self-broadcasting by merchants, live broadcasting by celebrity influencers, and platform-planned PGC live-streaming (Fei & Zhou, 2021). Therefore, based on the research results of existing scholars, live commerce can be divided into two types: one is the operation model of "e-commerce + live-streaming," which carries live-streaming functions on existing e-commerce platforms and introduces content creators; the other is the operation model of "live-streaming + e-commerce," which embeds e-commerce functions in short video/live-streaming platforms, connects to third-party e-commerce platforms, or builds their e-commerce platforms.

Therefore, this study uses a mixed research method to support, verify, and supplement the research results, enhancing the interpretability of the conclusions.

2.2.2 livestream Purchases

livestream purchases emerged as an object of academic research in the 1940s when advertising agencies investigated DuPont's customer buying habits across more than 50 products, marking the inception of research on livestream purchases. Subsequently, with the advancement of information technology, customers' livestream purchasing behavior became increasingly common, leading to extensive discussions by scholars both domestically and internationally.

livestream purchasing, a prevalent customer behavior, has become an important research area in marketing, and different scholars have provided definitions from various perspectives (Vohs & Faber, 2007). Stern (1962) conducted early research on livestream purchases and classified them. Subsequent studies treated livestream purchases and impulsive purchases as synonymous (Kollat & Willett, 1969), leading scholars to associate livestream purchases with products. In the 1980s, Rook (1987), Rook and Hoch (1985) elucidated the essence of livestream purchases, emphasizing their association with individuals rather than product categories. This prompted a redefinition of livestream purchases in academia as sudden and intense impulsives for immediate purchases made by customers (Beatty & Ferrell, 1998; Rook, 1987). It is widely believed that livestream purchases involve sudden, irresistible, and enjoyable buying processes where customers quickly make purchasing decisions without carefully considering all relevant information and options (Bayley & Nancarrow, 1998; Rook, 1987). Research by Jones et al. (2003) showed that impulsive shoppers make unexpected, unrealistic, and immediate purchasing decisions without considering the consequences. Other scholars have expressed different views on Livestream purchases, defining them as unplanned purchases characterized by quick decisions and an

immediate desire to possess (Luo, 2005; Lee & Wu, 2017).

With the continuous advancement of information technology in the late 20th century, e-commerce experienced rapid development, bringing customers' online livestream purchases into the spotlight of scholars. Koufaris et al. (2001) continued to apply the concept of unplanned purchases in offline shopping scenarios. However, this concept faced academic controversy, as impulsivity, as a consequence-free behavior, was thought to diminish the effectiveness of customer cognition in livestream purchases and neglected the stimulating effects of external environments (Hausman, 2000). Besides examining the extent to which dynamic retailing in offline contexts is applied to online environments, scholars often emphasize the role of embedded shopping website functionalities in online livestream purchases (Chan et al., 2017). For example, users may encounter product or service recommendations they did not intend to purchase while browsing social media or interacting with other users. In such cases, product recommendations lead to livestream purchases, which are sudden, powerful, and enduring impulsives that prompt immediate purchases when stimulated by environmental cues (Yadav et al., 2013).

Li Xiurong and Liang Chenglei (2009) defined livestream purchases as unplanned purchases made under specific environmental stimuli without considering consequences. Zhang Jiemei and Kong Weizheng's (2021) research indicated that livestream purchases are triggered by the reception of negative online word-of-mouth, awakening varying intensities of negative emotions in customers and leading to uncontrollable buying behavior. Zhang Wei et al. (2020) suggested that livestream purchases are tendencies to buy without prior plans or unclear purchasing intentions, triggered by a combination of factors such as marketing stimuli and system operations after accessing shopping websites via various mobile devices.

In terms of literature volume, the number of publications on livestream purchases in China has shown intermittent growth, with a significant increase in publications after 2008, indicating the growing attention and importance of livestream purchases among domestic scholars. From the perspective of developmental stages, livestream purchases experienced three phases: a slow germination period from 1982 to 2000, stable development from 2000 to 2008, and fluctuating growth from 2008 to 2021. Since the early 21st century, customer livestream purchases have attracted the attention of domestic scholars, mainly from the fields of consumer behavior and psychology. With China's accession to the WTO in 2001 and the operation of online shopping by Alibaba in 2003, the retail industry entered an open period, leading to a comprehensive understanding of customer behavior and psychology in both industry and academia. During this period, academic articles on customer livestream purchases emerged, albeit in limited numbers.

Through a review of existing research, it is evident that factors influencing livestream purchases can be divided into two categories: external environmental influences, including product effects, market effects, and situational influences (atmosphere, limited-time promotions, word-of-mouth, etc.) (Abdelsalam et al., 2020);

and internal stimulus factors, including personality, culture, shopping enjoyment tendencies, materialism, and inclination towards livestream purchases (Herabadi et al., 2009; Amos et al., 2014).

livestream purchases are a prevalent customer behavior, and numerous scholars both domestically and internationally have studied them extensively. Reviewing existing research on livestream purchases domestically and internationally reveals that while foreign research began earlier and has produced abundant literature on the subject, we have systematically discussed concepts, measurements, classifications, and methodologies. Although domestic research started relatively late, numerous scholars are continually enriching the existing research system. By combining the characteristics of Chinese customers, a scale for Chinese customer livestream purchases has been created, contributing to marketing strategies in the East. However, livestream purchases are a highly complex and dynamically changing process that requires constant enrichment and improvement based on existing research. Currently, research both domestically and internationally primarily focuses on offline livestream purchases, with a recent rapid growth in online livestream purchases. Customer choices are contextual and should be discussed in specific scenarios. In conclusion, this study explores customer livestream purchases in the Chinese context, conducts research through questionnaire surveys and situational experiments based on methodological suggestions from existing literature, analyzes potential influencing factors from different perspectives, and clarifies the mechanisms of influence among these factors, possessing both theoretical and practical value.

2.2.3 Customer Audiovisual Experience

For e-commerce live-streaming, the factors directly influencing sales are visual marketing and auditory marketing. In the absence of physical products, visual and auditory marketing can significantly impact customer consumption merely through images and sounds, which is a sensory-oriented psychological phenomenon ultimately leading to behavioral outcomes. E-commerce live-streaming involves various environmental experiences, and merchants can stimulate and guide customer purchases through visual and auditory stimuli. Visual and auditory marketing can evoke customer interest by fully reflecting the personalized features and performance of products, influencing their consumption psychology, and ultimately achieving predetermined marketing objectives. Visual and auditory marketing integrates theories and techniques from psychology, marketing, design, and communication to achieve mass sales. Therefore, good visual and auditory effects have a subtle influence on customers' emotional and psychological states, thereby unconsciously affecting their purchasing behavior.

2.2.4 Customer Heart Flow Experience

The concept of flow was first proposed in 1975(53). The flow experience describes a holistic feeling when individuals are fully engaged in an activity, during which their subjective consciousness is completely immersed. The pleasure derived from the experience motivates individuals to continuously engage in the behavior, seeking

psychological comfort and enjoyment. Through literature review and analysis, scholars mainly study the factors influencing flow experience in the online environment from the perspectives of customers themselves and the website. Firstly, during the shopping process, the more customers trust the website, the more they will shop wholeheartedly without worries, leading to a better shopping experience and thus entering a state of flow experience; secondly, website design is one of the important reasons for customers to enter a state of flow. Enhancing the freshness of website content accelerates the process of customers entering a state of flow, which plays an important role in promoting their live shopping. Customers are the main body of the online shopping process, and the shopping website is both a consumption carrier and the material basis for customers to experience flow. Therefore, the characteristics presented by the website will also affect the formation of their flow experience. (54) That is, the generation of flow experience in the online environment is influenced by both website appearance design and customer characteristics. In the context of e-commerce live-streaming, the research conclusions similarly apply. Therefore, customers' flow experience will be influenced by the characteristics of e-commerce live-streaming and their traits, thereby affecting their live shopping behavior. The live-streaming scene stimulates customers' senses, and the audiovisual effects bring them an experience, making it easier for customers to experience flow while focusing on shopping(55).

2.3 Research Theory

People are often influenced by those around them, especially those they perceive to have similar values or lifestyles. In live commerce, hosts typically play the role of opinion leaders, and their recommendations and evaluations can have a significant impact on the audience.

2.3.1 Group Dynamics Theory

The Interactive nature and real-time characteristics of live commerce allow viewers to feel a sense of group pressure, making them more easily persuaded to make purchases in livestreams. Group Dynamics Theory points out that on live commerce, there is a force of mutual influence among viewers. This force can be strengthened through the guidance of the host and interaction among viewers. Viewers are prone to forming a temporary community during the livestream, where emotions and behaviors influence each other. In this situation, customers may make purchases on live streams due to the fear of missing out or following the crowd mentality.

2.3.2 Theory of Rapid Decision Making

Due to the limited time in live commerce, customers often do not have enough time to deliberate thoroughly, making them more likely to make purchasing decisions in live broadcasts. The theory of rapid decision-making is a concept widely applied in various fields such as business, management, and economics, exploring how individuals make decisions quickly when faced with constraints of time and resources. This article will review relevant studies on the theory of rapid decision-making and discuss its applications and impacts.

The theory of rapid decision-making refers to individuals simplifying the decision-making process and reducing the amount of information and thinking time required to make decisions in complex and uncertain environments (Gigerenzer & Todd, 1999). This theory emphasizes the speed of decision-making rather than its accuracy because, in an environment full of uncertainty, rapid decision-making often outweighs precise decision-making in importance. The theory of rapid decision-making has been widely applied in various fields such as business, management, and economics. For example, in the business sector, companies often need to make important decisions in a short period, such as product pricing and marketing strategies. In the military domain, commanders also need to make critical decisions quickly, such as deploying forces and formulating tactics. The theory of rapid decision-making has profound implications for individuals and society. Firstly, rapid decision-making can help individuals survive and thrive in complex environments, improving work efficiency and quality of life. Secondly, rapid decision-making also contributes to the development of organizations and society, such as enhancing the competitiveness of enterprises and promoting economic growth.

However, rapid decision-making also carries certain risks. Due to the incompleteness and uncertainty of information in the rapid decision-making process, decision results may be biased and erroneous. Therefore, while pursuing speed, we also need to focus on the quality and accuracy of decision-making.

The theory of rapid decision-making is an important decision-making theory that provides us with methods to make quick decisions in complex environments and uncertainty. Although rapid decision-making entails risks, as long as we can emphasize the quality and accuracy of decisions while pursuing speed, we can effectively utilize this theory to enhance our decision-making capabilities and efficiency.

2.3.3 Emotional Marketing Theory

The emotional marketing theory suggests that by creating emotional atmospheres such as tension, excitement, or a sense of scarcity, hosts can stimulate customers' desire to make purchases and encourage them to engage in live shopping.

In the paper "Research on the Influencing Factors of Customer Live Shopping in Live Commerce," the theories of group dynamics, emotional marketing, and rapid decision-making explain the behavioral characteristics of customers' live shopping from different perspectives. The emotional marketing theory emphasizes the influence of emotional atmospheres created by hosts during live broadcasts on customers' purchase decisions. Hosts use language, facial expressions, and actions to evoke emotions in viewers, leading them to develop strong desires to make purchases in a short period. Additionally, hosts may also utilize scarcity and limited-time offers to evoke customers' sense of urgency and anxiety, further prompting them to make live shopping decisions.

In summary, the theories of group dynamics, emotional marketing, and rapid decision-making provide valuable perspectives for understanding the influencing factors of customer live shopping in live commerce. These theories not only help us better understand customers' purchasing behavior but also provide theoretical support

for the development and optimization of live commerce.

2.4 Conceptual Framework

The literature review of this study is based on the theories of group dynamics, emotional marketing, and rapid decision-making to analyze the influencing factors of impulsive buying behavior in live commerce.

To analyze the factors influencing impulsive buying behavior in live commerce, this study constructs a model with customer audiovisual experience, customer heart flow experience, and product attributes as independent variables. impulsive buying behavior refers to customers making unexpected, irrational, and immediate purchasing decisions without considering the consequences. It is influenced by customer audiovisual experience, customer heart flow experience, and product attributes collectively, as shown in Figure 2.1.

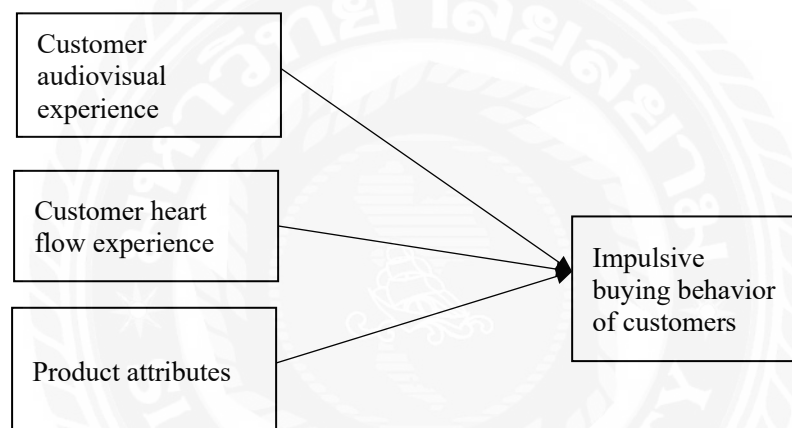


Figure 2.1 Conceptual Framework

Chapter 3 Research Methodology

3.1 Introduction

Chapter 2 elaborates on the definitions of live-streaming commerce and customer impulsive buying, establishing the theoretical framework for customer impulsive buying in live-streaming commerce.

This chapter adopts a quantitative research method. Based on existing theoretical

foundations and previous studies, the content of the scale part is confirmed, and the questionnaire is distributed and analyzed. The questionnaire content is adjusted based on the data feedback to form the formal questionnaire, and SPSS 22.0 is used to analyze the reliability and validity of the questionnaire data.

In the model, the independent variables are customer audiovisual experience, Customer Heart Flow Experience, and product attributes, while the dependent variable is customer impulsive buying. The questionnaire uses a Likert five-point scale. The first part of the questionnaire collects the basic characteristics of the survey sample. The second part focuses on analyzing the data of the survey sample in terms of customer audiovisual experience, Customer Heart Flow Experience, and product attributes. Each variable has several items, totaling 23 items.

3.2 Research Design

This study adopted the quantitative research method. The research survey employs simple random sampling. Questionnaires were precisely distributed to participants through the "Credamo Platform" sample library, and cash rewards were given to participants with good questionnaire completion quality. A total of 482 questionnaires were collected, and after excluding invalid ones, 400 valid questionnaires were obtained, with an effective rate of 82.99%.

In line with the perspectives of this study, the questionnaire structure consists of three main parts:

The first part includes acknowledgments and instructions for filling out the questionnaire. It begins by explaining the purpose of distributing the questionnaire, followed by explanations and clarifications of terms used in the questionnaire to ensure that participants fully understand the meaning of the items and provide the most genuine responses. Lastly, confidentiality regarding questionnaire data handling and gratitude for participants' earnest responses are expressed.

The second part comprises screening items and collecting the personal information of the respondents. Firstly, samples who have not engaged in live-streaming e-commerce shopping are screened out to ensure the accuracy of the surveyed objects. Then, basic information such as gender, age, educational background, and income range of the respondents is collected. This section also supplements the description of the research sample, providing preliminary insights into the basic information of the sample to ensure the overall authenticity and comprehensiveness of the study.

The third part involves the measurement of the three variables in this study: customer audiovisual experience, Customer Heart Flow Experience, and product attributes. The items in the scale are sourced from mature scales used in previous studies within the relevant research scope. Adjustments are made to the item wordings to suit the context of this study in the e-commerce live-streaming domain, totaling 23 items.

Regarding the questionnaire's main body, the screening items and personal information sections correspond to clear answers, hence, the multiple-choice format is followed to adhere to the principle of "neither repeat nor omit." Conversely, the items

in the scale section are related to the respondents' attitudes, making it difficult to quantify latent variables. Therefore, this study uses a Likert five-level scale to describe the answer options, quantifying the subjective attitudes of the respondents into specific scores ranging from 1 to 5. Options range from "Strongly Disagree" to "Strongly Agree," with higher scores indicating a higher degree of agreement with the item statement. The questionnaire consists of 23 questions, with questions 1-7 covering basic information and questions 8-23 comprising scale questions. Specifically, customer audiovisual experience measures four items, Customer Heart Flow Experience measures five items, product attributes measures four items, and impulsive buying measures three items. The Likert five-point scale is used, with scores ranging from 1 to 5, representing "Strongly Disagree," "Disagree," "Neutral," "Agree," and "Strongly Agree," respectively. Corresponding items are designed for each variable, and the items are coded as shown in Table 3.1.

Table 3.1 The factors influencing impulsive buying of customers.

Variable	Measurement items	NO.
Customer audiovisual experience	1. Can a good audio-visual experience improve your comfort in watching live e-commerce?	Q1
	2. Does a good audio-visual experience increase your interest in watching live e-commerce?	Q2
	3. Does a good audio-visual experience enhance your enjoyment of watching live e-commerce?	Q3
	4. Will a good audio-visual experience keep you watching live for a long time?	Q4
Customer heart flow experience	1. Is there impulsive consumption behavior that generates pleasure when watching live broadcasts?	Q5
	2. pleasure in watching live e-commerce so that can continue to watch with impulsive consumption behavior?	Q6
	3. While watching the live e-commerce broadcast, it feels like time passes quickly any impulsive spending behavior?	Q7
	4. When watching live e-commerce, do you have impulsive spending behavior when you are immersed in it and don't pay much attention to other things?	Q8

	5. Are you interested in watching livestreams where you can't resist buying products (props) or rewarding them?	Q9
Product Attributes	1. Do you spend on impulsive the higher the monetary value of the product?	Q10
	2. Your perception of the product product cost-effective impulsive spending?	Q11
	3. Do you have an impulsive to consume the product in the province of perceived scarcity?	Q12
	4. Do you have a strong impulsive to spend on products designed to be functional?	Q13
impulsive buying behavior	1. When watching live e-commerce, do you often purchase items that you did not intend to buy?	Q14
	2. While watching the e-commerce livestream, did I purchase a lot of items that I won't be using in the near future?	Q15
	3. Won't you buy unplanned items while watching live e-commerce?	Q16

3.3 Hypotheses

To analyze the factors influencing customers' impulsive buying in live-streaming, this study constructs a model with customer audio-visual experience, Customer Heart Flow Experience, and product attributes as independent variables.

The audio-visual experience in e-commerce live-streaming is primarily aimed at selling products, and the attractiveness of the anchor increases its perceptual practicality. The increase in desire to purchase in the live-streaming room is due to the increase in pleasure. In the context of e-commerce live-streaming, this is achieved by providing high-quality visual and auditory experiences to enhance pleasure and thereby promote customers' behavior of making purchases in the live-streaming room. Under the influence of the quality of merchant products and the anchor's explanation, different reactions will be made, which will affect the results of purchases in the live-streaming room. Therefore, the hypothesis is proposed as shown in Figure 3.1.

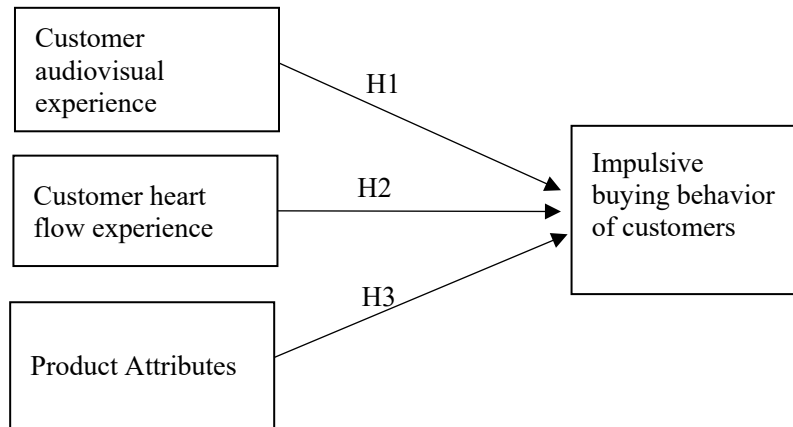


Figure 3.1 Hypotheses

H1: High-quality audiovisual experience in live e-commerce has a positive impact on live shopping.

H2: Customer heart flow experience has a positive impact on live shopping.

H3: Product attributes have a positive impact on live shopping.

3.4 Population and Sampling

This article mainly studies the influencing factors of customers' purchasing behavior in live-streaming rooms. The main subjects of this study are customers who participate in live-streaming. The survey content includes users' gender, age, education level, income, shopping frequency, audiovisual experience, flow experience, product attributes, and live shopping behavior. The main research method of this study is random sampling.

$$N = \frac{r^2 * q^2}{E}$$

According to the sample formula calculation, the data collected are the quartiles of the standard normal distribution, with a typical confidence level of 95%. "q" represents the sample standard deviation, which is usually estimated as 0.5. The margin of error, denoted as "K" (i.e., the maximum allowable difference between the sample mean and the population mean), is set at 0.05. Applying this formula yields a sample size of 408 respondents. The random sampling method used is to conduct online surveys using Questionnaire Star, distributing the questionnaires and randomly selecting samples from the population.

3.5 Data Collection

Before conducting the questionnaire survey, this study conducted a pre-test. The questionnaire was precisely distributed to respondents through the "Credamo platform," and cash rewards were given to participants with good questionnaire completion quality. A total of 482 questionnaires were collected, and after excluding invalid ones, 400 valid questionnaires were obtained, with an effective rate of 82.99%. A 5-point scale was used to measure respondents' opinions on each item, where 1 point represented

"strongly disagree" and 5 points represented "strongly agree." The pre-test found that although the instructions given before the survey explicitly requested objective answers, respondents may still have formed subjective judgments of good or bad, right or wrong, leading to a tendency to choose extreme values in their responses. Therefore, in the formal survey questionnaire, questions will be further elaborately described to prevent ambiguous statements. Due to the uncontrollability of respondents' answering situations when anonymously filling out the questionnaire online, online incentives were used to encourage respondents to complete the survey seriously, thereby stimulating their enthusiasm for participating in the survey through paid responses. According to the collected data, 482 individuals participated in the pre-test. After screening out cases of missed questions and extreme situations where all answers were the same, 400 valid questionnaires were obtained.

Through the statistical analysis of the data from 400 samples, it was found that 270 individuals frequently make purchases in the context of e-commerce live-streaming, while 130 individuals rarely make purchases. The ratio is close to 3:1, indicating a reasonable distribution of purchase frequency. This sample is relatively consistent with the theme of this study.

3.6 Data Analysis

3.6.1 Reliability

Reliability refers to the consistency of a measure with the variable it is intended to measure. Assessing reliability indicates the extent to which people can trust it. The higher the reliability, the less error is introduced into the scores of different items on the same scale. Therefore, scores on the scale move consistently among respondents, reflecting the true state of affairs. The greater the consistency, the higher the reliability, and vice versa. In this study, Cronbach's Alpha was used as the basis for assessing the reliability of the questionnaire. Generally, Cronbach's alpha values range from 0 to 1, with higher values indicating greater reliability. Survey data indicate good reliability of the questionnaire. The questionnaire consists of 23 items. The Cronbach's alpha value for customer audiovisual experience is 0.824. The Cronbach's alpha value for Customer Heart Flow Experience is 0.801. The Cronbach's alpha value for product attributes is 0.879. The Cronbach's alpha value for the Impulsive buying behavior of customers is 0.873. All of these values are greater than 0.8, indicating high stability and consistency of the scale. This suggests that the questionnaire reliability in this survey is very good, as shown in Table 3.2.

Table 3.2 Variable Reliability Tests

Variable	Cronbach Alpha	N of Items
Customer audiovisual experience	0.824	4
Customer heart flow experience	0.859	5
Product Attributes	0.801	5

Impulsive buying behavior of customers	0.879	3
--	-------	---

The effectiveness of the operation

In the pre-test questionnaire, questions Q1 and Q2 were set to explore the reasons why customers make purchases in live-streaming sessions. This resulted in a divergence in the reasons stated by the respondents for their purchasing behavior. Some acknowledged that the livestream provided a good audiovisual experience, the content itself was valuable and meaningful, and the recommended products were excellent. However, a significant portion of respondents indicated that their purchases were motivated by their fondness for the host. Data from the 45th Statistical Report on Internet Development in China by CNNIC indicated that a considerable proportion of purchases in e-commerce live-streaming are driven by customers' admiration for the hosts, known as the internet celebrity economy. However, in recent years, there has been a significant polarization in the traffic of e-commerce live-streaming, with only a small number of hosts dominating the top traffic positions on e-commerce platforms. Therefore, such phenomena are considered rare events in the e-commerce live-streaming industry. However, the marketing strategies proposed in this study need to be universally applicable to e-commerce live-streaming businesses. Additionally, questions Q1 and Q2, which pertain to the reasons for live-streaming purchases, had a sample selection bias toward hosts, with over 70% of respondents selecting them, a proportion much higher than expected by the study, indicating a discrepancy from the selected direction of the study. Therefore, questions related to hosts were removed from the official questionnaire.

Validity refers to the examination of the validity of each variable in the questionnaire. Factor analysis is a commonly used method to test questionnaire validity. The validity of the questionnaire was determined through factor analysis. The KMO test and Bartlett's sphericity test of the questionnaire need to be conducted before the principal component factor analysis. Factor analysis can only be conducted if the KMO value is greater than 0.7. Survey data showed that the overall KMO value was 0.907, and the significance was 0.000, which is less than 0.05, indicating significance at a significant level, allowing for factor analysis. This study employed Confirmatory Factor Analysis (CFA) to conduct factor analysis on various variables. The KMO and Bartlett's sphericity tests were conducted on the pre-test data to validate the structural validity of the scale, as shown in Table 3.3. The KMO value was greater than 0.8, and Bartlett's sphericity test was significant, indicating good structural validity of the scale. This suggests that the dimensions of the questionnaire are relatively independent, indicating good overall validity of the questionnaire.

Table 3.3 KMO and Bartlett's test

Kaiser -Meyer -Olkin Sampling Adequacy Measures		0.837
Bartlett's test of sphericity	Approx. CARTES	6942.00

	df	194
	organizations	0.000

Table 3.4 Validation Factor Analysis (CFA)

Total Variance Explained								
unit	Initial eigenvalue		The extraction of square loads			Rotation of the square load		
	variance %	accrue %	total	Percentage of variance	accrue %	total	Percentage of variance	accrue%
1	21.623	21.623	4.656	22.523	22.523	3.732	15.330	16.334
2	12.017	33.640	3.104	12.017	34.640	2.721	12.284	28.615
3	9.753	42.393	2.188	9.753	43.393	2.833	12.039	36.653
4	6.716	58.185	1.779	6.716	68.185	2.475	8.900	68.011

The cumulative percentage of customer audiovisual experience, customer heart flow experience, product attributes, and Impulsive buying behavior in live-streaming purchases is 68.011%. Finally, data analysis indicates that Cronbach's α for customer audiovisual experience is 0.856, for customer flow experience is 0.880, and for product attributes is 0.895. Cronbach's α value for Impulsive buying behavior live-streaming purchases is 0.873. All Cronbach's α values are greater than 0.7, explaining 68.011% of the variance, as shown in Table 3.4. Reliability and validity analyses were conducted for each variable, indicating good independence for each dimension. The final results show that the questionnaire has good reliability and validity.

Chapter 4 Findings

4.1 Introduction

This chapter will validate the conceptual model of the impact of e-commerce live-streaming on customer purchases in live broadcasts constructed in Chapter 2 and test the research hypotheses. Based on the reliability and validity tests of the questionnaire in Chapter 3, statistical analysis and hypothesis testing of the sample data will be conducted. Firstly, descriptive statistical analysis of the overall data will be performed using SPSS 22.0 software, including demographic characteristics analysis, data statistical analysis, and sample data analysis related to customer audiovisual experience, customer flow experience, and product attributes involved in this study. Then, the conceptual model will be validated and analyzed. Finally, the structural equation model of the impact of e-commerce live-streaming on customer purchases in live broadcasts will be verified using AMOS 22.0 software, and hypothesis testing results will be obtained.

4.2 Descriptive Statistics of the Variables

This study collected and screened a total of 400 valid sample data. To comprehensively understand the distribution of the sample population, this section will conduct descriptive statistical analysis using SPSS software on aspects such as gender, age, educational background, occupational status, and income level, as shown in Table 4-1.

Table 4.1 Descriptive statistics of the sample data

Name	Results of frequency analysis			
	options	frequency	Percentage (%)	Accumulated percentage (%)
genders	men	187	46.75	46.75
	women	213	53.25	100.00
age groups	20 years and below	75	18.75	18.75
	21 to 50 years old	237	59.25	78
	50 years and older	88	22.00	100.00
qualifications	High school and below	35	8.75	8.75
	junior college	37	9.25	18.00

	undergraduate	221	55.25	73.25
	bachelor's degree	70	17.50	90.75
	doctor	37	9.25	100.00
Monthly income level	Less than 3000	50	12.50	12.50
	3000 to 5000	94	23.50	36.00
	5000 to 8000	162	40.50	76.50
	8000 to 12000	72	18.00	94.50
	12000 or more	22	5.50	100.00
Consumption in the live room	never	33	8.25	8.25
	infrequent	72	18.00	26.25
	general	69	17.25	43.50
	regular	195	48.75	92.25
	frequently	31	7.75	100.0
add up the total		400	100.0	100.0

After conducting a descriptive statistical analysis of the respondents' basic personal information, it was observed that the gender distribution was relatively balanced, indicating a reasonable representation of gender in the questionnaire. A majority of the valid responses were from females, constituting over 53% of the total, suggesting a higher level of favorability towards live-streaming purchases among female consumers, as illustrated in Figure 4.1.

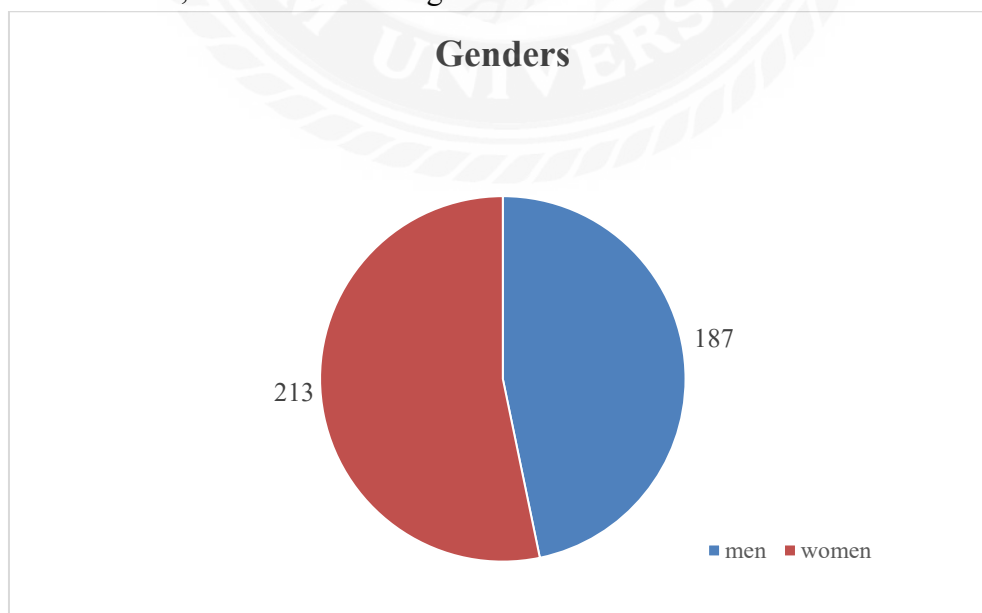


Figure 4.1 Gender Descriptive Statistics

From the perspective of age groups, the sample almost covers the entire age spectrum, but it is primarily composed of young and middle-aged individuals aged between 21 and 50. This age group constitutes 60% of the total sample size and represents the primary customers for live-streaming consumption. The reason for this could be that these individuals possess a certain level of purchasing power and are enthusiastic about experiencing new things, as depicted in Figure 4.2.

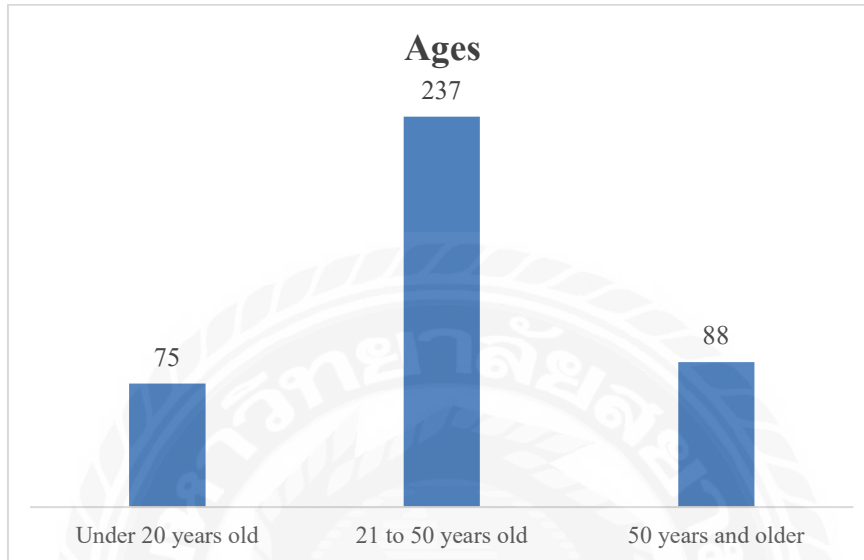


Figure 4.2 Age Descriptive Statistics

In terms of educational background, the survey covered individuals from high school to doctoral levels. However, the majority of participants held a bachelor's degree, comprising over 50% of the total. The overall educational level of the respondents was relatively high, with the number of participants holding doctoral and master's degrees exceeding those with college or lower educational qualifications, as illustrated in Figure 4.3.

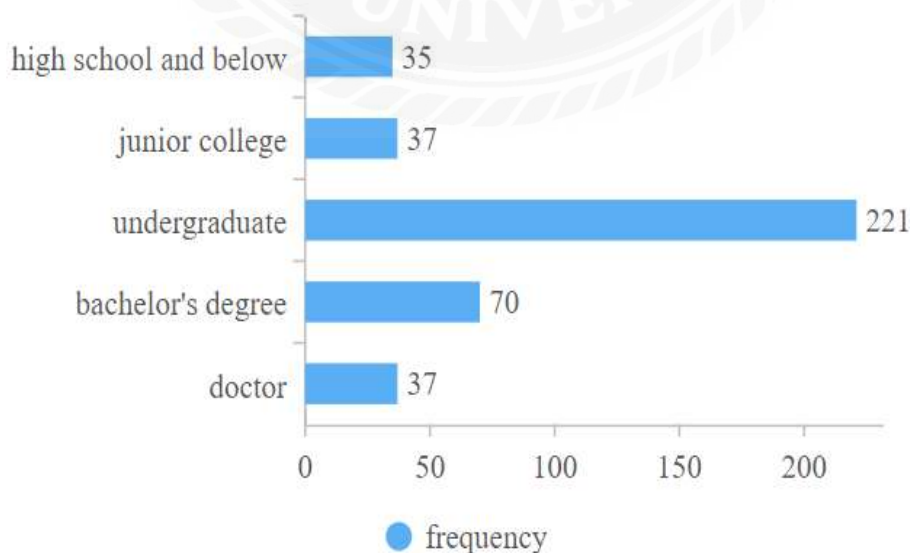


Figure 4.3 Educational Qualifications Descriptive

In terms of monthly income levels, the survey encompassed a broad range, with the majority falling within the moderate-income range of 5000-8000 per month, constituting 40% of the sample. The percentage of individuals with low incomes was relatively low, aligning with the target customer base of new retail enterprises, as depicted in Figure 4.4.

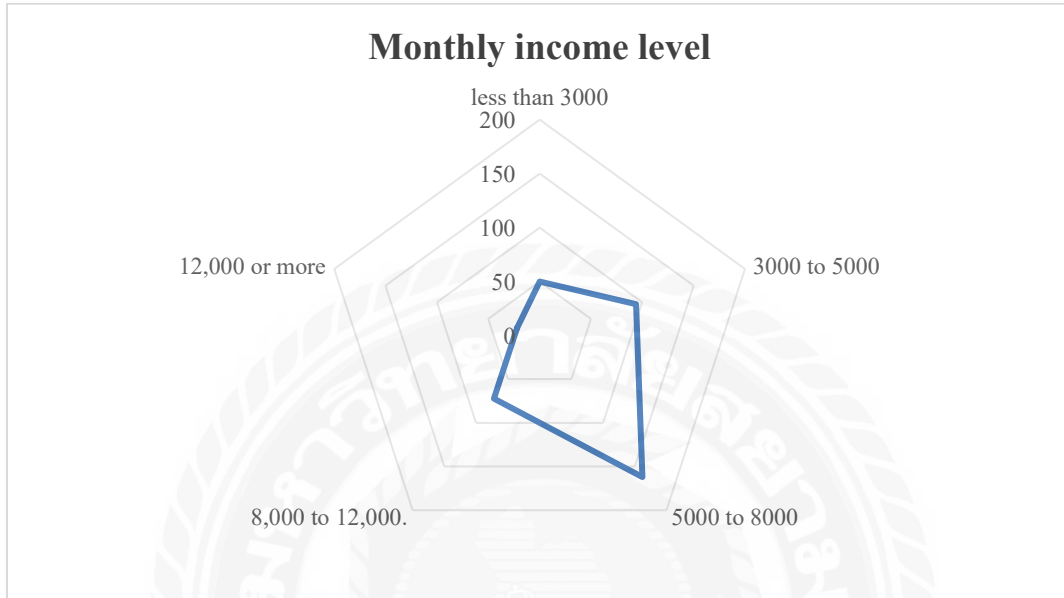


Figure 4.4 Descriptive Statistics of Monthly Income Levels

From the perspective of purchasing experiences in live-streaming channels, nearly half of the respondents indicated that they frequently make purchases through live-streaming channels. The group of people who frequently shop through live-streaming channels comprises the highest proportion, with over 50% of respondents indicating frequent or frequent and frequent purchases through live-streaming channels, as shown in Figure 4.5.

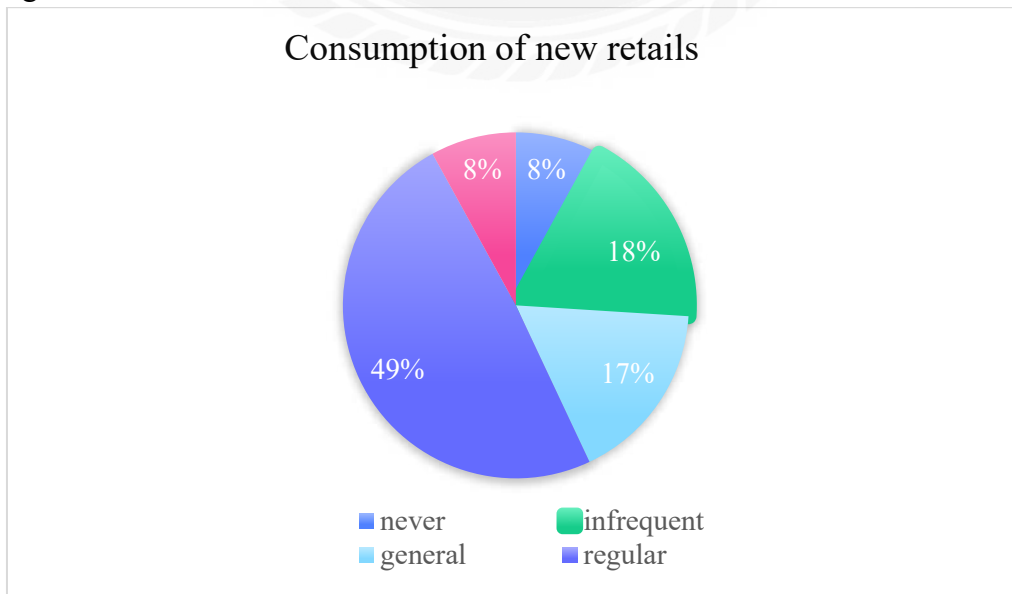


Figure 4.5 Descriptive statistics of purchase consumption in the live room

4.3 Research Results

4.3.1 Correlation Analysis

Correlation analysis is primarily used to illustrate the relationships between various variables. Pearson correlation analysis is employed to demonstrate the linear relationships between variables. The Pearson correlation coefficient ranges from -1 to 1. By using Pearson correlation coefficient analysis, the relationships among the factors influencing impulsive purchasing were examined. Based on Table 4, the following conclusions can be drawn: The Pearson correlation coefficients of customer audiovisual experience, customer heart flow experience, product attributes, and impulsive purchasing are all greater than 0.5 and less than 0.9, with a significance level of $P < 0.01$, indicating that there are significant positive correlations among these variables.

Table 4.2 Correlation between variables (Pearson correlation matrix)

Variable	Customer audiovisual experience	Customer heart flow experience	Product attributes	impulsive buying behavior
Customer audiovisual experience	1			
Customer heart flow experience	.591 **	1		
Product attributes	.551 **	.665 **	1	
impulsive buying behavior	.572 **	.692 **	.675 **	1

注:* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

From the table, it can be observed that the Pearson correlation coefficients of customer audiovisual experience, customer heart flow experience, product attributes, and impulsive purchasing are all greater than 0.5 and less than 0.9, with a significance level of $p < 0.01$, indicating that there is a correlation between the variables, and it is a positive correlation.

The Pearson correlation coefficient between customer audiovisual experience and customer heart flow experience is 0.591, $p < 0.01$, indicating a correlation between them, and it is a moderate correlation.

The Pearson correlation coefficient between customer audiovisual experience and product attributes is 0.551, $p < 0.01$, indicating a correlation between them, and it is a moderate correlation.

The Pearson correlation coefficient between customer audiovisual experience and

impulsive purchasing is 0.572, $p < 0.01$, indicating a correlation between them, and it is a moderate correlation.

The Pearson correlation coefficient between customer heart flow experience and product attributes is 0.665, $p < 0.01$, indicating a correlation between them, and it is a moderate correlation.

The Pearson correlation coefficient between customer heart flow experience and impulsive purchasing is 0.692, $p < 0.01$, indicating a correlation between them, and it is a moderate correlation.

The Pearson correlation coefficient between product attributes and impulsive purchasing is 0.675, $p < 0.01$, indicating a correlation between them, and it is a moderate correlation.

Through the analysis above, it can be concluded that the factors influencing impulsive purchasing include customer audiovisual experience, customer heart flow experience, and product attributes. Therefore, to enhance impulsive purchasing, it is necessary to take reasonable and scientific management methods from these three aspects. The correlation between variables indicates that each variable plays a certain role in the model, reflecting the rationality of the model construction.

4.3.2 Multivariate Regression Analysis

The data underwent a multiple regression analysis to determine the relationship between the dependent variable, impulsive purchasing, and the independent variables: customer audiovisual experience, customer heart flow experience, and product attributes. The regression equation was significant, with $F = 142.172$, $p < 0.001$. The Durbin-Watson test value was 1.944, falling between 1.8 and 2.2, indicating data independence and meeting the requirements for linear regression. In the covariance diagnostic results, the VIF values for customer audiovisual experience, customer heart flow experience were 1.118, 1.091, 1.195, and 1.073, respectively. Since all VIF values were close to 1, this indicated no covariance in the data.

Customer audiovisual experience ($\beta = 0.145$, $p < 0.05$), customer heart flow experience ($\beta = 0.218$, $p < 0.05$), and product attributes ($\beta = 0.112$, $p < 0.05$) significantly positively influences impulsive purchasing. These variables jointly explained a weight of 57.5% in impulsive purchasing, meeting the requirements.

Table 4.3 Multiple Regression Analysis

Item	Unstd. B	Std. Beta	t	Sig.	VIF	F	Durbin-Watson
C	3.209	-	7.506	0.000		142.172 ** *	1.944
Customer Audiovisual Experience	0.145	0.175	4.176	0.000	1.118		
Customer Heart Flow Experience	0.218	0.262	5.327	0.000	1.091		
Product Attributes	0.112	0.130	2.753	0.006	1.195		
R-squared	0.579						
Adjusted R-square	0.575						

注:* p<0.05, ** p<0.01, *** p<0.001

According to the multivariate regression analysis, the relationships among the variables are obtained:

Impulsive buying = 3.209 + 0.145 customer audiovisual experience + 0.218 customer heart flow experience + 0.112 product attributes. Therefore, according to the data analysis results, customer audiovisual experience has a significant positive impact on impulsive buying, supporting hypothesis H1. Customer heart flow experience has a significant positive impact on impulsive buying, supporting hypothesis H2. Product attributes have a significant positive impact on impulsive buying, supporting hypothesis H3.



Chapter 5 Conclusion and Recommendation

5.1 Conclusion

In recent years, live-streaming marketing has rapidly grown into an important e-commerce marketing method. Due to intense market competition and increasing homogenization of goods, effective marketing strategies have become crucial for e-commerce platform merchants to boost sales. Therefore, leveraging the significant advantages of live-streaming for promotion and marketing has become a widely adopted model among businesses. However, how to scientifically and effectively utilize the characteristics of live-streaming for user retention and sales conversion remains a long-standing challenge for merchants and platforms.

This chapter will propose marketing strategies conducive to the development of e-commerce live-streaming based on the empirical analysis results of impulsive buying by customers in Chapter 4. These strategies will be presented from the perspectives of merchants, customers, and platforms, aiming to guide e-commerce platform merchants in conducting targeted marketing activities using live-streaming tools to enhance sales conversion rates.

Through correlation and regression analyses, Pearson correlation coefficients for customer audiovisual experience, customer flow experience, product attributes, and impulsive buying were obtained. The Pearson correlation coefficients were 0.591, 0.551, 0.572, and 0.584, respectively, all exceeding 0.5 but less than 0.9, with $p < 0.01$, indicating correlations among the variables. In the regression analysis, a regression model was constructed with coefficients of 0.145 for customer audiovisual experience, 0.218 for customer flow experience, and 0.112 for product attributes, indicating positive correlations between these variables and user management satisfaction.

The research results demonstrate that factors such as customer audiovisual experience, customer flow experience, and product attributes influence impulsive buying. Customer audiovisual experience, customer flow experience, and product attributes positively influence impulsive buying. In the study of factors influencing impulsive buying in live-streaming purchases, customer audiovisual experience significantly positively influences impulsive buying, supporting hypothesis H1. Customer flow experience significantly positively influences impulsive buying, supporting hypothesis H2. Product attributes significantly positively influence impulsive buying, supporting hypothesis H3.

5.1.1 Analysis of Factors Influencing Customer Impulsive Buying Behavior in Chinese Live E-commerce Business.

According to the survey questionnaire and data analysis, three main factors influencing impulsive purchases in live-streaming shopping were identified. The Pearson correlation coefficients between customer audiovisual experience, customer heart flow experience, product attributes, and impulsive purchases were all greater than 0.5 and less than 0.9, with $p < 0.01$, indicating a positive correlation between variables.

The Pearson correlation coefficient between customer audiovisual experience and

customer heart flow experience is 0.591, $p < 0.01$, indicating a correlation between them, and it is a moderate correlation.

The Pearson correlation coefficient between customer audiovisual experience and product attributes is 0.551, $p < 0.01$, indicating a correlation between them, and it is a moderate correlation.

The Pearson correlation coefficient between customer audiovisual experience and impulsive purchasing is 0.572, $p < 0.01$, indicating a correlation between them, and it is a moderate correlation.

The Pearson correlation coefficient between customer heart flow experience and product attributes is 0.665, $p < 0.01$, indicating a correlation between them, and it is a moderate correlation.

The Pearson correlation coefficient between customer heart flow experience and impulsive purchasing is 0.692, $p < 0.01$, indicating a correlation between them, and it is a moderate correlation.

The Pearson correlation coefficient between product attributes and impulsive purchasing is 0.675, $p < 0.01$, indicating a correlation between them, and it is a moderate correlation.

Through research analysis, factors influencing impulsive purchases include customer audiovisual experience, customer heart flow experience, and product attributes. Therefore, to enhance impulsive purchases, it is necessary to address these three aspects and adopt reasonable and scientific management methods.

5.1.2 Impact of customer audiovisual experience, customer heart flow experience, and product attributes on customer impulsive buying behavior in live-streaming commerce.

1. Good audiovisual experience of customers has a positive impact on impulsive buying behavior.

The primary distinction between marketing in e-commerce live-streaming and traditional e-commerce webpage marketing lies in the dynamic visual presentation. Therefore, enhancing visual marketing stimuli is essential and effective in the field of e-commerce live-streaming. For e-commerce live-streaming, visual effects stem from the setup of the live studio, lighting, and product display, as well as the personal appearance and attire of the host. Improving the flow experience is a crucial marketing tactic for merchants to attract customers. Online retailers should pay close attention to and apply flow experience appropriately. During online shopping, customers' experiences influence their emotions and cognition, thereby affecting their final purchasing behavior. Currently, homogenization is prevalent in e-commerce live-streaming, making it challenging for merchants to stand out among competitors and capture customers' attention.

2. High heart flow experience among customers has a positive impact on impulsive buying behavior.

Auditory marketing, utilizing sound as a means, is a marketing strategy aimed at enhancing communication with customers to establish the brand image of a business.

In an equally sensitive sense, the strategic use of auditory stimuli can have a positive impact on marketing efforts. Therefore, enhancing positive auditory experiences is a key factor for e-commerce platform merchants to improve customer flow experience during live broadcasts. In the process of e-commerce live-streaming, background music in the live room, the pace, tone, and intonation of the host's voice can influence customers' perception of the live stream, thereby affecting their consumption decisions.

3. Strong product attributes have a positive impact on impulsive buying behavior.

Strengthening manufacturing control to improve the cost-effectiveness of products is crucial. For most customers, they are easily attracted to products that offer good value for money when making purchasing decisions. Therefore, the cost-effectiveness of products significantly influences customer purchasing decisions and satisfaction. This holds for purchases made in live-streaming sessions as well. Hence, efforts should be made to enhance the cost-effectiveness of products in live-streaming purchases to increase their attractiveness to customers and their satisfaction with the products. To enhance the cost-effectiveness of a product, it is essential to ensure that customers perceive the product as worthy of its price. Doing so, not only increases customer satisfaction with the company, but it also helps in acquiring a group of loyal customers in advance and increases the company's profits.

5.2 Recommendation

1. Continuously improving the service quality of e-commerce live-streaming from the customer's perspective.

Firstly, businesses should accurately position their brand image and present a consistent brand effect to the outside world, which can be standardized in written form. This reflects that the business has an independent brand image and can provide customers with a sense of trust. Therefore, when designing the decoration of the live-streaming room, the color scheme should align with the consistent image of the brand. Attention should be paid to coordinating color combinations, cleanliness, and adding signs that reflect the personality or values of the e-commerce platform business. In this way, a personalized atmosphere is created for the brand, and the characteristics of the products or services being sold can be conveyed to online customers. The appropriate lighting color temperature can easily create a sense of comfort and evoke more positive emotions, thereby speeding up the time for customers to enter the flow experience and being more conducive to the implementation of the marketing strategy of the business.

Secondly, the display of products in the live-streaming room will affect the visual experience of customers to some extent. Crowded and messy product displays will weaken the customer's shopping mood and affect the overall presentation of visual marketing. If there are too many products and the organization work is complicated, it is advisable not to display the products directly in the live-streaming room. Instead, they can be placed near the camera range but out of direct sight, with the display of a product showcase and customer interaction. This approach can avoid the negative

impact on marketing, but from a positive perspective, it also reduces the customers' understanding of the business. Therefore, if products are to be displayed in the live-streaming room, a large amount of preliminary organization work is required, and the spatial layout for display should be designed to be neat and clear, which is conducive to enhancing the brand image of the e-commerce platform business. It allows online customers to fully feel the pleasant and comfortable environment of the live-streaming room, further enhancing customer satisfaction and pleasant experience, ultimately improving customer flow experience and stimulating potential customers to make purchase decisions.

Lastly, the connection between businesses and customers through anchors is crucial. The personal temperament and image of the anchor directly reflect on customers, and the choice of the anchor by businesses will affect customers' perception of the brand. Therefore, to maintain the consistency of the brand, when selecting anchors, businesses need to consider whether the personal temperament, image, and values of the anchors meet the requirements of the business. Before the formal live-streaming, businesses need to provide brand image and values training to the anchors. As the display window for products, customers naturally identify anchors and businesses as a whole. Thus, when the anchor's image is respected, customers' satisfaction is enhanced. With increased satisfaction, customers experience more pleasure during the consumption process, leading to an increase in impulsive purchases.

2. Continuously improving the service quality of auditory marketing stimuli in customer live-streaming rooms.

Firstly, it is essential to add background music in customer live-streaming rooms that harmonize with the brand image and atmosphere of the live stream. Care should be taken to adjust the volume appropriately, ensuring it does not overshadow the product display. Furthermore, the selection of music should align with the brand image and style. When chosen correctly, background music can alleviate dead air, enhance brand image, build emotional connections with customers, and create a conducive shopping environment.

Secondly, customers primarily receive information and learn about products through the expressions of the hosts. It is crucial to use fluent and pleasant language to explain the main features and price information of the products, leveraging sensory effects to enhance their appeal and encourage viewers to spend more time in the live stream. Host expression involves aspects such as speech clarity, speed, and intonation. For example, hosts should ideally speak standard Mandarin to cater to customers nationwide, except for regional e-commerce platforms that may require dialect-speaking hosts. Additionally, maintaining an appropriate speaking pace while introducing and showcasing products is crucial. Speaking too quickly may prevent customers from fully comprehending product information while speaking too slowly can lead to customer frustration. A moderate pace ensures clear articulation and allows customers to receive complete product and marketing information, facilitating informed purchasing decisions. Moreover, intonation plays a vital role in evoking customer

emotions. Varied intonation patterns can captivate customers' attention and maintain their engagement with the e-commerce livestream marketing content over an extended period.

3. Continuously improving the overall quality of products and enhancing brand value.

Focus on personalized customer needs and innovative products and services. In the current retail industry in China, the focus has shifted from product-oriented to customer-oriented (Zhang & Tao, 2017). In this context, it is crucial to promptly identify and understand customer needs and consumer psychology and to quickly respond by designing products and services tailored to meet personalized customer demands. This approach is essential for increasing customer satisfaction and gaining a competitive edge in the market.

For live shopping, users often have more advanced consumption concepts and diverse consumer demands, which are continuously evolving. To meet the needs of these customers and enhance their satisfaction, live shopping platforms must track and analyze customer psychology and demands. Technologies such as big data and cloud computing can provide significant assistance in understanding customer psychology and consumption demands. By utilizing these technologies, live shopping platforms can effectively grasp customer needs.

Live shopping platforms also need to respond quickly and appropriately. This may involve innovating product quality and services or changing marketing strategies to meet customer demands as much as possible, thereby increasing impulsive purchases by customers.

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Appendix

Dear Sir/Madam,

Good day!

I am a graduate student at Siam University in Thailand and I am currently conducting research on the impact of e-commerce live-streaming on consumers' impulsive buying behavior.

I need relevant research data. In the questionnaire, the audio-visual experience of e-commerce live-streaming refers to your visual and auditory experience when watching e-commerce live-streaming. I hope you will fill in the following questionnaire truthfully according to your specific situation. This questionnaire is divided into two parts. This survey is only used for academic research and will not have any negative impact on you, so please answer with peace of mind. I sincerely express my gratitude for your support! Thank you for participating in this questionnaire survey. This survey will be conducted anonymously, and your relevant information will be kept confidential. Once again, thank you for your cooperation!

PART I :

1. Your gender:
A. Male B. Female
2. Your age group?
A. Below 18 years old B. 21-50 C. Above 50 years old
3. Your highest education level?
A. High school and below B. Bachelor's degree
C. Master's degree D. Doctor's degree
4. Your occupational status
A. Student B. Employed C. Unemployed
- 5 Your monthly income range?
A. 3000 or below B. 3000~5000 C. 5000~8000
D. 8000~12000 E. 12000 or above
- 6 Have you ever done online shopping through live e-commerce?
A. Yes B. No
7. How often have you ever bought shopping on the live broadcast?
A never B occasionally C often D frequently

Part II: Please indicate the extent to which you agree with the following statements. Choose the most appropriate option and place a "√" on the corresponding number. The questionnaire uses a Likert scale, with scores ranging from 1 to 5. 1 indicates strongly disagree (or strongly disagree), 2 indicates somewhat disagree (or somewhat disagree), 3 indicates neutral, 4 indicates somewhat agree (or somewhat agree), and 5 indicates strongly agree (or strongly agree).

Measurement items	Strongly disagree	disagree	neutral	agree with	agree strongly
Customer Audiovisual Experience					
1. Can a good audio-visual experience improve your comfort in watching live e-commerce?					
2. Does a good audio-visual experience increase your interest in watching live e-commerce?					
3. Does a good audio-visual experience enhance your enjoyment of watching live e-commerce?					
4. Will a good audio-visual experience keep you watching live for a long time?					
Customer heart flow experience					
1. Is there impulsive consumption behavior that generates pleasure when watching live broadcasts?					
2. pleasure in watching live e-commerce so that can continue to watch with impulsive consumption behavior?					
3. While watching the live e-commerce broadcast, it feels like time passes quickly any impulsive spending behavior?					
4. When watching live e-commerce, do you have impulsive spending behavior when you are immersed in it and don't pay much attention to other things?					
5. Are you interested in watching livestreams where you can't resist buying products (props) or rewarding them?					
Product Attributes					

1. Do you spend on impulsive the higher the monetary value of the product?					
2. Your perception of the product product cost-effective impulsive spending?					
3. Do you have an impulsive to consume the product in the province of perceived scarcity?					
4. Do you have a strong impulsive to spend on products designed to be functional?					
impulsive buying behavior					
1. When watching live e-commerce, do you often purchase items that you did not intend to buy?					
2. While watching the e-commerce livestream, did I purchase a lot of items that I won't be using in the near future?					
3. Won't you buy unplanned items while watching live e-commerce?					

