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Mapping Artificial Intelligence in Live Streaming Commerce: A Bibliometric and Systematic Review of Consumer Behaviour

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Abstract

The rapid growth of live streaming commerce has positioned Artificial Intelligence (AI) as a key driver of consumer behavior; however, existing studies remain fragmented across technological, behavioral, and social perspectives, with limited integration of AI's multidimensional roles. This study aims to systematically review and synthesize the role of AI in shaping consumer behavior in live streaming commerce using a combined bibliometric and systematic literature review (SLR) approach. Data were collected from Scopus for the period 2022–2026, yielding 330 articles; bibliometric analysis using VOSviewer identified research trends, keyword density, and emerging topics, while PRISMA-based screening resulted in 14 articles for in-depth analysis. The findings indicate that AI functions as a multi-role actor encompassing interaction agent, emotional agent, and decision architect, enhancing consumer behavior through efficiency, personalization, and improved decision-making, particularly in utilitarian contexts. However, AI may also inhibit behavior by reducing emotional authenticity and long-term relational engagement. This study contributes by proposing an integrative framework linking cognitive, emotional, and behavioral mechanisms in AI-driven live streaming commerce.

Keywords: **Artificial Intelligence, Consumer Behaviour, Live Streaming Commerce, Bibliometric Analysis, Systematic Literature Review**

INTRODUCTION

The rapid evolution of digital commerce has transformed the way consumers interact with products, brands, and online marketplaces. One of the most significant developments in this transformation is the emergence of live streaming commerce (LSC), which integrates real time communication, entertainment, and transactional activities into a single interactive environment. Through live streaming platforms, consumers are able to engage directly with sellers, obtain immediate product information, and experience a more immersive shopping process compared with conventional electronic commerce. Within this ecosystem, Artificial Intelligence (AI) has increasingly become a strategic technological driver that reshapes consumer interaction, marketing communication, and supply chain management. The integration of AI powered conversational assistants in live streaming platforms has been reported to increase sales performance by approximately 3% and reduce product return rates by up to 12.55% through improved information quality and reduced consumer uncertainty, although excessive automation may negatively affect user engagement and viewing experience (Wang et al., 2026). The growing adoption of AI technologies in digital commerce demonstrates that contemporary online shopping environments are no longer solely transaction oriented, but increasingly experience oriented and data driven.

A growing body of research indicates that the use of AI, particularly virtual streamers, offers significant advantages in terms of 24/7 availability, cost efficiency, and the ability to deliver structured and consistent information (Chen & Liu, 2025). However, these technologies remain limited in their ability to establish emotional closeness and personal charisma, which are typically associated with human hosts (Chang et al., 2025). Nevertheless, advancements in behavioural realism especially the capability to conduct real-time question-and-answer (Q&A) sessions have been shown to increase sales by up to 25%, making digital streamers nearly comparable in effectiveness to human hosts (Liu et al., 2026).

Despite these improvements, consumer interaction with virtual streamers tends to focus more on promotional information rather than in-depth product exploration, making them more suitable for promotion-driven marketing strategies, while human hosts remain more effective in introducing new products (Chang et al., 2025). Furthermore, characteristics of virtual representation such as visual attractiveness (e.g., beauty and agility), contextual fit within marketing scenarios, and anthropomorphic design resembling humans play a critical role in enhancing consumer trust and purchase intention (Cheng, 2025).

From a supply chain perspective, Yan et al., (2025) demonstrate that the use of AI anchors in LSC improves operational efficiency and reduces reliance on Key Opinion Leaders (KOLs). This is further supported by (Liu et al., 2026), who highlight that AI integration can reduce consumer uncertainty and enhance coordination between producers and consumers within the supply chain.

From the consumer experience perspective, Xu et al., (2025) emphasize that AI-powered virtual streamers create immersive shopping experiences and open new opportunities for entertainment-based marketing. Similarly, Yuan et al., (2025) compare AI with human hosts and find that AI excels in consistency, data-driven personalization, and scalability, but still falls short in

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establishing emotional connections with audiences. These findings suggest that while AI significantly enhances efficiency, emotional engagement remains an unresolved challenge.

A systematic review by Wang et al., (2026) provides a comprehensive research map of AI-based virtual streamers and consumer behaviour, highlighting recent research trends and future directions, including the integration of algorithms to create more personalized shopping experiences. However, Peng et al., (2024) caution that failures in AI-based services may trigger consumer disengagement, particularly in the Chinese market, thereby underscoring the critical importance of technological reliability.

Further research by Sun & Tang (2024) examines the avatar effect of AI-powered virtual streamers, demonstrating that digital avatars can enhance consumers' purchase intention through perceived authenticity and social interaction. Shui et al., (2025) emphasize the importance of trust-building, arguing that AI virtual streamers must be designed with transparency to positively influence consumer purchase intention. Meanwhile, Zhong et al., (2025) explore how consumers navigate the relationship between digital and human hosts, highlighting the importance of understanding consumer intentions within the human digital nexus. In addition, Zhou & Li (2025) reveal that AI also plays a role in stimulating impulsive buying behaviour, thereby extending the research scope from technical and social dimensions to psychological perspectives.

Another critical issue that has increasingly attracted scholarly attention concerns the ethical and social implications of AI adoption in live streaming commerce. Recent studies have raised concerns regarding algorithmic transparency, consumer data privacy, manipulation of purchasing behaviour, and the sustainability of digital trust in AI mediated environments. These concerns are particularly relevant as AI systems continue to collect and process large volumes of consumer behavioural data for personalization and recommendation purposes. The absence of transparent AI governance mechanisms may potentially weaken consumer confidence and create resistance toward AI driven shopping platforms in the long term. Moreover, the multidimensional role of AI in influencing consumer cognition, emotion, and decision making remains insufficiently explored in a comprehensive manner. This research gap highlights the urgent need for integrative review studies capable of mapping the intellectual structure, research evolution, and future research directions concerning AI in live streaming commerce.

Based on these considerations, this study aims to conduct a bibliometric and systematic literature review regarding the role of Artificial Intelligence in live streaming commerce, particularly in shaping consumer behaviour. This study seeks to identify dominant research trends, analyse the contributions of AI technologies toward consumer experience and business performance, and examine the behavioural, psychological, and ethical implications associated with AI adoption in live streaming environments. Furthermore, this study develops a comprehensive research mapping framework intended to provide theoretical guidance and managerial insight for future AI driven electronic commerce research. The findings of this study are expected to contribute not only to the development of digital marketing and consumer behaviour literature, but also to the formulation of more ethical, adaptive, and consumer oriented AI implementation strategies in future digital commerce ecosystems.

LITERATURE REVIEW

Artificial Intelligence

Artificial Intelligence (AI) has significantly transformed modern marketing by enhancing data-driven decision-making, personalization, and customer engagement. A systematic review by Nadhea Magdalyna & Mulia Wibawa (2025) highlights that AI applications such as machine learning and natural language processing enable firms to analyze large-scale consumer data, improve segmentation, and optimize customer relationship management. Building on this, Sujood et al., (2026) emphasize AI's strategic role in shaping competitive advantage, particularly through omnichannel integration and predictive analytics that support more adaptive and responsive marketing strategies. Furthermore, Zatini (2025) provides a comprehensive perspective by identifying key conditions for effective AI adoption, including organizational readiness, data governance, and human resource capabilities. The study also underscores challenges such as data privacy concerns, algorithmic bias, and internal resistance.

Overall, the literature indicates that while AI offers substantial benefits in improving marketing performance and customer experience, its successful implementation requires alignment between technological capabilities and organizational factors, as well as careful consideration of ethical and governance issues.

Live Streaming

The literature indicates that AI-enabled live streaming has emerged as a key strategy in modern e-commerce marketing due to its ability to facilitate real-time, interactive, and personalized consumer engagement. Zhou et al., (2026) argue that AI integration enables real-time content optimization, enhances audience engagement, and strengthens purchase decisions through adaptive data analytics. Furthermore, Chang et al., (2025) demonstrate that AI-driven virtual streamers can generate a more consistent sense of social presence, thereby improving the shopping experience and increasing sales performance. However, Yuan et al., (2025) highlight a critical limitation: despite AI's advantages in efficiency and scalability, consumers still perceive human interaction as more authentic and trustworthy. Consequently, transparency in AI usage becomes essential for maintaining consumer trust. Overall, the effectiveness of AI-based live streaming marketing depends on balancing technological innovation with the emotional and relational dimensions of consumer experience.

Consumer Behavior

Consumer behavior has been widely examined through established theoretical frameworks that explain how individuals form purchase intentions and translate them into actual behavior. One of the most influential models is the Theory of Planned Behavior, which posits that behavioral intention is shaped by attitudes, subjective norms, and perceived behavioral control (Naskar & Lindahl, 2026). This framework extends the Theory of Reasoned Action, emphasizing the role of rational evaluation and social influence in decision-making (Hagger, 2019).

Subsequent studies highlight that consumer behavior is not solely driven by cognition but also influenced by emotional and contextual factors. For instance, research in leading journals such as

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the Journal of Consumer Research and the Journal of Marketing demonstrates that trust, perceived risk, and experiential value significantly shape purchase decisions (Lemon & Verhoef, 2016; Wedel & Kannan, 2016). Moreover, contemporary digital contexts reveal that consumer behavior is increasingly dynamic, shaped by interactive environments and personalized stimuli.

Overall, the literature suggests that consumer behavior is a multidimensional process integrating cognitive, social, and emotional dimensions, where intention remains a central predictor but is continuously moderated by situational and technological factors.

Research Questions

This study formulates several research questions to systematically examine the evolving relationship between AI technologies and consumer behaviour. The research questions are designed to explore the specific roles of AI-driven mechanisms in influencing consumer responses, compare behavioural dynamics between AI-mediated and human-mediated interactions, and critically evaluate the dual impact of AI as both an enabler and potential constraint within live streaming commerce environments. By addressing these questions, the study aims to provide a more comprehensive understanding of how AI reshapes consumer engagement, trust, decision-making processes, and purchasing behaviour in contemporary digital commerce ecosystems. Accordingly, the research questions proposed in this study are as follows:

RQ1: What roles do different AI technologies (e.g., AI streamers, virtual influencers, recommendation systems) play in shaping consumer behaviour in live streaming contexts?

RQ2: How does consumer behaviour differ between AI-driven and human-driven live streaming interactions?

RQ3: To what extent does Artificial Intelligence simultaneously enhance and inhibit consumer behaviour in live streaming commerce?

METHOD

Bibliometrics is a quantitative approach used to evaluate and map the development of a scientific discipline through the analysis of publication data, including citations, author affiliations, keywords, research topics, and methodological approaches, employing both basic and advanced statistical techniques (McBurney & Novak, 2002). Conceptually, bibliometrics is understood as the study and measurement of publication patterns in scholarly communication, along with the characteristics of their authors (Szomszor et al., 2021). This approach is not merely descriptive but also analytical, enabling the examination of the structure, dynamics, and evolution of knowledge within a given field. In addition to complementing traditional and systematic literature review methods, bibliometrics enhances the objectivity and transparency of research synthesis (Koseoglu et al., 2016) and has been increasingly applied across a wide range of disciplines, including the social sciences and humanities (Jia & Mustafa, 2022).

This study adopts the bibliometric framework for scientific mapping proposed by Zupic & Čater (2015), which classifies analysis into three main dimensions: retrospective, evaluative, and

relational. Specifically, this study extends beyond structural mapping by examining research novelty as well as the density and interrelationships of research topics based on keyword co-occurrence analysis. Through this approach, the study provides a more comprehensive understanding of research trends, thematic concentrations, and potential research gaps within the field under investigation.

This study combines bibliometric analysis and Systematic Literature Review (SLR), where bibliometric mapping is used to identify research trends and keyword structures, while SLR is employed to critically synthesize selected studies. The article search was conducted using the Scopus database with the keywords "Artificial Intelligence" and "Consumer Behaviour" and "Live Streaming" over the last five years (2022–2026). The search yielded 330 articles. The retrieved dataset was subsequently analyzed using VOSviewer to map research keywords, with particular emphasis on topic density and novelty through co-occurrence analysis based on overlay visualization.

ANALYSIS AND DISCUSSION

Analysis

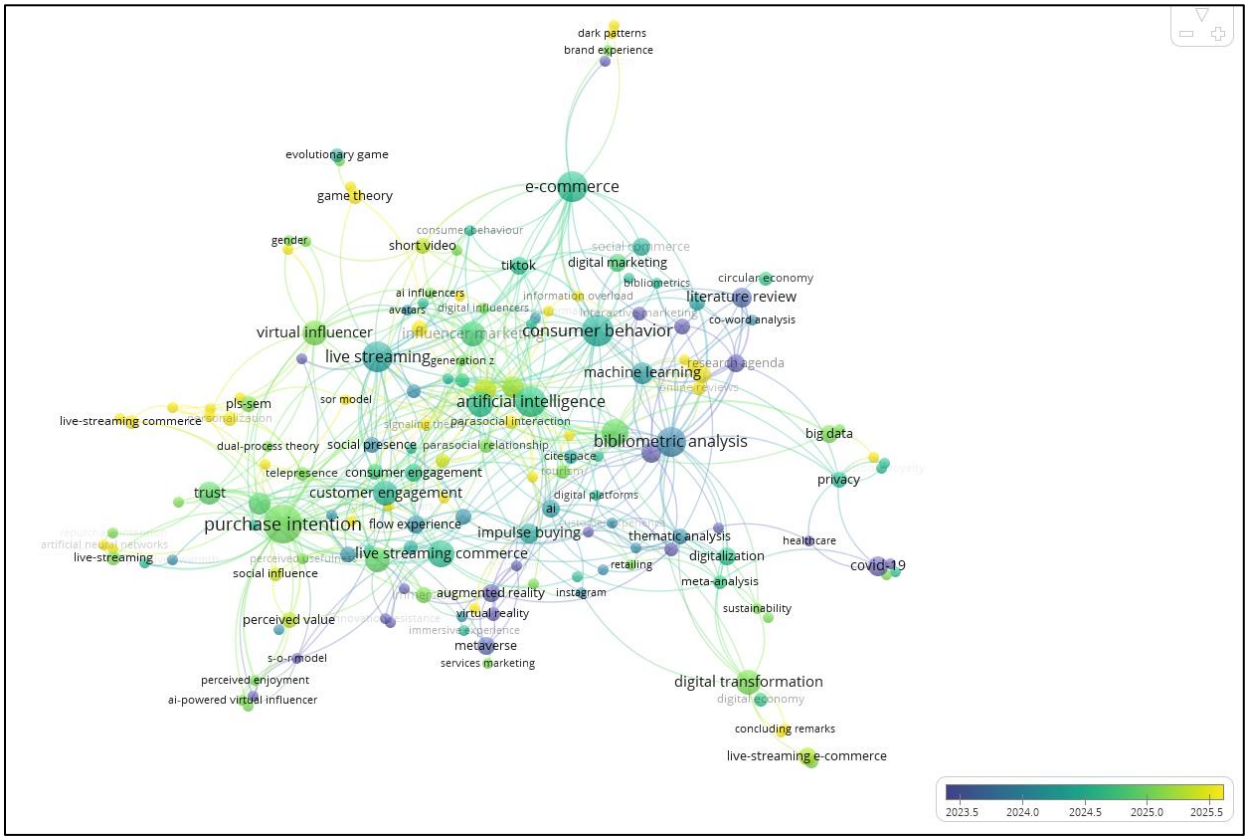

Figure 1. Overlay visualization

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The keyword co-occurrence network (Figure 1.) reveals that current research on artificial intelligence in live streaming commerce is largely fragmented across technological, behavioural, and social domains. While consumer behaviour remains the central focus, it is predominantly examined through short-term outcomes such as engagement and purchase intention. Emerging themes, including generative AI, virtual influencers, and social presence, indicate a shift toward more experiential and socially embedded perspectives.

However, the lack of integration among these dimensions suggests that AI is still conceptualized in a partial manner rather than as a multi-functional actor. This fragmentation highlights a critical research gap and underscores the need for a more integrative framework that captures the simultaneous cognitive, emotional, and social mechanisms through which AI shapes consumer behaviour in live streaming environments. The distribution of these findings by year can be seen in Table 1.

Table 1. Number of publications per year (initial findings)

No	Years	Amount
1	2026	72
2	2025	130
3	2024	80
4	2023	28
5	2022	20

Source: Processed bibliometric data retrieved from the scopus database and analyzed by the authors (2026)

The distribution of publications from 2022 to 2026 (Table 1) shows a rapid and consistent increase, rising from 20 articles in 2022 to a peak of 130 in 2025, before slightly declining in 2026 due to likely incomplete data. This pattern indicates that research on Artificial Intelligence, consumer behaviour, and live streaming has moved from an emerging stage to a rapidly expanding and increasingly established field. The sharp growth reflects heightened academic and practical interest driven by technological advancements and the expansion of digital commerce ecosystems. For this study, this trend underscores its strong relevance and urgency, as it is positioned within a fast-growing yet still evolving domain where theoretical integration remains limited, thereby highlighting the importance of providing a more comprehensive and integrative understanding of AI-driven consumer behaviour in live streaming contexts.

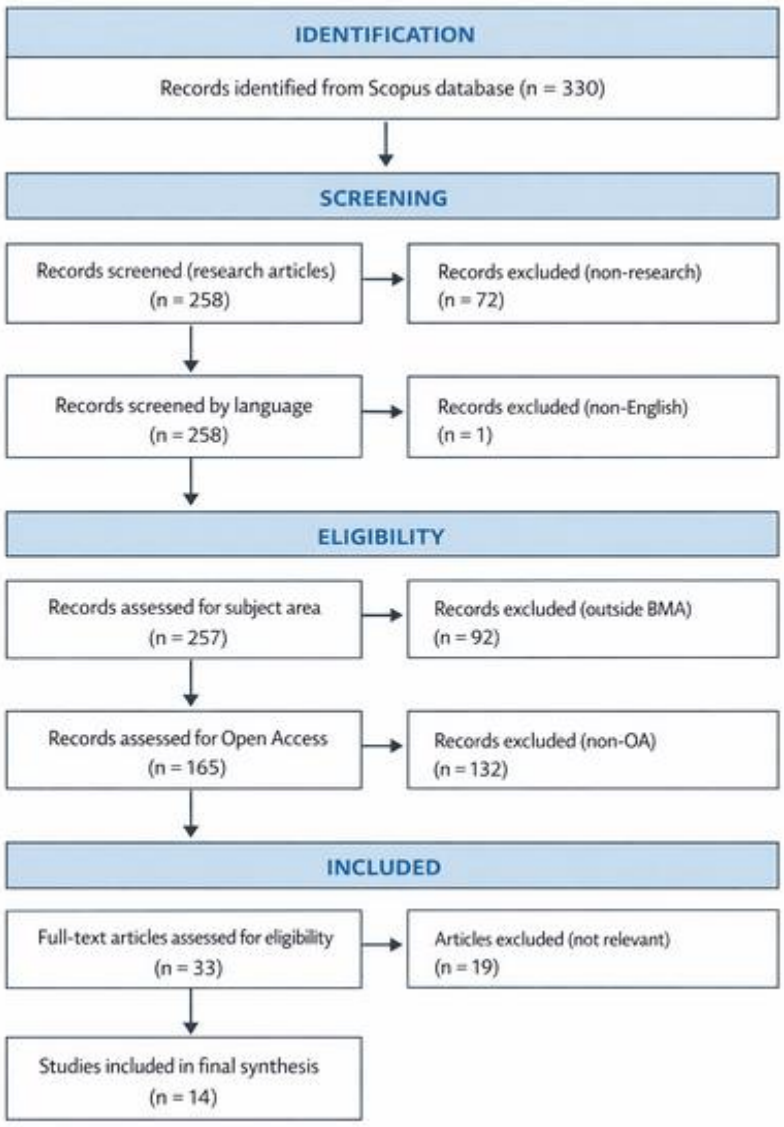

Figure 2. Study Selection Process Based on PRISMA Guidelines

The article selection process followed the PRISMA approach. A total of 330 records were initially identified from the Scopus database using the keywords "Artificial Intelligence", "Consumer Behaviour", and "Live Streaming" within the 2022–2026 period. After limiting to research articles, 258 studies remained, with 72 records excluded. Language screening resulted in the exclusion of one non-English article, leaving 257 articles. Further filtering based on subject area (Business, Management, and Accounting) reduced the dataset to 165 articles. Applying the Open Access criterion resulted in 33 eligible articles. Finally, after abstract screening and relevance assessment, 14 articles were deemed suitable and included in the synthesis.

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Table 2. Articles by Country

No	Countries	Journal	Number of Publications
1	United States	Journal of Business Research	6
2	United Kingdom	Technology in Society; Journal of Retailing and Consumer Services	6
3	China	Journal of Management Science and Engineering	1
4	Netherlands	Digital Business	1

Source: Compiled and processed by the authors based on Scopus-indexed publication data analysis (2022–2026)

The distribution of articles (Table 2) indicates that research on AI-driven consumer behaviour in live streaming commerce is heavily concentrated in Western academic contexts, particularly the United States and the United Kingdom, which together account for the majority of publications in high-impact journals such as Journal of Business Research, Technology in Society, and Journal of Retailing and Consumer Services. This concentration suggests strong theoretical and interdisciplinary development, but also reveals a geographical imbalance, as contributions from regions where live streaming commerce is most advanced such as Asia remain limited. Consequently, the existing literature may be biased toward Western consumption patterns and insufficiently capture the dynamics of highly interactive and socially embedded digital commerce environments. This gap underscores the importance of incorporating more diverse, context-sensitive perspectives, thereby positioning the present research to contribute by extending the empirical and theoretical understanding of AI driven consumer behaviour beyond dominant Western settings.

Table 3. Articles by Publishing Journal

No	Journal	Number of citations	H- Index	SJR	Rank	Cite Score	Percentile
1	Journal of Business Research	6	322	3, 498	Q1	25.3	98
2	Journal of Retailing and Consumer Services	4	190	3.913	Q1	22.7	97
3	Technology in Society	2	137	2.788	Q1	21.9	99
4	Journal of Management Science and Engineering	1	29	0.773	Q1	10.9	92
5	Digital Business	1	21	1.445	Q1	12.4	96

Source: Compiled and processed by the authors based on scopus database metrics, including H-Index, SJR, CiteScore, and journal quartile rankings (2026)

The selected articles (Table 3) are predominantly published in high-impact Q1 journals, with a strong concentration in the Journal of Business Research and the Journal of Retailing and Consumer Services. This indicates that the existing literature on Artificial Intelligence and

consumer behaviour is primarily grounded in marketing and consumer research domains. Furthermore, the inclusion of emerging journals such as Digital Business reflects a growing shift toward AI-driven digital ecosystems, suggesting an integration between established theoretical foundations and emerging technological contexts.

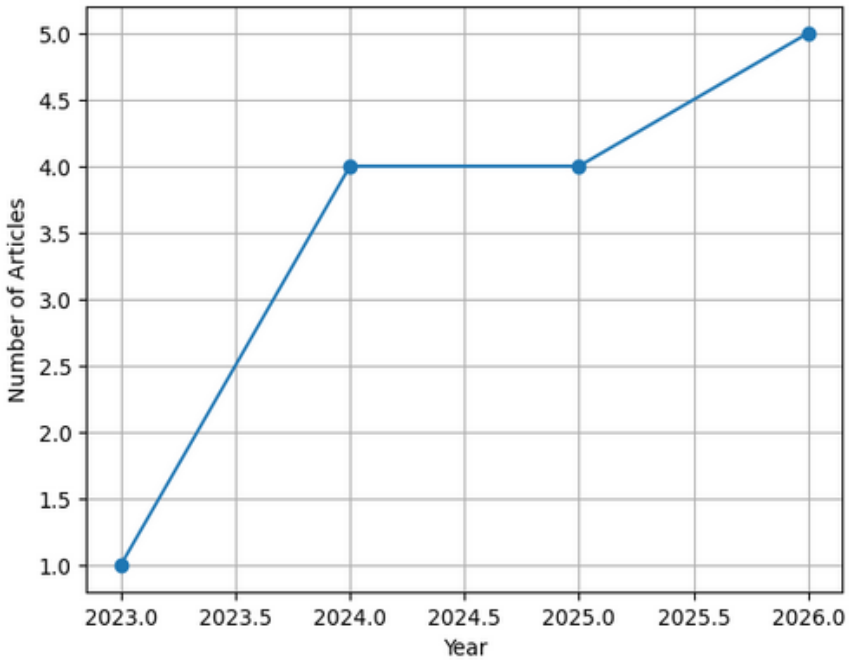

Figure 3. Publication Year of the Synthesized Articles

The line graph illustrates (Figure 3) a significant increase in publications from 2023 to 2024, followed by a stable trend in 2025 and a peak in 2026, indicating the rapid growth of research in AI-driven marketing and consumer behavior.

Table 4. Summary of Selected Studies on Artificial Intelligence in Live Streaming Commerce

No	Authors	Research Focus	Method & Approach	Role of AI (Conceptual)	Role of AI in Findings	Research Novelty
1	Nguyen, T.D.X., & Nguyen, K. M	AI recommendation & impulse buying	Survey, PLS-SEM, SOR	Decision architect	AI shapes cognitive & emotional resonance, which drives engagement and impulsive buying	Integrates dual resonance mechanism in AI recommendation
2	H. Wang et al.,	AI & sustainable consumption	Experiments	Decision architect	AI accelerates time perception, reducing patience and influencing intertemporal decisions	Reveals AI impact on temporal cognition
3	Gan et al.,	Virtual influencer marketing	SEM, SOR + PAD	Emotional agent	AI enhances hedonic motivation, enjoyment, and satisfaction, leading to purchase intention	Combines affective & cognitive responses in VI context
4	Yan et al.,	Virtual influencer attachment	Experiment	Emotional agent	AI increases emotional attachment via social presence, depending on VI type	Differentiates effects across VI categories
5	Hao et al.,	Human–AI decision making	Quasi-experiment	Decision support system	AI reduces cognitive bias and mental load, improving decision quality	Positions AI as cognitive augmentation tool
6	Liao et al.,	AI adoption behaviour	Longitudinal survey	Behavioural driver	AI triggers both adoption and resistance, driven by gratification and fear simultaneously	Dual-path model (approach vs avoidance)
7	Tóth et al.,	Digital human touch	Qualitative	Interaction agent	AI enables perceived empathy, warmth, and relational continuity in digital interaction	Introduces digital human touch concept
8	Liu et al.,	eWOM evolution	Conceptual	Communication mediator	AI transforms communication into multi-directional, scalable interaction systems	Defines eWOM 2.0 paradigm

9	Yuan et al.,	AI vs human livestreaming	Big data analysis	Interaction agent	AI increases monetary engagement (utilitarian) but weaker in hedonic contexts	Identifies context-dependent AI effectiveness
10	Kumar et al.,	Marketing evolution	Bibliometric	Strategic actor	AI acts as intelligent marketing agent shaping discipline evolution	Reframes marketing paradigm
11	Pillai et al.,	Metaverse shopping	PLS-SEM	Experience enabler	AI enhances immersion, interaction, and experiential consumption	Extends UGT into metaverse context
12	Chen & Liu	AI vs KOL strategy	Game theory	Strategic decision actor	AI influences competitive strategy and market equilibrium in live commerce	Shows AI impact on firm-level decisions
13	Li & Zhang	Chatbot switching	SEM (PPM)	Interaction agent	AI increases switching behaviour due to convenience and availability	Explains human → AI service shift
14	Yu et al.,	AI emotional display	Empirical (image analysis)	Emotional agent	AI emotional cues (facial expression) enhance user engagement	Links micro-emotion to engagement

Source: Compiled and synthesized by the authors based on a systematic review of selected studies on Artificial Intelligence in live streaming commerce and consumer behaviour.

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The synthesis of the reviewed studies (Table 4.) indicates that Artificial Intelligence (AI) can no longer be regarded merely as a technical tool; rather, it functions as an active actor within the digital consumption ecosystem. Conceptually, the role of AI is distributed across several core functions namely as an interaction agent, an emotional agent, a decision architect, and, in some cases, a strategic actor each of which is supported by empirical evidence across the literature.

As an interaction agent, AI replaces or complements human communication through technologies such as chatbots and AI streamers. These systems enhance efficiency, responsiveness, and scalability, while also facilitating behavioural shifts from human-mediated to AI-mediated interactions, particularly in service and live streaming contexts (Li & Zhang, 2023; Yuan et al., 2025). As an emotional agent, AI especially in the form of virtual influencers operates at an affective level by stimulating consumer engagement through perceived enjoyment, emotional attachment, and social presence (Gan et al., 2025; Yan et al., 2025; Yu et al., 2024). In parallel, as a decision architect, AI exerts a more implicit yet powerful influence by structuring information environments, shaping consumer preferences, and guiding decision-making processes through recommendation systems and data-driven personalization (Hao et al., 2024; Nguyen, 2025; Wang et al., 2026).

Taken together, the literature consistently positions AI as a multi role actor that simultaneously influences cognitive, emotional, and behavioural dimensions of consumer behaviour. This multi-functionality highlights the systemic nature of AI in digital commerce, where its impact extends beyond isolated interactions to the orchestration of the entire consumer decision-making experience.

Discussion

This study contributes to the literature by reconceptualizing artificial intelligence as a multi-role actor that simultaneously operates across interaction, emotional, and decision-making dimensions, thereby extending fragmented perspectives into an integrated behavioural framework.

RQ1: What roles do different AI technologies (e.g., AI streamers, virtual influencers, recommendation systems) play in shaping consumer behaviour in live streaming contexts?

Artificial Intelligence (AI) technologies demonstrate three interrelated roles in shaping consumer behaviour in live streaming commerce: as interaction agents, emotional experience creators, and decision architects. As interaction agents, AI streamers and chatbots enhance efficiency, responsiveness, and scalability, which facilitate transactional outcomes and utilitarian consumption (Li & Zhang, 2023; Yuan et al., 2025)

As emotional experience creators, virtual influencers operate at a symbolic and affective level. Interactivity, visual appeal, and hedonic motivation significantly influence willingness to buy, while social presence drives emotional attachment (Gan et al., 2025; Yan et al., 2025). Moreover,

AI-generated content enhances both emotional and cognitive resonance, leading to higher engagement and impulsive buying (Nguyen, 2025).

As decision architects, AI recommendation systems shape consumer preferences implicitly through personalization. Content consistency strengthens cognitive and emotional resonance, increasing engagement and impulsive behaviour (Nguyen, 2025), while also reducing cognitive load in decision-making processes (Hao et al., 2024). Nevertheless, this role is ambivalent, as AI-driven speed and efficiency may accelerate time perception and promote short-term gratification over reflective consumption (Wang et al., 2026).

Overall, AI simultaneously enhances efficiency, engagement, and decision support, while limiting emotional authenticity and long-term relational depth. The literature remains fragmented, as these technologies are often examined in isolation, indicating the need for integrative frameworks that capture the combined cognitive, emotional, and social mechanisms shaping consumer behaviour in AI-driven live streaming contexts.

RQ 2: How does consumer behaviour differ between AI-driven and human-driven live streaming interactions?

The distinction between consumer behaviour in AI-driven and human-driven live streaming interactions reveals a nuanced trade off between functional efficiency and socio emotional richness. Across the reviewed studies, AI driven interactions consistently demonstrate superior performance in facilitating utilitarian outcomes, such as information processing, transaction efficiency, and immediate purchase behaviour. For instance, research on AI streamers indicates that their ability to deliver consistent, rapid, and data-driven responses enhances monetization-related behaviours, particularly in task-oriented consumption contexts (Yuan et al., 2025). Similarly, AI-based systems reduce cognitive load and support decision-making through analytical precision, thereby improving decision efficiency in complex environments (Hao et al., 2024). However, these advantages are accompanied by limitations in emotional depth, as AI agents lack the spontaneity, empathy, and contextual sensitivity that characterize human interactions (Li & Zhang, 2023).

In contrast, human driven live streaming interactions are more effective in fostering emotional engagement, trust, and long term relational outcomes. The literature suggests that human streamers excel in creating authentic social connections, which are critical for hedonic consumption and experiential value creation. While AI powered virtual influencers can simulate aspects of emotional engagement through visual appeal, interactivity, and perceived enjoyment (Gan et al., 2025), the resulting relationships remain largely mediated and contingent upon perceived social presence (Yan et al., 2025). Moreover, the presence of the uncanny valley effect in highly human-like AI agents may further undermine trust and emotional comfort, thereby limiting their effectiveness in building deeper consumer relationships (Yan et al., 2025)s. These findings underscore that, despite technological sophistication, AI-driven interactions often lack the authenticity required to sustain meaningful emotional bonds.

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Beyond interaction quality, AI fundamentally reshapes consumer decision-making processes through its role as an embedded, often invisible, decision architecture. AI-driven recommendation systems influence consumer behaviour by structuring information environments and enhancing cognitive and emotional resonance, which in turn stimulate impulsive purchasing (Nguyen, 2025). However, this influence is not unequivocally positive. Evidence suggests that the perceived speed and efficiency of AI can distort temporal perception, leading consumers to favour immediate gratification over long-term considerations (Wang et al., 2026). In contrast, human-driven interactions tend to support more reflective and deliberative decision-making processes, particularly in contexts requiring trust and relational reassurance.

Overall, the synthesis of the fourteen articles indicates that AI driven and human driven live streaming interactions shape consumer behaviour in fundamentally different ways. AI driven interactions are predominantly efficiency oriented, promoting rapid, system driven, and often impulsive behaviours suited to utilitarian consumption contexts. Conversely, human driven interactions are relationship oriented, fostering trust, emotional engagement, and sustained loyalty, which are essential for hedonic and experiential consumption. Nevertheless, the current literature remains fragmented, as most studies examine AI and human agents in isolation without adequately accounting for contextual contingencies, such as product type, consumption goals, and levels of consumer involvement. This limitation highlights a critical avenue for future research to develop integrative and context-sensitive frameworks that explain not only how, but also under what conditions, AI can effectively substitute or complement human actors in live streaming commerce.

RQ 3: To what extent does Artificial Intelligence simultaneously enhance and inhibit consumer behaviour in live streaming commerce?

Artificial Intelligence (AI) in live streaming commerce simultaneously enhances and inhibits consumer behaviour through a dual mechanism that operates across functional efficiency, emotional engagement, and decision-making processes. On the one hand, AI enhances consumer behaviour by increasing interaction efficiency, personalization, and decision support. AI driven agents such as streamers, chatbots, and recommendation systems enable rapid information delivery, consistent communication, and scalable engagement, which collectively facilitate transactional outcomes and impulsive purchasing (Nguyen, 2025; Yuan et al., 2025). In particular, AI recommendation systems strengthen cognitive and emotional resonance through personalized content, thereby intensifying engagement and purchase likelihood (Nguyen, 2025). Moreover, AI reduces cognitive burden and improves decision quality by structuring complex information environments into manageable inputs (Hao et al., 2024). These capabilities position AI as a powerful enabler of utilitarian consumption, especially in high-speed, data-driven live streaming environments.

However, the same attributes that enhance efficiency also introduce constraints that inhibit consumer behaviour, particularly in the emotional and relational domains. AI-driven interactions often lack authenticity, empathy, and contextual sensitivity, which are essential for building trust

and sustaining long term engagement (Li & Zhang, 2023). While AI powered virtual influencers can simulate emotional cues and generate engagement through interactivity and visual appeal (Gan et al., 2025), such engagement remains contingent upon perceived social presence and is inherently limited by its artificial nature (Yan et al., 2025). In some cases, highly human-like AI agents may even trigger discomfort due to the uncanny valley effect, thereby reducing trust and weakening consumer attachment (Yan et al., 2025). Furthermore, AI's speed and automation can distort consumers' temporal perception, encouraging immediate gratification and potentially undermining more deliberate, long term decision-making, particularly in contexts requiring patience or sustainability considerations (H. Wang et al., 2026).

Critically, the literature reveals that AI's influence is not unidirectional but inherently paradoxical. The technologies that enhance engagement and purchasing efficiency simultaneously risk diminishing relational depth and cognitive reflection. This paradox is further reinforced by the fragmented nature of existing studies, which tend to isolate specific AI applications such as virtual influencers or recommendation systems without integrating their combined effects within a unified behavioural framework. As a result, while AI demonstrably amplifies short-term behavioural responses, such as engagement and impulse buying, it may concurrently inhibit the development of trust, authenticity, and long term loyalty. Overall, AI enhances consumer behaviour to the extent that consumption is efficiency-driven and transactional, but inhibits it when consumption relies on emotional authenticity, social connection, and reflective decision-making, highlighting the need for more context-sensitive and integrative research approaches in live streaming commerce.

CONCLUSION

This study provides a comprehensive synthesis of the role of Artificial Intelligence (AI) in shaping consumer behaviour in live-streaming commerce by integrating bibliometric analysis and systematic literature review. The findings reveal that AI should no longer be conceptualized merely as a technological tool, but rather as a multi-role actor that simultaneously operates as an interaction agent, emotional agent, and decision architect. Through these roles, AI enhances consumer behaviour by improving efficiency, personalization, and decision support, particularly in utilitarian contexts. However, it also inhibits behaviour by limiting emotional authenticity, relational depth, and reflective decision-making, highlighting the inherently paradoxical nature of AI driven interactions.

The bibliometric analysis further indicates that the existing literature remains fragmented across technological, behavioural, and social domains, with a dominant focus on short-term outcomes such as engagement and purchase intention. This fragmentation underscores the lack of integrative frameworks capable of capturing the complex interplay between cognitive, emotional, and behavioural mechanisms in AI driven environments. Accordingly, this study contributes by offering an integrative conceptual perspective that reconceptualizes AI as a multi-dimensional actor within digital consumption ecosystems. The findings provide important implications for both theory and practice, suggesting that future research should adopt more holistic and context-

sensitive approaches, particularly by addressing ethical concerns such as algorithmic transparency, data privacy, and long-term consumer relationships in live streaming commerce.

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