

Factors Influencing Purchase Decision of Chinese Consumer under Live Streaming E-Commerce Model

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Abstract

Since 2016, livestreaming e-commerce model has become a breakthrough in the transformation of traditional Chinese e-commerce by virtue of its superior capacity of traffic conversion. Compared with traditional e-commerce, livestreaming e-commerce model can bring consumers more direct and real shopping experience and stimulate consumers to make purchasing decisions more quickly. In 2020, due to the impact of the covid-19 epidemic, many offline stores suffered heavy losses. However, under such circumstances, the scale of livestreaming users has grown rapidly, which has brought huge traffic support for livestreaming shopping. Therefore, livestreaming e-commerce model have not only become a new channel for offline stores to continue to survive, but also bring offline stores into a new era of online business development. Therefore, it is very important to explore and understand the factors that influence consumers' purchase decision under the live streaming e-commerce model for businesses and e-commerce platforms to improve their own attractiveness and marketing strategies and to promote consumers' purchasing decisions.

In this study, six independent variables including public image of live streamer, interaction, product individualization, price, promotion and platform loyalty, and one dependent variable called purchase decision were studied. This study aims to understand the structural relationships among these potential variables that could influence consumer purchase decision in livestreaming e-commerce business. The dataset is analyzed to test the hypothesis postulated in this study using Structural Equation Models (SEM).

The results show that product individualization and platform loyalty have a significant impact on consumers' purchase decisions, as for price, promotion, public image of live streamer and interaction, it was not found to have a significant influence on purchase decision, but we found that public image of live streamer can significantly influence platform loyalty on purchase decision. In addition, we incorporate marketing variable as second-order latent variable in our SEM model to try to capture marketing effect in livestreaming e-commerce world. Although this marketing path turns out to be insignificantly influence purchase decision, this could partly be due to limited numbers of marketing-related variables including in this study. However, we found that product individualization significantly influences marketing effect purchase decision which could be a good starting point for future research. In brief, this study provided some suggestions for the industry, e-commerce businesses and e-commerce platforms, and summarized the shortcomings and prospects of this study, hoping to provide useful implications for future researchers to further explore the purchase decision in live streaming e-commerce.

Keywords: Live Streaming, E-Commerce, Live Streaming E-Commerce, Purchase Decision, Structural Equation Models (SEM)

Since 2016, the scale of live streaming e-commerce market has been expanding continuously. In 2020, the monthly active users of Taobao platform have reached 756.24 million, JD.com 267.99 million, Pinduoduo 440.84 million, Douyin 469.18 million and Kuaishou 470.15 million. Meanwhile, the GMV of live streaming e-commerce is also growing rapidly. In 2019, the GMV of live streaming e-commerce is about 390 billion yuan, while in 2020, the GMV of live streaming e-commerce enterprises will exceed 1 trillion yuan (Forward, 2020).

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Compared with traditional e-commerce, live streaming e-commerce can not only show and explain products to consumers more intuitively and comprehensively, and the interaction with consumers is more direct and timelier, but also promote consumers' purchasing decisions through some promotional activities and realize the traffic more quickly and effectively. Taobao and JD.com, as professional e-commerce platforms, took the lead in opening live streaming function in 2016, allowing consumers to directly watch live streaming of merchants and purchase products within the platforms. Short-video platforms, such as Kuaishou and Douyin, live-stream products within the platforms and then link to third-party e-commerce platforms for purchase, such as Taobao. The dividends brought by live streaming e-commerce are objective, which also urges all platforms to take live streaming e-commerce model as a new breakthrough point and keep innovating. In 2018, Kuaishou and Douyin successively opened their own e-commerce platform systems. In 2019, Taobao launched a dedicated live streaming APP. In 2020, Pinduoduo also opened the channel of live streaming, joining the army of live streaming e-commerce platforms.

The development and popularization of Internet technology in China has played a great role in promoting the development of live streaming and live streaming e-commerce. According to the 47th statistical report on internet development in China by China Internet Network Information Center [CNNIC] (2021), by December 2020, the number of internet users in China 989 million, the number of mobile Internet users was 986 million, the Internet penetration rate reached 70.4 percent, among them, the number of Chinese online shopping reached 782 million, accounting for 79.1 percent of the total internet users, and the number of mobile online shopping users reached 781 million, accounting for 79.2 percent of the mobile internet users. In year 2020, online live streaming maintained rapid growth with a growth rate of 10.2 percent, and the number of users reached 617 million, among which E-commerce live streaming users reached 388 million, accounting for 19.3 percent of the total Internet users.

In addition, the progress and innovation of Internet technology will provide stronger support for live streaming e-commerce. Such as 5G, 4K, VR is a new-generation information technology, will effectively solve the problems such as video lag, unclear product detail, and delay of network transmission, make the product get a more perfect and realistic presentation in detail, and make the consumers can get more fluent and clear viewing experience, it will be beneficial to improve the consumer shopping experience in live streaming e-commerce.

Relevant policies of the Chinese government are also friendly to the development of live streaming e-commerce, such as the "poverty alleviation program". The "poverty alleviation program" aims to core problems of China's poor areas and the poor population by the end of 2020. During the implementation of this policy, more and more remote places in China gained network coverage, laying a good foundation for the development of e-commerce. The marketing advantages brought by live streaming e-commerce encourage local governments in China to actively participate in the development of live streaming e-commerce. By establishing live streaming e-commerce association, building live streaming e-commerce base, cultivating live streaming e-commerce talents, building live streaming e-commerce industrial belt and other ways, the "live streaming e-commerce +" model is used to promote industrial development and help revitalize China's traditional industries (CNNIC, 2021).

In year 2020, the world was ravaged by Covid-19, during the epidemic, most of the people were isolated at home, online live-streaming became a popular way of entertainment, and live streaming E-commerce also became a safer and more effective way of shopping. Under the epidemic, offline stores and enterprises have suffered a huge impact. Many stores have been closed down, and consumers cannot leave their homes, which cannot bring enough customer flow to offline stores, which is very fatal for many traditional businesses. Under such circumstances, finding new sales channels and exploring digital transformation have become the urgent needs of offline businesses and enterprises. During this period, live streaming shopping which is very popular has brought new hope for these businesses and enterprises. Many businesses started live streaming online to selling products, unsalable products can re-enter the sales track, and the sales volume from the live-streaming, also alleviate the operating pressure of most businesses and enterprises. Data from Taobao shows that in February 2020, the number of new Taobao merchants opened live streaming increased 719 percent month-on-month. During the whole month of February, the total number of orders received by Taobao live streaming merchants increased by 20 percent every week on average, and the transaction amount doubled compared to year 2019 (Xinhuanet, 2020).

Any kind of product: cosmetics, skin care products, clothing, food, electronics, household products, even cars and houses can be sold via live streaming. Since the development of live streaming e-commerce, a large number of brands have achieved rapid sales growth through live streaming e-commerce. According to a report by Xinhuanet (2020), on 15 May 2020, Gree Electric Appliances, a well-known Chinese appliance brand, achieved sales of 703 million yuan through live streaming on JD.com.

For brands, e-commerce live streaming can not only bring them more sales, but also win a wider exposure rate for their brands through the traffic of e-commerce live streaming, so as to improve their brand influence to a higher level.

The sound development of the Internet, logistics and mobile payment has laid a good foundation for live streaming e-commerce. The marketing advantages brought by live streaming e-commerce and the huge traffic of each live streaming e-commerce platform, make live streaming e-commerce become the target of each major platform to compete for layout. More and more businesses and enterprises are more willing to cooperate with platforms to sell their products through live streaming. How to effectively promote consumers' purchasing decisions in the process of live streaming e-commerce and improve the conversion rate of live streaming e-commerce is particularly important. Therefore, to explore what variables will influence consumers' purchasing decision under the "live streaming e-commerce" model is needed.

Objective of study

The objective of this study is to study the factors that may influence the purchase decision of Chinese consumers under the "live streaming e-commerce" model, including the public image of live streamer, interaction, product individualization, price, promotion and platform loyalty.

Scope of research

Scope of variable: This research includes 6 major independent variables: public image of live streamer, interaction, product individualization, price, promotion, platform loyalty, and 1 dependent variable: purchase decision.

Scope of population/sample: This research focuses on responses from 400 target groups who have experience in, or are willing to participate in, or are related to live-streaming e-commerce shopping in China.

Scope of applied research methodology: this research mainly focused on quantitative research methodology.

Scope of data analysis and interpretation for hypothesis testing: this research collected and analyzed the final data and tested the research hypothesis within one month from the end of March 2021 to the end of April 2021.

Literature Review

Live streaming E-commerce model. With the promotion of the network and information technology, the development of live streaming E-commerce is becoming more and more rapid. Especially in the event of such unexpected disasters as COVID-19, the superior ability in promoting goods sales of live streaming E-commerce is highlighted, and makes Live streaming E-commerce more and more popular among merchants and consumers.

At present, there are many definitions of live streaming E-commerce model in the academic circle. Many researchers have defined live streaming E-commerce from the aspects of its development background, constituent elements, form and characteristics:

Guo, Y.W., & Xiao, X. (2019) defined the live streaming E-commerce model as a network economic development model generated by the development of web celebrity economy from the evolution process of live streaming E-commerce.

Tan, Y.L. (2017) thinks that live streaming E-commerce is a business model that directly connects users and product sales through live streaming on the basis of E-commerce and network live streaming as a means.

Qin, Z.J. (2020) thinks that live streaming E-commerce is a new model of E-commerce marketing with strong interaction and sociality, in which enterprises and businesses can narrow the distance between users and products through live streaming in order to achieve precise marketing.

Cong, L.P. (2021), Song, L.L., & Huang, Y.Z. (2020) et al., starting from the process form of live streaming E-commerce, explained that live streaming E-commerce is an online live streaming shopping model that takes mobile E-commerce platform as the carrier and makes use of live streaming technology and communication tools to interact with consumers in time and provide all-round display and explanation of commodities, so as to achieve the purpose of selling commodities.

Xie, H.Y. (2020) thinks that live streaming E-commerce can be referred to the e-commerce channel where merchants directly recommend selling goods on the spot in the form of video through live streamer or KOL (key opinion leaders) and finally make a deal.

From the perspective of supply chain, Tan, T., & Zhao, N. (2020) thinks that live streaming E-commerce is an O2O model, which formed by a complete industrial chain consisting of the upstream of supply chain and the downstream of suppliers and an online platform built through internet development.

From the perspective of communication threshold, Yin, H.H. (2020) explains live streaming E-commerce is a ritualized marketing communication activity that uses live streaming platforms as the media and constructs communication scenes with various audio-visual symbols, enabling both parties to realize purchase behavior and interpretation of meaning in the process of interaction.

In general, live streaming e-commerce is an e-commerce marketing model that uses live streaming to display, recommend and sell commodities to consumers.

As one of the "live streaming +" models, live streaming e-commerce model realizes the combination of the sales attributes of e-commerce and the flow attributes of live streaming (Rao, J.S., 2019), it has the characteristics of targeted presentation of commodity information, users and content producers can obtain and release commodity information at any time, rich and vivid visual display effect, users and content producers belong to the same community, highly interactive, strong sociability and real-time (Qin, Z.J., 2020). There are two main operating modes in live streaming E-commerce. One is embedded live streaming function in traditional E-commerce platforms, such as Taobao, JD.com; the other is integrating E-commerce into live streaming platforms, such as Douyin, Kuaishou. (Xie, H.Y., 2020; Zhang, X.F., 2020).

If traditional E-commerce breaks through the limitations of environmental space, event planning and ground promotion faced by traditional retail space and provides consumers with a new way of transaction (Chen, Y.Q., 2020), then live streaming E-commerce is on the basis of traditional E-commerce, provides businesses with a new, better touch of consumer channels (Wong, Y., 2019), and carried out a further breakthrough in time, space and marketing methods as well.

Compared with traditional E-commerce, live streaming E-commerce has great advantages in price and interactivity. In the live streaming E-commerce model, consumers can directly connect with brands and factories, eliminating the premium of intermediate links. Meanwhile, during the live streaming, consumers can interact with livestreamers in real time and with many other consumers (Zhong, T., 2020), which, on the one hand, increases consumers' understanding of products, on the other hand, it also caters to consumers' psychological pursuit of leisure and entertainment (Cai, P.J., 2020), and enhances the sense of shopping experience (Chen, Y.Q., 2020). In addition, consumers can watch E-commerce live streaming anytime and anywhere, no longer restricted by time and region (Zhong, T., 2020). Besides, E-commerce live streaming can also create rich live streaming scenes for consumers (Chen, Y.Q., 2020), not only can deliver real and dynamic product content to consumers, but also enhance consumers' sense of presence (Cong, L.P., 2021), which stimulates consumers' shopping desire to a large extent.

Public image of live streamer. The biggest difference between live streaming E-commerce and traditional E-commerce lies in the live streamer. In traditional E-commerce, consumers take the initiative to find product information and purchase, while in live streaming E-commerce, live streamer take the initiative to convey product information to consumers and guide consumers to purchase. In the process of live streaming of e-commerce, live streamers introduce products to consumers in the form of live streaming and give full play to their own advantages (appearance, eloquence, skills, etc.), market judgment, sales ability, etc., so as to turn accumulated fans into consumers with purchasing power and realize the final realization of traffic while selling products (Xie, H.Y., 2020). By virtue of the strong ability to attract fans and the performance in live streaming, live streamers can, to a certain extent, eliminate the suspicion of potential buyers due to their lack of understanding of the product, and deepen viewers' interest in the product (Cai, P.J., 2020).

Many researchers have also studied live streamers as opinion leaders. Fu, Q.X. (2020) thinks that live streamers sell products through live streaming e-commerce platforms, which is essentially the guiding role of key opinion leaders to consumers. The professional ability, expression value and popularity of live streamers are important reasons for becoming opinion leaders. However, both live streamers and opinion leaders are an indispensable part of live streaming E-commerce. Therefore, in this study, the public image of live streamer is summarized as a kind of public image for live streaming users created by live streamers combining their external image, personality, uniqueness, professionalism and wealth of knowledge.

There are three types of live streamers. One is professional live streamers, who are usually familiar with the live streaming process, have a deep understanding of the product, or have professional knowledge background, and can provide reference for consumers to make decisions.; Secondly, web celebrity or stars with a certain fan base, who usually have strong appeal and can influence consumers' purchasing decisions to a certain extent;

Thirdly, the sellers themselves, who display the production or use process of the products through live streaming, and deepen consumers' understanding of the products through interaction, so as to enhance consumers' purchase intention (Zhao, D.L., 2018; Song X.J.,2020).

Gao, Y.H. (2020) found through investigation that enhancing and improving the professionalism, interactivity and popularity of live streamers can enhance consumers' perception of entertainment value and utility value, thus enhancing consumers' purchase intention. Fu, Q.X. (2020) studied the influence of live streamers on consumers' purchasing intention in live streaming E-commerce from the aspects of professionalism, interactivity, entertainment, popularity, and the degree of detail of information transmission. The results show that these factors can indirectly affect consumer knowledge and consumer trust, and thus have a significant positive impact on purchase intention. Gu, Y.W. (2020) also found in his research that the characteristics of live streamers, such as physical attractiveness, credibility and professionalism, will influence the values of individual consumers and their purchasing decisions.

Therefore, the researcher hypothesized:

H1₀: The public image of livestreamer has no impact on consumers' purchasing decisions in live streaming E-commerce.

H1₁: The public image of livestreamer significantly impacts on consumers' purchasing decisions in live streaming E-commerce.

Interaction. One of the charms of live streaming e-commerce is that consumers can interact anytime and anywhere during the live streaming process. Bonner (2010) and Li (2005) think that interaction refers to the degree of interaction between two parties in mutual communication. Fortin & Dholakia (2005) and Sheng & Joginapelly (2011) define interaction as a stimulus. In E-commerce, interaction is an important instant cue that stimulates consumers' cognition and emotional state, and then influences consumers' behavioral response (Sheng & Joginapelly, 2011). In live streaming E-commerce, interaction refers to the communication between users and livestreamers and other users through live streaming platforms, as well as users' understanding of the performance of related products and other related activities (Tao, B.X., & Tao, B.Q., 2020). In live streaming E-commerce, the interaction between audience and live streamer and between audience and audience can be used as stimulus factors to affect the value judgment of the audience present and induce the audience to purchase (Rao, J.S., 2019).

Jiang, R. (2020) under the guidance of interactive ritual chain theory, selected Taobao live streaming platform as a case to analyze the interactive behavior characteristics of live streamers and users in Taobao live streaming room. Based on text analysis of interactive content in the live streaming room of live streamer Li Jiaqi, it was found that live streamer and users were emotionally stimulated and generated emotional energy in the process of participating in the ritual interaction of E-commerce live streaming. In addition, the study also found that the formation of the interactive ritual of e-commerce live streaming and the establishment of long-term emotional energy enable users to form a sticky view of the e-commerce live streaming platform. Wang, X., & Wu, D. (2019) studied how user engagement mechanisms (i.e., product interactivity, communication immediacy and peer cues) affect users' attitudes and purchase intentions on live streaming platforms and found that these three user engagement mechanisms significantly improve users' capability to evaluate products and their serendipity behavior online, which also have a positive impact on users' attitude and intention to shop on a live streaming platform. Li, S., & Chen, Y.R. (2018) studied the atmosphere of interpersonal interaction in E-commerce live streaming, including interactive objects, interactive content and interactive characteristics, and found that interpersonal interaction would have a positive impact on user experience, making consumers continue to watch or make recommendations and purchases. Tong, J.H. (2017) found from empirical research that interactivity in live streaming could influence consumers' immediacy and trust, thereby enhancing consumers' buying intentions.

Therefore, the researcher hypothesized:

H2₀: Interaction has no impact on consumers' purchasing decisions in live streaming E-commerce.

H2₁: Interaction significantly impacts on consumers' purchasing decisions in live streaming E-commerce.

Product individualization. Individualization is an expression of self-awareness, which is reflected in people's desire to embody their individuality and seek the most differences (Snyder & Fromkin, 1977). Product individualization means that consumers perceive the product of a certain brand to be different (Wang, H.Z. & Wang, J.Y., & Luo, J.B., 2012), and require the product to be different from the previous similar products and have its own unique style, which can reflect the personality and habits of different individuals, etc. (Li, Y.Y., 2008). Tao, J.G. and Zi, Y.Z. (2017) studied consumer purchasing intention under the internet celebrity model, found that in web celebrity economy, consumers' pursuit of products not only stays in the aspect of performance, but also pay more and more attention to the fashion of products and highlight their personalities.

Tang, J.F. (2017) found in the research on the impact of product design on consumers' word-of-mouth recommendation intention that product design positively influences consumers' product evaluation and product

emotion, thus influence consumer referral intention. Jin, X.T., Huang, E.S., & Xu, W. (2020) found in the study of Store crowding that the product individualization has an impact on consumers' purchase intention.

However, some researchers analyzed factors such as purchase interest, product preference, product cost performance, product individualization and so on, determined that product individualization and product preference have a strong correlation with consumers' buying interest. When the product preference is lower than the average, no matter how the product individualization changes, the buying interest will not change significantly; while when the product preference is higher than the average, the buying interest will increase according to the product individualization (Sina, 2005).

Therefore, the researcher hypothesized:

H3₀: Product individualization has no impact on consumers' purchasing decisions in live streaming E-commerce.

H3₁: Product individualization significantly impacts on consumers' purchasing decisions in live streaming E-commerce.

Price. Price is the amount exchanged for a product or service (Kotler, P., & Armstrong, G., 2008), which is a factor that consumers must consider when purchasing anything. Price is one of the many costs that consumers face. Other purchasing related costs include time spent shopping, displacement cost and emotional costs. However, price is the cost that consumers can be most certain about. Therefore, price is crucial in consumers' decision-making (Kensei, Z., & Todd, S. 2003). Price can be measured through three dimensions: price estimation, conformity of manufacturing and price fairness, price estimation refers to the evaluation of the price range of the product by consumers according to the quality of the product and whether it is compatible with consumers' expectations; The conformity of manufacturing is the evaluation of the price of products by consumers from the perspective of obtaining benefits; Price fairness is the evaluation of affordability and price fairness of the price for consumers compared with similar products and different manufacturers (Imaningsih, E. S., 2018).

Clement Addo, P., Fang, J., Asare, A. O., & Kulbo, N. B. (2021) found in their research on live digital marketing that price directly or indirectly affects consumers' purchasing decisions. The study also found that price matters less when consumers decide to become loyal followers of a trusted product, brand or supplier. But even if follower relationships are established, the importance of price cannot be completely discounted. Chen, Y. F., Tsai, C. W., & Hsu, S. M. (2014) found that product price can adjust the influence of word of mouth on purchase intention when studying online reviews on purchase intention in virtual communities. Rares, A., & Jorie, R. J. (2015) found that price has a significant impact on the purchase decision when studying the decision-making influence of consumers in the square store. In addition, Hermiyenti, S., & Wardi, Y. (2019), Yusuf, A., & Sunarsi, D. (2020), Brata, B. H., Husani, S., & Ali, H. (2017) et al. found through research that price has a significant impact on purchase decisions.

Therefore, the researcher hypothesized:

H4₀: Price has no impact on consumers' purchasing decisions in live streaming E-commerce.

H4₁: Price significantly impacts on consumers' purchasing decisions in live streaming E-commerce.

Promotion. In most E-commerce live streaming, promotion is one of the factors that attract people to watch live streaming and product introduction. Kotler, P., & Keller, K. L. (2009) thinks that promotion is the most common communication strategy used by businesses. It is a comprehensive strategic activity in which an enterprise conveys relevant information to the target market to inspire, promote or create the demand for its products and services, arouse consumers' desire to buy and promote the purchase behavior. Li, X.G. (1998) defines that promotion is an activity that enterprises use various short-term incentives to stimulate consumers and encourage them to buy the products or services. Generally speaking, promotion is a kind of marketing activity aimed at stimulating consumers' purchase desire and prompting them to purchase products. Promotion has two aspects of influence on consumers' purchase decisions: on the one hand, promotion reduces the actual cost consumers spend when buying goods; on the other hand, promotion enables consumers to obtain additional value and make them make up their minds to buy (Koppalle, 1996). Promotion can be divided into monetary promotion and non-monetary promotion (Campbell & Diamond, 1990). Money promotion refers to the promotion incentive is the price and compared with the price of the product, such as discounts and coupons. Non-monetary promotion refers to the fact that the promotion incentive cannot be compared with the product price, such as gifts and prize draw (Liu, H.Y., 2010).

The most common promotion methods in live streaming include discounts, gifts, time-limited sales, prize draw, cash rebates, coupons and so on. Huang, L.X. (2002) studied the perceptual frequency of college students' use of various promotional tools and found that the most commonly used promotion method is discount, followed by direct gifts. Han, R. (2005) investigated print media and sales sites and concluded that in various

promotion activities, discounts were the most widely used, followed by shopping coupon and gift. Yin, C. (2013) found in the study on the impact of online promotion on consumers' online impulse buying that various promotion methods, such as special sale promotion, time-limited sale and gift promotion, can all promote consumers' browsing of shopping websites, thus stimulating their impulse buying intention and promoting their online impulse buying behavior. Discount promotion refers to a marketing method used by manufacturers or channel participants to promote sales by reducing the price of a certain product or increasing the quantity of the unit price without reducing the price (Raghubir and CorF-Man, 1999). Gift promotion is when a consumer buys a particular product or service and receives another free product or service with a lower value than the purchase of the product (D'Astous and Landreville, 2003); Time-limited promotion refers to one of the marketing activities in which merchants provide short-term marketing incentives to consumers to induce consumers' purchase intention (Zhang, Y., 2017).

Imaningsih, E. S. (2018), Rares, A., & Jorie, R. J. (2015), Yusuf, A., & Sunarsi, D. (2020) et al. all found in their studies that promotion had a positive impact on purchasing decisions. Guan, Z. (2021) found that discount promotion may lead to consumers' impulse buying behavior when studying purchasing decisions in live streaming. Liu, H.Y., Li, A.M., & Wei, H.Y. (2012) in the study of different promotional methods on product purchase decisions, found that different time distance, the differences between consumer decision-making of promotional products, such as gift promotion works better in the near future shopping scenario, while price promotion works better in the long future shopping scenario. Liu, S.Y. (2013) and Zhang, Y. (2017) found that discount promotion had the greatest impact on consumers' purchase intention when they studied the impact of purchasing decisions in E-commerce. Wang, L.L., Lv, W., Huang, J., & Jiang, L. (2008) found that gift promotion is more likely to stimulate impulsive shopping behavior than discount promotion. Although many studies have shown that sales promotion does have a significant positive effect on purchase decisions, other researchers have found that sales promotion can have a negative effect on consumers' purchase attitude. Tang, X.F., Zhou, T.R., & Chen, S.Q. (2006) thinks that excessive frequency and depth of price promotion will lead consumers to be sensitive to price, weaken consumers' trust in manufacturers, and have a negative impact on consumer loyalty. Gift promotions can also negatively impact the purchasing decision by reducing the consumer's willingness to pay out in key items and in the gift itself (Kamins, Folkes, & Fedorikhin, 2009).

Therefore, the researcher hypothesized:

H5₀: Promotion has no impact on consumers' purchasing decisions in live streaming E-commerce.

H5₁: Promotion significantly impacts on consumers' purchasing decisions in live streaming E-commerce.

Platform Loyalty. Jia, X.F. (2019) defined live streaming E-commerce platform as a platform with social commerce property that integrates real-time social interaction into E-commerce in the form of live streaming. In live streaming E-commerce, participants mainly include platform parties, live streamers and consumers. Live streamers can use the functions of the platform to introduce products, guide shopping, interact with consumers and other behaviors, while consumers can watch live streaming, interact, view and buy products on the live streaming E-commerce platform (Jia, X.F., 2019). For consumers, live streaming E-commerce platform is not only a novel shopping channel, but also a way of entertainment and leisure. It creates a new shopping scene for consumers and leads a new shopping trend instead of offline shopping (Song, X.J., 2020). Compared with traditional E-commerce platforms, live streaming E-commerce platforms are characterized by high interaction, real-time and high consumer participation (Jia, X.F., 2019). According to the operation form of live streaming E-commerce model, there are two types of live streaming platforms. One is the E-commerce platforms with built-in livestreaming functions, such as Taobao and JD.com; the other is the social livestreaming platforms with E-commerce functions, such as Kuaishou and Douyin. No matter what type of live streaming E-commerce platform it is, it already has a huge user base. The original platform's loyal user base is indispensable for attracting users to participate in the live stream and facilitating the final traffic conversion. Therefore, whether consumers' loyalty to live streaming E-commerce platforms will influence their final purchase decision will be further discussed in this study. In this study, platform loyalty is defined as the psychological reaction of consumers' preference for a certain platform in their purchase decision.

After understanding and analyzing previous researches related to live streaming E-commerce platforms and E-commerce platforms, it is found that live streaming E-commerce platforms have a directional promotion effect on online consumption (Song, X.J., 2020),

platform experience positively influences consumers' purchase intention by positively influencing perceived pleasure and perceived trust (Dong, F., 2019), platform services are conducive to the enhancement of consumers' purchase intention (Tian, X.X., & Tian, J.J., 2020). In addition, website reputation and privacy security can influence the purchase intention by influencing consumers' emotions (Kim, J., & Lennon, S. J., 2013). Convenience of payment methods helps to improve consumers' perceived ease of use, and influences

consumers' willingness to continue using the platform (Wu, B., & Zhou, Y., 2017). Website performance (website professionalism) will have a certain impact on consumers' purchasing behavior (Sun, Y.B., & Liu, X.M., 2014). Website popularity, after-sales service and logistics quality all have different degrees of influence on purchasing decisions (Liu, N.N., 2016).

According to previous studies, when studying the variable of platform loyalty, this paper will conduct a specific investigation from the aspects of platform popularity, platform professionalism, payment, logistics and after-sales service.

Therefore, the researcher hypothesized:

H6₀: Platform loyalty has no impact on consumers' purchasing decisions in live streaming E-commerce.

H6₁: Platform loyalty impacts on consumers' purchasing decisions in live streaming E-commerce.

Purchase Decision. The purchasing decision of consumers refers to the process in which consumers carefully evaluate the attributes of a certain product, brand and service, select and purchase products that can meet certain specific needs (Liu, Z.C., & Bai, J., 1999). The whole purchasing decision of consumers will go through five stages (Gu, Y.W., 2020):

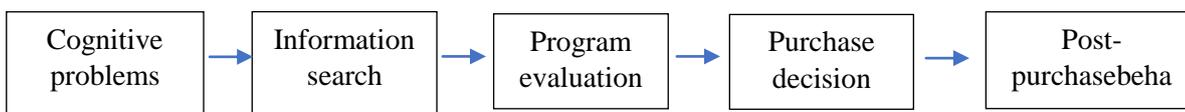


Figure 1: Consumer purchasing decision-making process. However, in the live streaming E-commerce model, the sequence of stages experienced by consumers in the purchase decision-making process has changed into (Gu, Y.W., 2020):

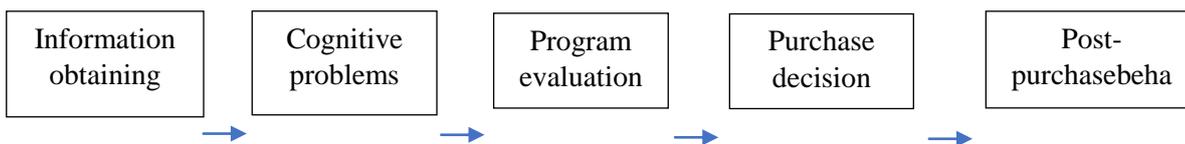


Figure 2: Consumer purchasing decision-making process in Live streaming E-commerce model

In the purchase decision-making process of traditional E-commerce, consumers search for relevant information according to their own needs first, and then make purchase decisions, that is, “people looking for goods” (Tan, Y.L., 2017). While the live streaming E-commerce restructured the original purchasing decision-making process, using live streamers, live streaming E-commerce platform and other social media platforms disseminate product information to consumers, consumers get the information first, and then be attracted to participate in the live streaming, and generated demand in the process of watching live streaming, then produce purchase decision-making behavior, that is, “goods looking for people” (Tan, Y.L., 2017).

Luo m, Jiang j, LV Q (2018) studied the influencing factors of consumers' willingness to consume in the journal article “Research on the Influencing Factors of User Consumption in E-commerce Webcast Mode”. The study and questionnaire measured four areas: product factors, environmental factors, purchase sentiment, perceived risk. The results show that: in the E-commerce live streaming mode, product factors, environmental factors and purchase sentiment have a strong correlation with the user's willingness to consume, and the greater the perceived risk, the less willingness of users to consume.

In the journal article “How live streaming influences purchase intentions in social commerce: An IT affordance perspective”, Sun, Y., Shao, X., Li, X., Guo, Y., & Nie, K. (2019) built a theoretical model from the perspective of IT affordance, examines how live streaming influences social commerce customers' purchase intentions in China. They empirically measure the model by surveying customers who have shopped via live streaming shopping platforms including Taobao.com, JD.com, Mogujie.com, and Sina Microblog, found that visibility affordance, metavoicing affordance, and guidance shopping affordance can influence customer purchase intention through live streaming engagement.

In the research “Analysis of influencing factors of internet celebrity live broadcast on consumer purchasing decision”, Jiang, J.Q. (2019) collected 475 valid questionnaires, drew the structural model with AMOS, and analyzed the path between various variables, found that in the process of internet celebrity live marketing, high quality content, internet celebrity personal charm, trust and high degree of interactivity all positively affect consumers' cognitive attitude; Incentive mechanism, internet celebrity personal charm, high degree of interactivity and value-added content all positively affect consumers' emotional attitude; consumers' cognitive attitude and emotional attitude positively influence their purchase decisions.

Gu, Y.W. (2020) theoretically analyzed and elaborated in the journal article “Research on the influence of E-commerce live broadcast on consumers' purchasing decision” that, there are four factors influencing consumers' purchasing decisions in live streaming e-commerce: content quality, price advantage, personal charm and interactivity.

According to the analysis in the study, high-quality content, refers to the fact that consumers learn about products from all aspects and meet their personalized needs in e-commerce live broadcast, which will lead to consumers' purchase desire; Price advantage refers to the promotion activities within a certain period of time, which can prompt consumers to make decisions in the shortest time; Personal charm is the live streamer's own characteristics, such as physical attractiveness, credibility and professionalism, which will influence the values of individual consumers and their purchasing decisions; Interactivity means that the interaction between live streamers and consumers in E-commerce live broadcast will increase the probability of consumers' purchase.

The emergence of the live streaming E-commerce model is not long. When studying the literature related to the live streaming E-commerce, it is found that most of the current researches on the live streaming E-commerce are in the theoretical aspect. Most of them are researches on the rise, current situation, trend and development strategy of live streaming E-commerce. However, there are not many researches on consumers' purchasing decisions in live streaming E-commerce, most of which are focused on live streamers or opinion leaders. Through the understanding of the characteristics and advantages of live streaming E-commerce and the researches of relevant literature, several essential elements in live streaming E-commerce are summarized, which are live streamer, interaction, product, price, promotion and platform. In the follow-up research on the purchasing decisions of consumers in the live streaming E-commerce model, this paper will systematically study the public image of live streamer, interaction, product individualization, price, promotion and platform loyalty.

Based on the relevant literature and the studies discussed above, the researcher developed a conceptual framework to study the factors that may influence consumers' purchasing decisions in the live streaming E-commerce model.

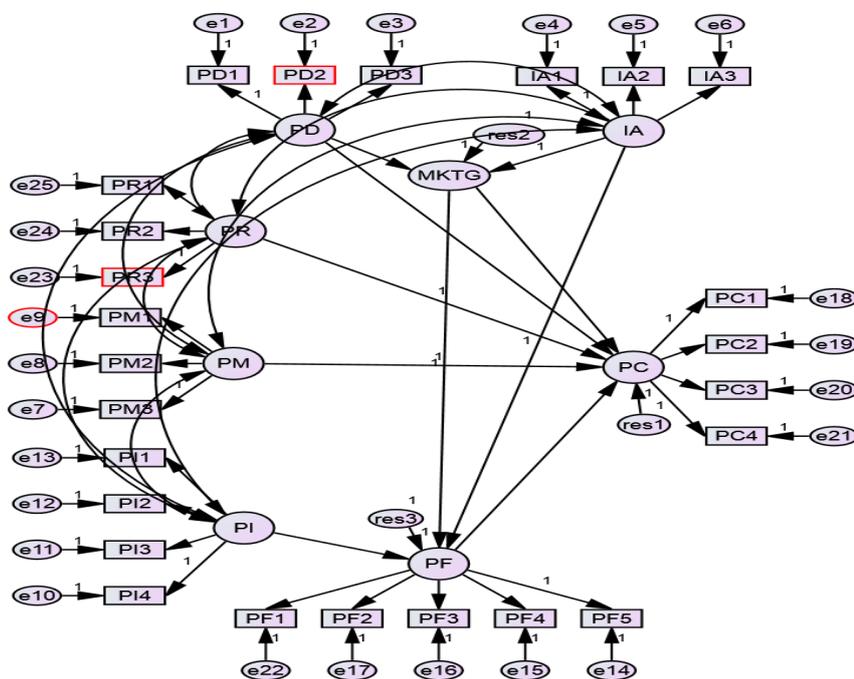


Figure 1: Conceptual Model

Research Finding and Data Analysis

This research aims to study the factors influencing purchase decision of Chinese consumer under live streaming E-commerce model. In this chapter, the researcher presents the findings of the study and analyze the results. This study collected data from a total of 421 respondents through questionnaires, which were measured and verified through data analysis program Statistical Package for the Social Sciences (SPSS).

The RMR, GFI, TLI, CFI, and RMSEA data were further explored and analyzed using SPSS. The P value represents the findings of this study, and the results are shown below:

Table 1REM, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.094	.930	.914	.750
Saturated model	.000	1.000		
Independence model	.651	.229	.165	.212

Table 2TLI, CFI

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.895	.879	.956	.950	.956
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Table 3RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.039	.032	.045	.998
Independence model	.173	.168	.177	.000

In this study, RMR value was 0.094 (< 0.1), GFI value was 0.93 (>0.9), TLI value was 0.95 (>0.9), CFI value was 0.956 (>0.9), and RMSEA value was 0.039 (< 0.6). From the fitting degree of SEM model, the model seemed to fit well.

Further results show that product individualization and platform loyalty have a significant impact on consumers' purchase decisions, as their P values are both less than 0.05. However, the public image of live streamer, interaction, price and promotion have no obvious direct and significant influence on the purchase decision.

Table 4Regression Weights

	Estimate	S.E.	C.R.	P	Label
MKTG <--- PD	-14.247	2.627	-5.424	***	
MKTG <--- IA	1.000				
PF <--- IA	1.000				
PF <--- MKTG	1.000				
PF <--- PI	11.327	2.343	4.835	***	
PC <--- PF	1.695	.204	8.313	***	
PC <--- MKTG	-.134	.084	-1.594	.111	
PC <--- PD	-4.750	1.194	-3.978	***	
PC <--- PR	1.000				
PC <--- PM	1.000				
PD1 <--- PD	1.000				
PD2 <--- PD	.880	.088	9.951	***	
PD3 <--- PD	.881	.086	10.239	***	
IA1 <--- IA	1.000				
IA2 <--- IA	.906	.085	10.634	***	
IA3 <--- IA	.992	.087	11.453	***	
PM3 <--- PM	1.000				
PM2 <--- PM	.952	.090	10.575	***	
PM1 <--- PM	.924	.086	10.708	***	
PI4 <--- PI	1.000				

			Estimate	S.E.	C.R.	P	Label
PI3	<---	PI	.873	.075	11.650	***	
PI2	<---	PI	.874	.073	11.919	***	
PI1	<---	PI	.896	.077	11.670	***	
PF5	<---	PF	1.000				
PF4	<---	PF	.821	.068	12.046	***	
PF3	<---	PF	.893	.072	12.442	***	
PF2	<---	PF	.813	.070	11.547	***	
PC1	<---	PC	1.000				
PC2	<---	PC	.801	.075	10.630	***	
PC3	<---	PC	.910	.078	11.710	***	
PC4	<---	PC	.907	.079	11.537	***	
PF1	<---	PF	.774	.068	11.300	***	
PR3	<---	PR	1.000				
PR2	<---	PR	.971	.090	10.755	***	
PR1	<---	PR	1.042	.096	10.898	***	

Note: *** represents P value < 0.05

Discussion

The SEM model adopted in this study therefore, all data come from the sample size of SEM analogy resulting, and a total of 421 questionnaires were collected. The following will be a brief summary of the questionnaire: the proportion of male and female respondents is balanced, and most of them are aged between 18 and 25. Most of them have a bachelor's degree or less. Most of the respondents work for private companies and with a monthly income between 3,000 - 10,000 RMB. Taobao, is the E-commerce platform most used by respondents to watch live streaming, followed by Douyin and Kuaishou. Most respondents watch live streaming 1-3 times a month, and spend less than 5000RMB each time, and the main purpose of shopping is for personal use. Through pre-test and complete sample analysis, Cronbach's Alpha reliability test was conducted with SPSS and the results show good, and then the variables, observed variables and potential variables were tested by SEM. The research variables in this study included independent variables PI, IA, PD, PR, PM, PF, and dependent variables PC, among which there were 25 observed variables in total, and the data were analyzed from e1 ~ e25. The results are as follows.

In this study, a total of six hypotheses were presented, which were presented as "no difference" or "no significant effect" in these cases. After using SEM model for path analysis, it is found that product individualization and platform loyalty have significant influence on purchase decision, the P value shows less than 0.05. In terms of price, promotion, public image of live streamer and interaction, no significant effect was found on purchase decision. However, we find that the public image of live streamer has a significant impact on platform loyalty, which indirectly affects the purchase decision. In addition, we added marketing variables as second-order latent variable in our SEM model to try to capture the marketing effects in live streaming E-commerce world. Although the marketing path turns to insignificantly influence on purchase decision, this may be partly due to the limited numbers of marketing-related variables included in this study. However, we found that product individualization significantly affects the marketing effect on purchase decisions, which may be a good starting point for future research.

Research Implications

This study discusses the influencing factors of Chinese consumers' purchasing decisions under the live streaming E-commerce model. By collecting a large number of literatures, journals article and news related to live streaming E-commerce, researcher has found some enlightenment and limitations from previous studies. Most of the previous researches are theoretical researches or researches on a specific factor in live streaming E-commerce. Therefore, in this study, the researcher used 6 independent variables and 1 dependent variable to discuss this problem, and used quantitative research method to collect data, and the research results also show that this study is significant. This study provides some implications and recommendations for the industry, merchants, and e-commerce platforms.

The live streaming E-commerce model is currently in a stage of rapid development. A good Internet environment not only creates a low threshold for live streaming E-commerce, where everyone can become a live

streamer, but also encourages consumers to watch live streaming and buy products anytime and anywhere. However, because of this, the content and quality of live streaming E-commerce are difficult to be guaranteed, and the live streaming and sales ability of live streamers are uneven. Moreover, the quality of products and after-sales service in live streaming E-commerce also make consumers worried, which will have a negative impact on the sustainable development of live streaming E-commerce.

For merchants and E-commerce platforms, the advantage of live streaming e-commerce lies in that compared with traditional e-commerce, it can attract more traffic, so as to bring more benefits to merchants and E-commerce platforms. Therefore, traffic conversion is a very important goal. But with live streaming e-commerce mushrooming everywhere, consumers' attention can easily be distracted. How to attract consumers to stay longer in the live streaming room and how to prompt consumers to make purchase decisions in a short time are issues that must be considered by merchants and E-commerce platforms.

This study from the perspective of empirical research, the factors such as live streamers, interaction, price, platform are studied, help industries, merchants and E-commerce platform to understand the consumer buying decision cause, provide some implications for sustainable of live streaming E-commerce industry, and also provide some recommendations for merchants and E-commerce platform to adjust the marketing strategy and promote the traffic conversion in live streaming, as well as improve the current deficiencies, enhance their competitiveness.

Research limitations and recommendations for future research

Although this study has identified the factors that may affect Chinese consumers' purchasing decisions under the live streaming e-commerce model, it also has certain limitations. First of all, in terms of variables, there may be some other influencing factors that have not been explored in the research, which may also have a certain impact on consumers' purchase decisions. Second, this study also took marketing variables as second order variable to explore the influence in live streaming E-commerce, but the results were not significant, we think it is because that we choose the variables related to marketing is limited, for example in the 7Ps, we just chose the price and the promotion. We believe that future researchers can choose more variable related to marketing to explore, this is also a new line of live streaming E-commerce research. It is also hoped that this study can provide some useful empirical evidence for future researchers to further explore and study.

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