A Study on Factors Affecting Consumer Purchase Intentions in E-commerce Live Streaming Based on Meta-analysis

Jie Yang; Li Li*

School of Economics and Management, Nanjing University of Science and Technology, Nanjing, 210094, China

jieyang0212@126.com, *lily69111@126.com

Abstract. This study integrates fragmented findings on factors influencing consumers' purchase intentions in e-commerce live streaming to identify key determinants and their effect magnitudes. A meta-analysis synthesized 73 empirical studies. Eighteen factors across live streaming technology, streamer, product, and consumer dimensions were analyzed using CMA 3.0 for heterogeneity, publication bias, main effects, and moderation (time, region, gender, age).All 18 factors significantly impacted purchase intentions: 12 had strong correlations, and 6 had moderate correlations. Both time and region had significant moderating effects on specific factors, whereas gender and age had negligible moderating effects. The analysis constructs a comprehensive framework clarifying the relative strength of influencing factors, advancing theoretical and practical foundations for future research.

Keywords: E-commerce livestreaming; Purchase intention; Meta-analysis; Influencing factors.

1 Introduction

With the rapid development of information technologies and the widespread adoption of mobile devices and social media platforms, consumer purchasing behaviors have undergone significant transformation. As an emerging business model integrating e-commerce and live streaming, e-commerce live streaming has quickly become an important online shopping channel due to its advantages in real-time product presentation, interactive communication, and immersive shopping experiences[1-2].

Within the e-commerce live streaming ecosystem, multiple stakeholders interact dynamically. Live streaming platforms provide the technical infrastructure connecting supply and demand, streamers deliver real-time product recommendations and explanations, suppliers leverage live streaming to expand market reach, and consumers benefit from reduced information asymmetry and enhanced shopping efficiency. As a result, understanding how to optimize live streaming formats and content, improve

X. Pan et al. (eds.), *Proceedings of the 2026 11th International Conference on Financial Innovation and Economic Development (ICFIED 2026)*, Advances in Economics, Business and Management Research 382,
https://doi.org/10.2991/978-94-6239-642-5_117

streaming quality, and better align offerings with consumer demand has become an important topic in both academic research and managerial practice.

In recent years, a growing body of empirical research has investigated factors influencing consumers' purchase intentions in e-commerce live streaming. These studies have examined various determinants, including platform features, streamer characteristics, social interaction mechanisms, and user perceptions. However, due to differences in research perspectives, sample characteristics, and methodological approaches, existing findings remain fragmented and sometimes inconsistent. For instance, Liu et al. reported that visibility, authenticity, and interactivity positively affect purchase intention[3], while Chen et al. showed that streamers'professionalism and perceived similarity indirectly influence purchase intention through parasocial interaction[4]. Biocca et al. further identified heterogeneous effects of cognitive and affective social presence across different age groups[5]. In contrast, Zhang and Su et al. found no significant effect of social presence on purchase intention[6-7], whereas Tan reported a significant positive relationship[8]. These divergent conclusions hinder the development of a coherent understanding of the mechanisms underlying consumer decision-making in live streaming commerce.

Given the fragmented and sometimes contradictory nature of existing research, there is a clear need for a systematic synthesis of empirical findings. Meta-analysis provides a rigorous quantitative approach for integrating results across independent studies, reducing inconsistencies caused by contextual and methodological differences, and clarifying the magnitude and direction of key effects. Compared with traditional narrative reviews, meta-analysis enables a more objective evaluation of existing evidence and enhances the reliability of conclusions.

Accordingly, this study employs meta-analysis to synthesize empirical research on consumers' purchase intentions in e-commerce live streaming. By quantitatively integrating prior findings, this study aims to identify the key influencing factors and assess their relative effect sizes. Furthermore, based on the meta-analytic results, this study discusses practical implications from multiple perspectives, including platform design, product selection, streamer characteristics, and consumer behavior. The findings are expected to contribute to a clearer theoretical understanding of consumer decision-making in e-commerce live streaming and to provide guidance for the sustainable development of this emerging business model.

2 Research Methodology and Research Process

2.1 Research Method

Meta-analysis, first proposed by Glass (1976), is a quantitative method designed to synthesize findings from multiple independent empirical studies by integrating effect sizes[9]. By aggregating results across studies conducted under similar research topics, meta-analysis reduces inconsistencies arising from differences in samples, research contexts, and methodologies, thereby enhancing the reliability and generalizability of conclusions. Compared with traditional narrative literature reviews, meta-analysis

combines qualitative interpretation with statistical evaluation and is particularly suitable for reconciling divergent empirical findings.

In this study, meta-analysis is employed to systematically examine factors influencing consumers' purchase intentions in e-commerce live streaming. Effect sizes reported in prior empirical studies are extracted and integrated using Comprehensive Meta-Analysis (CMA) version 3.0.

2.2 Literature Search and Screening

A systematic literature search was conducted between April 20 and May 10, 2025, using the Web of Science Core Collection as the primary database. The search strategy was based on the following query:TS = ("live streaming" OR "live commerce" OR "real-time shopping") AND TI = ("purchase" OR "buying" OR "consumer behavior").

To ensure representativeness and research quality, only empirical studies published in SSCI- and SCIE-indexed Q1 and Q2 journals between 2018 and 2025 were included, covering disciplines such as management, psychology, and computer science. After removing duplicates, 268 studies were initially identified.

A two-stage screening procedure was applied. First, titles and abstracts were screened using ASReview, an active learning-based literature screening tool, to identify potentially relevant studies. Second, full-text reviews were conducted manually based on predefined inclusion criteria, including empirical research design, e-commerce live streaming context, consumer-focused samples, and the availability of extractable effect sizes.

After the screening process, 73 studies met the inclusion criteria for meta-analysis, with a combined sample size of 36,211. This exceeds the minimum sample size commonly recommended for meta-analytic research, ensuring the robustness of the analysis.

2.3 Literature Coding and Variable Classification

The 73 selected studies were systematically coded to extract key information, including publication details, research context, sample size, and reported effect sizes. Correlation coefficients were used as the primary effect size metric. When correlation coefficients were not directly reported, alternative statistics (e.g., t or F values) were converted into comparable effect sizes using established transformation formulas.

To enhance consistency and comparability, variables with similar conceptual meanings but different labels across studies were merged based on their definitions and measurement descriptions. Only influencing factors with at least three effect sizes were retained for analysis, while infrequently reported factors were excluded. Based on this procedure, influencing factors were classified into four categories: live streaming technology characteristics, streamer characteristics, product-related information, and consumer behavioral traits. In total, 18 influencing factors and 258 effect sizes were included in the analysis.

Accordingly, this study examines consumer purchase intention as the dependent variable, the identified influencing factors as independent variables, and demographic

and contextual variables (e.g., time, region, gender, and age) as potential moderators. The overall conceptual framework is illustrated in Fig. 1.

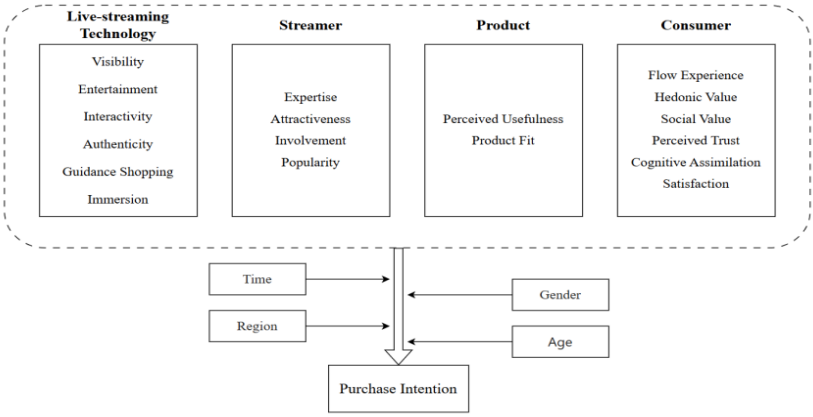

Fig. 1. Research framework

3 Analysis of Results

3.1 Model Choice and Robustness Checks

Significant heterogeneity was observed across studies, with all Q-statistics reaching significance ($p<0.05$) and most I^2 values exceeding 85%. Accordingly, random-effects models were adopted throughout the analysis. Publication bias was assessed using funnel plots, Egger's regression, fail-safe N, and Trim-and-Fill procedures. Although potential bias was detected for hedonic value and social value, corrected estimates remained stable. Leave-one-out sensitivity analyses further confirmed the robustness of the pooled effects, indicating that no single study unduly influenced the results.

3.2 Main Effects of Influencing Factors

This study employed a random-effects model to conduct meta-analyses for each independent variable in order to examine the significance of their average effect sizes. The results are reported in Table 1. As shown in Table 1, the mean effect sizes of all variables reached statistical significance. According to the commonly used classification criteria proposed by Gigantic et al., an absolute mean effect size below 0.3 indicates a weak correlation, values between 0.3 and 0.5 indicate a moderate correlation, and values above 0.5 indicate a strong correlation[10]. Accordingly, several factors—including visibility, guidance shopping, expertise, attractiveness, popularity, and product fit—exhibited moderate correlations with consumers'purchase intention, whereas entertainment, interactivity, immersion, cognitive assimilation, social value, authenticity, satisfaction, perceived usefulness, flow experience, hedonic value, perceived trust, and involvement showed strong correlations with purchase intention. The

correlation coefficients between each influencing factor and purchase intention are illustrated in Fig. 2.

Table 1. Main effects test

Classification	Variable	k	Adjusted weighted mean effect size	Estimated value after removing studies	
				min	max
Live-streaming Technology	Visibility	15	0.5	0.473	0.517
	Entertainment	13	0.514	0.489	0.535
	Interactivity	31	0.523	0.512	0.532
	Authenticity	10	0.546	0.51	0.57
	Guidance Shopping	6	0.488	0.431	0.514
	Immersion	21	0.536	0.52	0.551
Streamer	Expertise	16	0.422	0.388	0.446
	Attractiveness	12	0.497	0.478	0.522
	Involvement	8	0.603	0.564	0.63
	Popularity	7	0.410	0.376	0.437
Product	Perceived Usefulness	13	0.565	0.530	0.587
	Product Fit	6	0.39	0.319	0.415
Consumer	Flow Experience	5	0.573	0.497	0.619
	Hedonic Value	25	0.589	0.560	0.601
	Social Value	18	0.544	0.528	0.561
	Perceived Trust	32	0.594	0.582	0.607
	Cognitive Assimilation	9	0.542	0.512	0.565
	Satisfaction	11	0.557	0.523	0.599

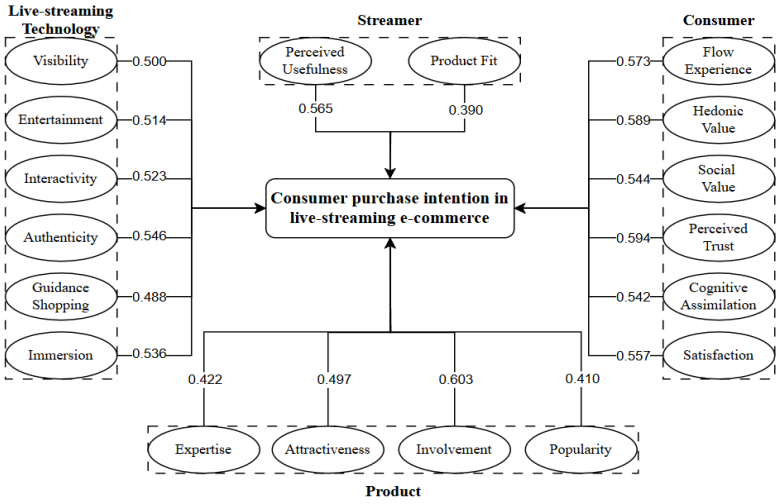

Fig. 2. Correlation coefficients between each influencing factor and purchase intentions

3.3 Moderating Effects

To further explain the observed heterogeneity, time, region, gender, and age were examined as potential moderators using subgroup analyses and meta-regression. The results indicate that temporal context significantly moderated the relationships between purchase intention and several factors, including entertainment, authenticity, streamer attractiveness, and flow experience.

Regional differences also exhibited moderating effects for specific variables. In particular, the relationships between purchase intention and guidance shopping, streamer expertise, and streamer popularity varied significantly across regions. Other variables did not show statistically significant regional moderation effects.

Meta-regression analyses further revealed that gender composition significantly moderated the relationship between flow experience and purchase intention, such that a higher proportion of male participants weakened this association. In addition, age composition significantly moderated the effect of guidance shopping on purchase intention, whereas other moderating effects were not statistically significant.

4 Discussion

4.1 Influencing Factors and Effect Strength

The meta-analysis results confirm that consumers'purchase intention in e-commerce live streaming is jointly influenced by factors related to live streaming technology, streamer characteristics, product attributes, and consumer perceptions.

At the technological level, visibility, entertainment, interactivity, authenticity, guidance shopping, and immersion all exhibit significant positive associations with purchase intention. These findings indicate that technical features enabling real-time information presentation and interaction continue to form the foundational conditions for effective purchase decision-making in live streaming commerce.

Regarding streamer characteristics, expertise, attractiveness, involvement, and popularity show significant positive effects on consumers' purchase intention. This suggests that streamers function not only as information transmitters but also as social and emotional intermediaries, whose professional competence and personal appeal contribute to trust formation and engagement.

At the product level, perceived usefulness and product fit are positively associated with purchase intention, highlighting that consumers' functional evaluations of products remain critical even in highly interactive live streaming environments.

From the consumer perspective, flow experience, hedonic value, social value, perceived trust, cognitive assimilation, and satisfaction exhibit consistently strong associations with purchase intention. These results emphasize the importance of psychological engagement and experiential evaluation in shaping consumer behavior in live streaming commerce.

4.2 Moderating Effects

The moderating analyses reveal that contextual factors partially explain the heterogeneity observed across prior studies. Specifically, temporal factors significantly moderate the relationships between purchase intention and entertainment, authenticity, streamer attractiveness, and flow experience, indicating that the strength of these effects varies across different stages of industry development and social contexts.

Regional differences also moderate the effects of selected variables, including guidance shopping, streamer expertise, and streamer popularity, suggesting that institutional and cultural contexts influence how certain factors translate into purchase intention.

In contrast, demographic variables such as gender and age exhibit limited moderating effects, with statistical significance observed only for specific variables. Overall, these findings suggest that while contextual conditions shape the magnitude of certain effects, the core influence mechanisms underlying purchase intention remain relatively stable across consumer groups.

5 Conclusion and Outlook

This study conducted a meta-analysis of 73 empirical studies on consumers' purchase intention in e-commerce live streaming, integrating 258 effect sizes across 18 influencing factors. The results demonstrate that factors related to live streaming technology, streamer characteristics, product attributes, and consumer perceptions all play significant roles in shaping purchase intention. Moreover, temporal and regional contexts explain part of the heterogeneity across studies, whereas demographic moderators show limited explanatory power.

Overall, this study provides a systematic synthesis of fragmented empirical findings and clarifies the relative importance of key drivers of purchase intention in live streaming commerce. The results offer insights for both theoretical development and practice, particularly in understanding how technological design, content delivery, and consumer experience jointly influence purchasing behavior.

Several limitations should be noted. First, the literature sample was restricted to studies indexed in the Web of Science, which may limit coverage. Second, only a limited set of moderating variables was examined. Future research may expand data sources, incorporate additional contextual and individual-level moderators, and explore interaction effects to further enhance the robustness and generalizability of conclusions.

References

1. Cai, J., Wohn, D.Y., Mittal, A., et al.: Utilitarian and hedonic motivations for live streaming shopping. In: Proceedings of the 2018 ACM International Conference on Interactive Experiences for TV and Online Video, pp. 81–88. ACM, New York (2018).
2. Wongkitrungrueng, A., Assarut, N.: The role of live streaming in building consumer trust and engagement with social commerce sellers. Journal of Business Research 117, 543–556 (2020).
3. Liu, J., Zhang, M.: Formation mechanism of consumers' purchase intention in multimedia live platform: A case study of Taobao Live. Multimedia Tools and Applications 83, 3657–3680 (2024).
4. Chen, H., Zhang, S., Shao, B., Gao, W., Xu, Y.: How do interpersonal interaction factors affect buyers' purchase intention in live stream shopping? The mediating effects of swift guanxi. Internet Research 32(1), 335–361 (2022).
5. Biocca, F., Harms, C., Burgoon, J.K.: Toward a more robust theory and measure of social presence: Review and suggested criteria. Presence: Teleoperators and Virtual Environments 12(5), 456–480 (2003).
6. Zhang, H., Zheng, S., Zhu, P.: Why are Indonesian consumers buying on live streaming platforms? Research on consumer perceived value theory. Heliyon 10(13), e33518 (2024).
7. Su, X.: An empirical study on the influencing factors of e-commerce live streaming. In: Proceedings of the 2019 International Conference on Economic Management and Model Engineering (ICEMME), pp. 492–496. IEEE, New York (2019).
8. Tan, S.: How to interact with consumers to enhance their purchase intention? Evidence from China's agricultural products live streaming commerce. British Food Journal 126(6), 2500–2521 (2024).
9. Glass, G. V. (1976). Primary, secondary, and meta-analysis of research. Educational Researcher, 5(10), 3-8.
10. Gigantic, G. E., & Szodurai, E. T. (2016). Effect size guidelines for individual differences researchers. Personality and Individual Differences, 102, 74-78.