



Influencing Factors of Consumer Purchasing Intention in Live Home Appliance E-commerce

Zhai Yan, Tatchapong Sattabut, Chaiyawit Muangmee*

Bansomdejchaopraya Rajabhat University, Bangkok, Thailand

*39484987@qq.com

ABSTRACT. In recent years, e-commerce live streaming has developed rapidly, bringing new opportunities for online sales of various products.

Compared with the offline consumption environment and the traditional e-commerce model, the shopping psychology and behavior of consumers in the live broadcast scenario of home appliance e-commerce have changed.

Based on the S-O-R theoretical framework, this paper proposes 9 stimulus variables from three aspects: home appliance e-commerce anchor, home appliance e-commerce live broadcast scene and home appliance product to build an impact model of consumer purchase intention under the background of home appliance e-commerce live broadcast. Based on the conceptual model, the research hypothesis is put forward. The scale was designed based on the results of previous maturity scales and root cause analysis. Through the analysis of reliability and validity, the data of 400 valid questionnaires obtained by formal investigation were analyzed.

The empirical results show that anchor features, scene features and home appliance features have significant positive effects on consumers' purchase intention. On the basis of the empirical analysis results, the practical insights of home appliance e-commerce live broadcast are summarized from three aspects: home appliance anchor, home appliance live broadcast scene and home appliance product. This paper combines qualitative research with quantitative research, which is helpful for home appliance enterprises to better operate and manage e-commerce live streaming.

Keywords: Live Home Appliance E-commerce, Purchase intention, S-O-R theoretical model

1 Introduction

1.1 Background and Significance of Problem

The rise of live e-commerce channels has also driven the sales of major brands to increase in "6.18" in 2022. According to the data of Feigua, during the period from June 1st to 18th this year, home appliance brands such as "TINECO" and "SUPOR" continued to take the lead in Tik Tok channels and seized the new channel bonus. Among them, the sales volume of "TINECO" reached 32,000 pieces, and the sales volume

© The Author(s) 2024

F. Cao et al. (eds.), *Proceedings of the 2023 5th International Conference on Economic Management and Cultural Industry (ICEMCI 2023)*, Advances in Economics, Business and Management Research 276,

https://doi.org/10.2991/978-94-6463-368-9_21

reached 90 million yuan. SUPOR sales reached 402,000 pieces and sales reached 91 million yuan, both of which were in the forefront of e-commerce sales in Tik Tok.

Wei Wenwen, president of Tik Tok E-commerce, revealed at the Second Eco-conference of E-commerce in Tik Tok that as of April 30, 2022, the total transaction volume of Tik Tok E-commerce has increased by 3.2 times compared with the same period of last year. The huge transaction volume has also attracted enterprises to compete for new channel cakes. In 2021 alone, the number of e-commerce and home appliance brands in Tik Tok increased by 230%.

At present, head home appliances companies including Haier and Midea, kitchen appliances companies such as Marssenger and Zhejiang Meida, and brands of cleaning appliances and small kitchen appliances such as TINECO and Roborock have opened live broadcast channels in Tik Tok. Among them, brands such as TINECO, Roborock and Joyoung all set up live broadcasts in Tik Tok every day, and the daily live broadcasts of TINECO and Roborock are about 16 hours long.

1.2 Research Benefits

Based on the S-O-R theoretical model, this paper studies the influencing factors and internal influencing paths of consumers' purchase intentions in the context of live streaming of home appliances e-commerce.

In today's e-commerce live broadcast shopping environment, many factors that may affect consumers' willingness to purchase home appliances have undergone many changes, and it is necessary to conduct further research on the new consumption environment. The development of home appliance e-commerce live broadcast is based on the user's purchase completion rate and the goal. The formation of user purchase intention is an important prerequisite for merchants to increase customer conversion rate and product sales. By revealing the influencing factors and internal mechanism of home appliance consumers' purchase intentions in the live broadcast room, on the one hand, it can enable home appliance consumers to clarify the formation mechanism of their purchase behavior intentions in the e-commerce live broadcast environment, and help consumers optimize their home appliance shopping decisions in the live broadcast room. On the other hand, it will help home appliance companies understand the psychological process of consumer decision-making and clarify the purchase conversion path, provide some reference suggestions for home appliance companies to better operate and manage e-commerce live broadcasts, and enable home appliance companies to improve marketing conversion rates while optimizing consumer viewing and shopping experience in live broadcast rooms.

1.3 Research Framework

This study focuses on Influencing Factors of Consumer Purchasing Intention in Live Home Appliance E-commerce, and according to the previous section, the conceptual model shown in Figure 1 below is the research framework of this paper:

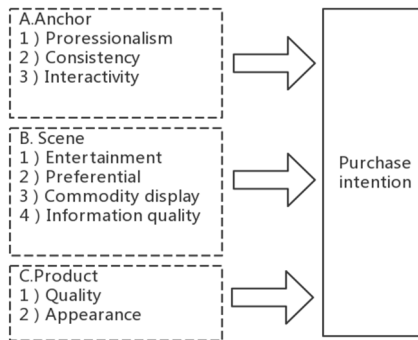


Fig. 1. Research Framework

2 Research Methodology

2.1 Population and Sample

The Population.

The object of this study is the purchase intention of consumers, so according to the characteristics of consumer purchase intention, the survey object is consumers who have online shopping experience and live broadcast viewing experience, as well as consumers who have the intention to purchase in the live broadcast. Because of the wide geographical scope and uncertainty of online shopping, it is conducted in the form of a network questionnaire distributed to the home appliance e-commerce fan group, the home appliance live e-commerce user group, and the anchor fan group.

The Sample.

According to China State Grid's statistics in 2022, the number of live e-commerce users in China's home appliance industry will reach 365 million. This study could not survey all users, so 400 users were randomly selected as the survey sample.

2.2 Research Instruments

"Influencing Factors of Consumer Purchasing Intention in Live Home Appliance E-commerce" is a combination of quantitative and qualitative research. There is 1 data collection tool for this study: questionnaire.

2.3 Data Collection

After obtaining the sample size, the researcher started collecting data and distributing questionnaires from different sources.

Data were collected using questionnaires.

To prevent non-home appliance live e-commerce users from filling out the questionnaire, resulting in unrealistic data, the question of whether or not they have made home appliance live e-commerce purchases is set in the questionnaire. If no home appliances are purchased on the live e-commerce platform, the questionnaire is invalid to ensure the authenticity and reliability of this data.

2.4 Statistics Used for Data Analysis

After the questionnaires were returned, the data were statistically analyzed. In interpreting the meaning of all the data and showing the results, the study used content analysis, descriptive statistical analysis, correlation analysis, inferential statistical analysis and regression analysis.

3 Results of Data Analysis

Table 1 and Table 2 show the results of the data analysis.

Table 1. Results of the correlation coefficient analysis

| Factor | AP | AC | AI | SE | SP | SC | SI | PQ | PA | PI |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|----|
| AP | 1 | | | | | | | | | |
| AC | .595** | 1 | | | | | | | | |
| AI | .502** | .533** | 1 | | | | | | | |
| SE | .418** | .416** | .395** | 1 | | | | | | |
| SP | .454** | .446** | .309** | .519** | 1 | | | | | |
| SC | .337** | .384** | .378** | .538** | .556** | 1 | | | | |
| SI | .319** | .340** | .369** | .558** | .469** | .528** | 1 | | | |
| PQ | .412** | .406** | .446** | .333** | .319** | .311** | .337** | 1 | | |
| PA | .357** | .440** | .359** | .310** | .285** | .309** | .266** | .630** | 1 | |
| PI | .514** | .532** | .496** | .530** | .509** | .511** | .486** | .487** | .458** | 1 |

*** Statistically significant level 0.01.

- AP instead Anchor Professionalism.
- AC instead Anchor Consistency.
- AI instead Anchor Interactivity.
- SE instead Scene Entertainment.
- SP instead Scene Preferential.
- SC instead Scene Commodity Display.
- SI instead Scene Information Quality.
- PQ instead Product Quality.
- PA instead Product Appearance.
- PI instead Purchasing Intention.

Table 2. Regression coefficient analysis results of AP, AC, AI, SE, SP, SC, SI, PQ, PA affecting Purchase Intention (PI) .

| Model Anchor Professionalism | Unstandardized Coefficients | | Standardized Coefficients Beta | t | Sig. |
|---------------------------------|-----------------------------|------------|--------------------------------|-------|------|
| | B | Std. Error | | | |
| (constant) | .545 | .168 | | 3.245 | .001 |
| AP | .106 | .041 | .120 | 2.557 | .011 |
| AC | .101 | .042 | .118 | 2.419 | .016 |
| AI | .099 | .041 | .109 | 2.396 | .017 |
| SE | .107 | .039 | .128 | 2.715 | .007 |
| SP | .096 | .040 | .113 | 2.412 | .016 |
| SC | .105 | .040 | .124 | 2.639 | .009 |
| SI | .090 | .038 | .109 | 2.388 | .017 |
| PQ | .093 | .038 | .118 | 2.456 | .014 |
| PA | .088 | .037 | .111 | 2.375 | .018 |

$r^2 = 0.528, *p < .05$

The regression coefficient analysis results of AP, AC, AI, SE, SP, SC, SI, PQ, PA affecting Purchase Intention (PI).

It was found that Sig = 0.00 0 for AP, AC, AI, SE, SP, SC, SI, PQ, and PA. The Sig value of the appearance (PA) of home appliances is less than 0.05, which is statistically significant:

The R square of this model is 0.528, indicating that AP, AC, AI, SE, SP, SC, SI, PQ, PA can explain 52.8 % of the change in Purchase Intention (PI).

4 Conclusions Discussion and Recommendations

4.1 Conclusion

Part 1 Results of the survey of general information of the respondents.

This includes information such as gender, age, occupation, and monthly income.

(1) Gender: The proportion of male (52%) interviewed users is higher than that of female (48%). (2) Age: The age of the interviewed users mainly focuses on those between 20-50 years old (36.3%), with the smallest proportion of users under 20 years old (10.5%) and over 50 years old (2.8%). (3) Occupation: The most frequent type of occupation among the interviewed users is corporate staff (43.3%), followed by Freelancers (19%). (5) Income: The largest number of monthly incomes is between 5001-8000(33.3%), followed by less than 3,000(29.8%), then 3,001-5,000(21.8%), and the smallest proportion of customers has a monthly income of more than 12,000(3.3%).

Part 2 Usage Habits Information Survey Results.

(1) The platforms on which live e-commerce users shop for home appliances are mainly focused on Chinese e-commerce platforms such as Taobao (Tmall) (79.3%), JD.com (61%), Suning (53.5%), and mainstream Chinese social media platforms Tik-Tok (87%) and Red (76.5%). (2) The main channels for users to learn about live e-

commerce are Recommended by friends (91.8%) and Google (84.5) . (3) Users purchased appliances mainly for Entertainment and recreation and Feeling Involved, followed by Live Room Promotions.

Part 3 Results of the survey

Anchor preference, anchor consistency, anchor interactivity, scene entertainment, scene preference, scene product display, scene information quality, product quality, and product appearance were analyzed by regression coefficients to have a positive effect on purchase intention.

4.2 Discussion

1. The research results found that Anchor Preferential has a positive effect on Purchasing Intention.

The results of this study show a positive correlation between "Anchor Preferential" and "Purchasing Intention". The analysis shows that users prefer experts in the field of home appliances as live streaming anchors with extensive experience in home appliances. This is consistent with Bristor's (1990)[1] findings, and Hu Chuan (2020)[2] found that the professionalism of live streaming anchors can enhance users' perceived usefulness. Empirical analyses found that the deeper the anchor's professionalism and knowledge of home appliances as an opinion leader on the live stream, the more he or she can gain consumers' trust and enhance users' purchase intention.

2. The research results found that Anchor Consistency has a positive effect on Purchasing Intention.

Research has shown that "anchor congruence" is positively related to "purchase intention". Users perceive anchors as similar to their own values and preferences, which brings them closer together and increases trust, and Gilly (1998) [3] argued that perceived homogeneity increases the word-of-mouth effect of a product. Yuting Pang (2020)[4] found that consumers' similarity to anchors has a positive impact on satisfaction, and positive emotions may lead to purchase intention. If consumers feel that anchor product preferences, tastes, and styles are consistent with their own, they will feel understood, enhance emotional connection, and increase trust in the anchors, products, and services.

3. The research results found that Anchor Interactivity has a positive effect on Purchasing Intention.

The results of the study show that "anchor interactivity" has a significant positive effect on "purchase intention", which is analysed because users want to get feedback from the anchor faster in a fast-paced live broadcast. Empirical studies have shown that anchor interactivity has a significant positive impact on consumer purchase intention in live home appliance e-commerce streaming.

4. The research results found that Scene Entertainment had a positive impact on Purchasing Intention.

Research findings suggest a positive correlation between "scene entertainment" and "purchase intention". Ha and Stoel (2012)[5] found that pleasurable and exciting sales environments and shopping experiences bring about an emotional response from the user, which in turn drives the user's purchasing decision. Vijayasarathy and Jones

(2000)[6] found that entertainment and fun during the shopping process are consumers' important criteria for evaluating the attractiveness of the shopping environment. Through the empirical surface of this paper in the live broadcast of home appliance e-commerce, users can obtain information about the goods by watching the real-time live broadcast and listening to the introduction of the merchant, express their own opinions through pop-ups, discuss with other users, and also form a sense of presence with others in shopping, which is very close to the real form of shopping and meets the user's shopping and entertainment needs.

5. The research results found that Scene Preferential has a positive impact on Purchasing Intention.

The results of the study show that there is a positive correlation between "scenario offers" and "purchase intention". Rao Mengru (2021)[7] argued that consumers' trust in live e-commerce is significantly and positively influenced by discount offers. This case study shows that in the case of fierce competition of home appliance brands on e-commerce platforms, consumers can not only compare prices between platforms, but also compare prices internally through the function of finding similar products embedded in e-commerce platforms, and price plays a very important role in the trade-off of consumers' interests.

6. The research results found that Scene Commodity Display has a positive impact on Purchasing Intention.

The results of the study show that there is a positive correlation between "scene product display" and "purchase intention". Han Xiaoyi (2020) [8] argued that the stronger the display attributes of e-commerce anchors, the stronger the consumer's sense of excitement, value and trust. This case study suggests that information asymmetry increases consumers' perceived shopping risk in an online shopping environment due to the lack of face-to-face interaction with merchants and personal contact with appliances.

7. The research results found that Scene Information Quality has a positive impact on Purchasing Intention.

The results of the study show that there is a positive correlation between "scene information quality" and "purchase intention". The more accurate the product information presented in the home appliance e-commerce live streaming, the easier it is to gain users' trust. Rao Mengru (2021) concluded that information quality and value-added content have a significant positive impact on consumer trust attitudes in e-commerce live streaming. This is also consistent with the findings of this paper that both product presentation and information quality have a significant positive impact on consumers' perceived value and trust in live appliance e-commerce.

8. The research results found that Product Quality has a positive impact on Purchasing Intention.

The results of the study show that there is a positive correlation between "product quality" and "purchase intention". Good quality and good reputation of home appliances sold by live e-commerce will increase users' purchase intention. Branded home appliances with good quality and good reputation are attractive to users, and the channel survey also found that many users come from the official website of a home appliance brand, and loyal users of these home appliance brands tend to buy home appliances

after learning about the quality, features, and price of the appliances in the live stream. Pang Yuting (2020) found that in e-commerce live streaming situations, consumers' perceived product quality indirectly positively affects repeat purchase intention through satisfaction. The study showed that the higher the perceived quality of the consumer's home appliances, the stronger the shopping intention. In many studies on the factors influencing the consumer behaviour of home appliances, the quality of home appliances is ranked at the top of the evaluation criteria.

9. The research results found that Product Appearance has a positive effect on Purchasing Intention.

The results of this study show that there is a positive relationship between "product appearance" and "purchase intention". In live e-commerce, product appearance, which includes style, design, colour selection and matching, has a positive effect on purchase intention. Other studies usually consider factors such as product information, product discounts, and product quality, but not product appearance. For home appliances, visual appearance is the most important external sensory feature, and consumers' favourability or disfavour of home appliances sold in the live room often starts with the external form. If the appearance lacks beauty or fails to satisfy consumers' pursuit of beauty, then consumers are usually not interested in continuing to pay attention to the live streaming of home appliances.

4.3 Recommendations

The success of e-commerce live streaming for home appliances relies on several key factors:

Anchor:

Professional Ability: An anchor's expertise and deep understanding of home appliances positively influence consumers' willingness to purchase. Anchors should strive to become experts in the field and maintain knowledge about products and brand culture.

Consistency: Anchors should align their values with consumers and speak from the consumer's perspective to build trust. This creates a sense of a familial bond with the anchor, increasing consumer trust.

Interactivity: Real-time interaction with users helps to address their concerns and boosts trust and willingness to purchase.

Scene:

Entertainment: Creating an enjoyable and exciting shopping experience in e-commerce live broadcasts can stimulate emotional responses from users, driving purchasing decisions. Anchors should focus on delivering entertaining content.

Preferential: Low prices and promotional activities enhance consumer satisfaction and their perception of value. Providing discounts, giveaways, and other marketing tools can boost the desire to shop.

Commodity Display: E-commerce live streaming offers the advantage of real-time, multi-angle product display, reducing information asymmetry and perceived risk for consumers.

Information Quality: Ensuring accuracy and timeliness of information is crucial. Anchors should provide consistent and up-to-date product information to help users make informed decisions.

Products:

Quality: High-quality and reputable home appliances are more likely to attract consumers. Live enterprises should prioritize the quality, reputation, and after-sales service of the products they sell.

Appearance: To stand out in a market with homogeneous home appliance styles, designers should focus on conforming to public aesthetics while adding distinctive features and advantages to their products. Creating unique product styles and brand symbols is essential.

In summary, a successful e-commerce live streaming environment for home appliances requires a combination of knowledgeable and engaging anchors, an entertaining shopping experience, competitive pricing, comprehensive and visually appealing product displays, and a focus on product quality and differentiation to build trust and drive consumer willingness to make a purchase.

References

1. Bristol, J. (1990). Exhanced explanations of word of mouth communications; the power of relations. *Research in consumer behavior*, 4, 51-83.
2. Hu Chuan. (2020). Research on the Influencing Factors of Users' Online Purchase Intentions and Their Relationships in E-commerce Live Streaming Context (Master's thesis, Jinan University). <https://kns.cnki.net/KCMS/detail/detail.aspx?Dbname=CMFD202101&filename=1021520813.nh>.
3. Gilly, M. C., Graham, J. L., Wolfenbarger, M. F., & Yale, L. J. (1998). A dyadic study of interpersonal information search. *Journal of the academy of marketing science*, 26(2), 83-100.
4. Pang, Y. T. (2020). Research on the Impact of E-commerce Live Streaming on Consumers' Repeat Purchase Intention (Master's Thesis, Nanjing University). <https://kns.cnki.net/KCMS/detail/detail.aspx?dbname=CMFD202101&filename=1021500822.nh>.
5. Ha, S., & Stoel, L. (2012). Online apparel retailing: roles of e-shopping quality and experiential e-shopping motives. *Journal of Service Management*, 23(2), 197-215.
6. Vijayasarathy, L. R., & Jones, J. M. (2000). Print and Internet catalog shopping: assessing attitudes and intentions. *Internet research*, 10(3), 191-202.
7. Rao, Mengru, Wu, Zhongqian, Tang, Rui, Chen, Junai, Zhou, Shaoya. (2021). Analysis of factors influencing consumers' purchasing decision by webcast banding in the new media era. *Modern Business Industry*, 42(1), 3.
8. Han, Xiaoyi. (2020). Research on the mechanism of the role of e-commerce anchor attributes on consumers' online behavioural intention (Doctoral dissertation, Jilin University). <https://kns.cnki.net/KCMS/detail/detail.aspx?dbname=CDFDLAST2021&filename=1021003703.nh>.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

