A Review of Factors Affecting Consumers' Purchase Intentions in the Live-streaming Commerce Context

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Abstract

The appearance and development of live-streaming commerce has altered both business and consumers. Hence, understanding consumers' purchase behaviors in the live-streaming commerce context becomes a crucial competitive edge for retail marketers. The purpose of this research is to review factors affecting consumers' purchase intentions in the live-streaming commerce context. In this research, the identified factors affecting consumers' purchase intentions, which are technological factors, background fitting factors, and cognitive and affective states factors. It is expected that the identified factors that affect purchase intentions could give some insights to retail marketers on how to stimulate consumers to purchase in the live-streaming commerce context.

Keywords: Live-Streaming Commerce, Purchase Intentions, Technological Factors, Background Fitting Factors, Cognitive and Affective States Factors

1. Introduction

The fast-growing development of e-commerce provides consumers with an appealing shopping environment (Scheibe and Zimmer, 2019). Compared with e-commerce which mainly offers product information through static images and texts, live-streaming commerce provides consumers with a live platform to share their thoughts and comments on products. As a result, live-streaming commerce is a priority for consumers when they want to know more about products and services (Ho and Rajadurai, 2020). A fast-growing adoption and utilization of live-streaming commerce have been witnessed globally, particularly in China. Live-streaming commerce blends real-time video streaming technology with online shopping commerce, and thus consumers' purchasing decisions and transactions could be influenced by the product-related video content. Therefore, live-streaming commerce platforms, such as Taobao Live, TikTok, JD.com, and Kuaishou.

In the consumption process of live-streaming commerce, consumer demand, purchase motivation, and behaviors can be enhanced through different factors, such as streamer's professionalism, word of mouth, promotion, and emotional boosts (Xu et al., 2022). Therefore, it is necessary for retail marketers to know how to formulate marketing strategies, encourage consumers to make purchases impulsively, and finish their transactions effectively (Qi and Masrom, 2023).

However, a lack of studies investigated the research on impulsive purchases in the live-streaming commerce context, most extant studies concentrate on traditional e-commerce or physical context (Lu and Chen, 2021). For instance, Park et al. (2015) stated that consumers' shopping decision is affected by whether the product is compatible with the background setting in physical stores. Parboteeah et al. (2009) held the view that there is a positive relationship between website background and consumers' purchase intentions. Chi (2018) further pointed out that website design can affect consumer's cognitive and emotional state, and consequently affect consumers' shopping decisions.

More importantly, the booming development of live-streaming commerce has caught scholars' attention as consumer shopping behaviours change a lot because of this new model (Ho and Rajadurai, 2020). Hence, the objective of this research is to review factors that affect consumers' purchase intentions in the live-streaming commerce context.

This paper is divided into several subsections. Section 2 presents the main topics of the research, which are live-streaming commerce, and purchase intentions. Section 3 briefly provides the method that this research used. Section 4 focuses on the results and discussions. And lastly, conclusions.

2. Literature Review

2.1. Live-streaming Commerce

Live-streaming commerce, as an updated type of e-commerce, provides users with a more social, interactive, and entertaining way to make purchases (Lin et al., 2023). In fact, it is more than a sub-set of e-commerce, but a novel model of social commerce (Sawmong, 2022; Wongkitrungrueng and Assarut, 2020). E-commerce and broadcasting features are blended into a new form to sell goods or services and bring numbers of viewers together quickly (Li et al, 2020).

Live-streaming commerce first emerged in 2014 in China, a social commerce community specializing in the fashion area called Mogujie started using streaming technology to attract users (Chen et al., 2022). After that, Taobao Live, one of the most remarkable live-streaming commerce platforms in China, was launched by Alibaba in the year of 2016 (Ma et al., 2022). Live-streaming commerce was then adopted by ByteDance and then followed by TikTok launched in the United States in the year of 2018 (Chen et al., 2022).

Live-streaming commerce has its special and unique features over traditional ecommerce. First of all, a high level of interaction is provided. for instance, users can send questions or comments in a video streaming room and get a response or shopping guidance from the streamer or other viewers instead of passively receiving information (Sun et al., 2019). Secondly, authentic online transactions can be achieved with the implementation of real-time technology. Streamers can display the products from different angles (product information, instruction for use, aftersale service) in real-time video which enables users to get more information and a sense of immersion (Yim et al., 2017).

Although there are varieties of live-streaming commerce platforms in the market, they can be categorised into two types: those are blended with traditional ecommerce platforms, and those are integrated with social platforms (Cai et al., 2018; Kang et al., 2021). Sun et al. (2019) stressed that both types necessarily offer consumers a shopping experience with a sense of immersion and authenticity that positively influences consumers' purchase decisions. Moreover, both types have been progressively an integral part of consumers' purchasing lives nowadays.

2.2. Purchase Intentions

A consumer's tendency to make a purchase, specifically, their inclination to purchase, is defined as purchase intention, which is also a type of behaviour. Lu et al. (2010) held the view that individuals' upcoming behaviours are prone to be affected by individual's attitudes and beliefs about a specific product or service. Konuk (2018) defined consumers as individuals who are thinking about getting specific products and who have advantageous information on such products. Konuk (2018) demonstrated that a business's success can be affected by consumers' purchase intentions. Konuk (2018) further pointed out that the consumers' norms, attitudes, and perceptions have an impact on consumers' predicted behaviours, which consequently affect consumers' purchase intention. Therefore, purchase intention is also regarded as a psychological and behavioural inclination, which is in line with an individual's norms, attitudes, and perceptions. That is, consumer behaviours, such as purchase intention, repeated purchasing, and recommendation desire can be affected by consumers' norms, attitudes, and perceptions. In turn, businesses have utilized kinds of experiences and information to understand consumers' demands, consumers' purchase intentions, predict the market and stimulate consumers' buying behaviours. Live-streaming commerce is becoming a good choice since it incorporates information about many consumers' personally identifiable information (purchase intention) and provides consumers with different kinds of retail channels and promotions to make purchases (Lu et al., 2010).

The reason that consumers make impulsive purchases can be different. Sin et al., (2012) stated that when consumers cannot resist so much fun provided, impulsive purchase would happen. That is when consumers are in a hurry to obtain a particular item that they give up on balancing with their options, impulsive purchase thus frequently occurs. Huang and Suo (2021) conducted a study and pointed out six main situational factors affecting consumer behaviours, which are psychology, environment, marketing, time, material, and interaction. In Huang and Suo's (2021) research, an individual's particular psychological features were categorised as situational variables (Qi and Masrom, 2023). Zhao et al. (2022) pointed out that consumers' impulsive shopping decisions are positively affected by promotional campaigns and website page design. Abdelsalam et al. (2020) further demonstrated that consumers' impulsive purchase behaviours are positively affected by online comments. Abdelsalam et al. (2020) stated that promotional campaigns, advertisements, the design of a store, background music, the smell of the store, and other marketing-related stimulus may also motivate consumers to make impulsive

purchases. Additionally, personality features, such as emotional state, level of control loss, hedonistic value, and impulsivity are strongly and positively connected with consumers' impulsive buying behaviours (Abdelsalam et al., 2020).

The key factors influencing consumers' purchasing behaviour in e-commerce platforms are marketing strategy, website quality, online word-of-mouth, product introduction, and other features (Huang and Suo, 2021). It is believed that the above-influencing factors also significantly affect consumers' impulse shopping behaviour in the live-streaming commerce context since it is essentially a growing e-commerce model-based (Huang and Suo, 2021). Additionally, it is evidenced that live-streaming commerce provides consumers with better promotional campaigns, more frequent interpersonal contact, and logical product display. Thus, live-streaming commerce is more likely to encourage users to make impulsive purchases over an e-commerce model (Huang and Suo, 2021).

3. Method

The aim of this research is to review the factors that affect consumers' purchase intentions, focusing on the comprehensive breadth rather than the depth of research into factors, therefore conducting a scoping review is more feasible compared with conducting a systematic review or meta-analysis (Yang et al, 2020).

3.1 Search Strategy

In this research, a comprehensive literature search was carried out on online journal databases, including Web of Science, Springer Link, Taylor and Francis, IEEE, Science Direct, and Scopus. The period was selected from 2019 to 2023, as this corresponds to a booming utilization of live-streaming commerce.

Besides, keywords "live-streaming commerce", "purchase intention", and "ecommerce" and their synonyms are used in our search. To ensure the accuracy of the search process, separate keywords and a combination of other keywords were used for searching with advanced search tools provided by online databases.

3.2 Selection Criteria

Two authors checked articles independently based on the inclusion and exclusion criterion, as displayed in Table 1. Titles and abstracts were first verified for qualification. Then, the full text was checked for inclusion. Two authors crosschecked the article selections for eligibility and correctness during the whole process. The review was restricted to studies of purchase intentions in livestreaming commerce, e-commerce, and other online-related domains.

No.	Inclusion Criteria	Exclusion Criteria	
1	It was a published and original study.	It was a duplicated study.	
2	It was written in English.	It was not written in English.	
3	It was available in full-text.	It was an uncompleted study.	

Table 1. Inclusion an	d Exclusion Criteria
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Table 1. Inclusion and Exclusion Criteria (Continued)

No.	Inclusion Criteria	Exclusion Criteria
4	It was published during the period from 2019 to 2023.	It was not published during the period from 2019 till 2023.
5	It focused on the study of purchase intentions in the online environment.	It was not related to the domain.

3.3 Data Extraction

A datasheet was used to extract information, including research stream, year of publication, research domain, factors affecting purchase intentions, and country of study. In total, 29 articles were selected for analysis. Table 2 shows the detailed information of articles selected in this research.

Table 2. Information of Included Articles on Factors Affecting Purchase Intentions

No.	Research Stream	Research Domain	Factors affecting purchase intentions	Country of study
1	Xu et al., 2022	Live-streaming commerce	Streamer's professionalism, the reciprocal expectation of live-streaming, and the viewer's parasocial relationship	China
2	Qi and Masrom, 2023	Live-streaming commerce website	Quality of information and service, telepresence, social presence, entertainment	China
3	Lu and Chen, 2021	Live-streaming commerce	Consumers' product fit uncertainty, quality uncertainty, streamer- consumer relationship	China
4	Lin et al., 2023	Live-streaming commerce	Perceived usefulness, perceived ease of use, perceived enjoyment, and perceived interactivity	Malaysia
5	Sawmong, 2022	Live-streaming commerce	Entertainment, informativeness, expertise, and trustworthiness	Thailand
6	Chen et al., 2022	Live-streaming commerce	Trust in the streamer, trust in the product	China
7	Ma et al., 2022	Live-streaming commerce	Interactivity, visualization, entertainment, and professionalization	China
8	Sun et al., 2019	Live-streaming commerce	Visibility, metavoicing, guidance shopping, live- streaming engagement	China

No.	Research Stream	Research Domain	Factors affecting purchase intentions	Country of study
9	Zhao et al., 2022	E-commerce	Website, marketing, affective stimuli, economic development level	China
10	Dhingra et al., 2020	E-commerce websites	E-service quality (including website design, reliability, responsiveness, personalization) trust, customer satisfaction	India
11	Zarei et al., 2019	E-commerce websites	Internet service quality, consumers' satisfaction	Iran
12	Hanjaya et al., 2019	Mobile shopping app	Ease of use, usefulness, system quality, information quality, and service quality	Indonesia and Singapore
13	Shang et al., 2023	Live-streaming commerce	Background fitting, cognitive process, affective process	China
14	Chi, 2018	Mobile commerce website	Website information quality, website visual appeal, apparel visual appeal, and website security	United States
15	McCormick, 2016	Social Media Website	Matchup between streamer and product, endorsement	United States
16	Zheng et al., 2019	Mobile commerce	Portability, visual appeal, interpersonal, hedonic and utilitarian browsing	China
17	Hu and Chaudhry, 2020	Live-streaming commerce	Social and structural bonds, affective commitment	China
18	Xu et al., 2020	Live-streaming commerce	Streamer attractiveness, para-social interaction, cognitive state, arousal	China
19	Park and Lin, 2020	Live-streaming commerce	Product-source fit, live content-product fit, Wanghong attractiveness, utilitarian value, hedonic value	China

Table 2. Information of Included Studies on Factors Affecting Purchase
Intention (Continued)

	ResearchResearchFactors affectingCountry of				
No.	Stream	Domain	Factors affecting purchase intentions	Country of study	
20	Li et al., 2022	Live-streaming commerce	Social presence of streamer, pleasure, arousal	China	
21	Meng et al., 2021	Live-streaming commerce	Online streamers' performances, pleasure, arousal, admiration emotion	China	
22	Lee and Chen, 2021	Live-streaming commerce	Perceived enjoyment	China	
23	Yang et al., 2022	Live-streaming commerce	Perceived value, promotion efforts, moral elevation	China	
24	Argyris et al., 2021	Social media platform	The visual presentation of a streamer's extroversion, matching between a streamer and the consumers	United States	
25	Xu et al., 2019	Live-streaming commerce	Cognitivestate,emotionalstate,informationquality,streamerattractiveness,andpara-socialinteraction	China	
26	Lin et al., 2022	Live-streaming commerce	Perceived enjoyment, convenience, interactivity, and playfulness	China	
27	Sarah et al., 2021	E-commerce market	E-store content, E-store design, and e-store navigation	Bangladesh	
28	Zuo and Xiao, 2021	Live-streaming commerce	Streamer attractiveness, social presence information quality, perceived usefulness, perceived enjoyment	China	
29	Ruiz-Mafe et al., 2018	Travel review websites	Emotions, online reviews	Spain	

Table 2. Information of Included Studies on Factors Affecting PurchaseIntention (Continued)

4. Results and Discussions

Through the literature review, we have identified several key factors that affect consumers' purchase intention in the live-streaming commerce context. The identified factors can be categorised into three dimensions, which are technological factors, background fitting factors, and cognitive and affective state factors.

4.1. Technological Factors

Technological factors in this research consist of three dimensions, which are information quality, service quality, and system quality.

Information quality is a crucial technological factor for the information systems' success, especially for e-commerce systems (DeLone and McLean, 2003). Busalim et al. (2019) defined information quality as the degree to which valuable and accurate information is provided to consumers that can fully meet their requirements. Lim (2017) indicated that consumer interaction and engagement are positively affected by information quality, which means a high level of information quality can induce consumer interaction and engagement. Particularly, Song et al. (2012) have empirically proved that information quality plays a positive and significant role in affecting consumers' satisfaction and purchase intentions in the e-commerce context

Service quality is another technological factor that affects purchase intentions. Service quality is defined as the degree to which guidance and services users can obtain through the website or platform (Busalim et al., 2019). In fact, live-streaming commerce is more than a part of e-commerce, but a novel model of social commerce, accordingly, both commerce and social networking features have been integrated with a live-streaming commerce context, which motivates users to reuse and make a purchase in live-streaming commerce context. Past studies have evidenced that service quality significantly affects online engagement (Busalim et al., 2019; Oliveira et al., 2016), consumer satisfaction (Song et al., 2012; Wang et al., 2016), and purchase intention (Dhingra et al., 2020; Zarei et al., 2019).

System quality is the third factor that affects consumers' purchase intention. System quality has different aspects in past studies. For instance, system quality refers to the extent to which qualified goods and services are provided to consumers by the website or platforms (Alshibly, 2014). DeLone and McLean (2003) further indicated that many factors may affect system quality, including usability, adaptability, and the system's response time. (Kim et al., 2012)further pointed out that accessibility and usability are the dominating factors that affect system quality since these two factors are highly related to the interface design of a website. For instance, consumers always prefer a speedy and smooth experience on a website or platform (Qi and Masrom, 2023). It is evidence that good user experience depends on good system quality, which consequently motivates consumers' purchase intentions (Hanjaya et al., 2019; Wang, 2008; Chen, 2013).

4.2. Background Fitting Factors

Extant studies stated that background fitting is of great importance in affecting consumers' buying decisions (Qi and Masrom, 2023; Parboteeach et al. 2009; Chi, 2018; Shang et al. 2023). Parboteeach et al. (2009) held the view that consumers' purchase intention is positively affected by the website background. Chi (2018)

demonstrated that the consistency and fit of the website background significantly affects not only consumers' cognitive state, but also their affective state, and consequently affects consumers' shopping decisions. Moreover, Shang et al. (2023) also stressed the importance of streamer background fit in affecting consumers' purchase intention. A good match between streamers and consumers, and a proper fit between streamers and products also positively affect consumers' purchase intentions (McCormick, 2016). Accordingly, the effect of background fit can be divided into two aspects, which are product-background fitting and streamer-background fitting (Shang et al., 2023).

4.2.1. Product-Background Fitting: The background, streamers, and products are all synchronously shown on the screen during live-streaming commerce. The significance of a product's fit with its background has been proven by a recent study conducted by Shang et al. (2023). According to research in the domain of advertising marketing, the matchup between an advertisement and its background may have an impact on the consumers' understanding of the commercial's content (Shang et al., 2023). Consumers may lose confidence and undermine their trust in products when the product type does not match up with the background properly in an online context, and consequently, negatively affect consumer's purchase intentions (Shang et al., 2023).

Besides, numerous studies have stated that consumers' purchase intentions may be affected by consumers' purchasing history and related marketing environment. Shang et al. (2023) demonstrated that the creative design and style of advertisements can arouse consumers' emotions toward particular products. It is evidenced that the marketing strategy and design of a store have an impact on consumers' purchasing intention in offline physical stores (Shang et al., 2023). Shang et al., (2023) further pointed out that the aesthetics of offline physical stores not only affect consumers' purchase intentions but also affect consumers' satisfaction and loyalty. Humancomputer interaction provides users with an opportunity to connect with items in an online environment. Both product features and the online shopping environment affect consumers' purchase intentions (Parboteeah et al., 2009). An eye-catching website design may frequently attract more visitors, which is followed by consumers' willingness to browse and make purchases. However, Chi (2008) stated that compared with a well-designed website, a properly disorderly website page has a higher likelihood of motivating consumers to purchase.

In general, the content shown in live-streaming commerce studios and whether consumers' willingness to join in depends on the streamer, together with the product and the live-streaming background. Consumers may hold different personal feelings on the studio background of live-streaming commerce, which may trigger different purchasing behaviours (Qi and Masrom, 2023). Zheng et al. (2019) further stated a vigorous shopping environment could motivate consumers to stay longer time on the website and help consumers effectively search for the products or information they want. For instance, an increasing number of fruit farmers are utilizing live-streaming in their orchards, providing consumers with an opportunity to see the orchards vividly and know more about the fruits the streamers consider to be best. Moreover, consumers' shopping experience could be more pleasant in a user-friendly retail atmosphere (Shang et al., 2023). For instance, a bakery shop gains booming consumers' trust in the quality of the product since it allows users to

observe the bread-making process through watching live-streaming (Qi and Masrom, 2023).

Presently, e-commerce marketing strategy is facing both new opportunities and challenges with the development of live-streaming technology. Past marketing research also proved that the consumer shopping experience may be enhanced through improving the product's marketing environment (Hu and Chaudhry, 2020). This perspective perceives that consumers' shopping experience may be improved when the goods are promoted in live-streaming commerce. Moreover, a good matchup between the products and background of live-streaming commerce is also a driving factor that affects consumers' shopping experience, which eventually positively fostering consumers' shopping guidance in a more plausible environment (Xu et al., 2020). Because of this, the environment can alter how streamers' shopping guidance affects consumers' intentions to buy. That is, when the studio background design of live-streaming commerce has a high similarity with physical stores, consumers' purchase inclinations then can be positively aroused (Qi and Masrom, 2023).

4.2.2. Streamer-Background Fitting: Consumers' identification with streamers sometimes may be found if a proper matchup between streamers and goods is developed, and consequently, purchase intention is then positively aroused (McCormick, 2016). However, consumers may assume that the streamer is being used to obtain commercial benefits when the product and the streamer do not match up appropriately. Consequently, adverse opinions about the streamer can be generated, which may negatively affect consumers' shopping decisions. Therefore, it is believed that consumers' purchase intention is significantly affected by how well the live-streaming background, the streamer, and the product match up together (Park and Lin, 2020).

4.3. Cognitive and Affective States Factors

Qi and Masrom (2023) claim that consumers' contact with online merchants during live-streaming commerce results in cognitive and affective states.

4.3.1. Cognitive State Factors: The cognitive state is defined by Li et al. (2022) as the mental processes that happen when an individual is exposed to a variety of outside stimuli. Moreover, it stresses how consumers process information provided about products in live-streaming commerce and how to select and determine a particular studio to make purchases since there are a large number of alternatives in the online environment.

In the area of online purchasing research, perceived value and perceived trust are recognized as well-known cognitive state variables that signify interactions with outside stimuli (Meng et al., 2021). Perceived value is defined as the extent to which an item can live up to consumers' anticipated usefulness (Wongsunopparat and Deng, 2021). Most consumers claim their capacity to make effective purchases may be largely facilitated in the live-streaming commerce context (Huang and Suo, 2021). Lee and Chen (2021) explained that live-streaming offers consumers a better

platform with lower prices, more time saving, and less energy required, which significantly improves consumers' perceptions of value.

Kang et al. (2021) demonstrated that obtaining more information within the period allows users to spend less time making a purchase decision and then improves consumers' perception of value. When consumers join in the live-streaming commerce studio, their perceptions on product details and quality are shaped depending on how they interact with a product and its background (Kang et al., 2021). Moreover, when a good matchup between product display and commercials environment is developed, the effectiveness of product information marketing is then found (Wongkitrungrueng et al., 2020). That is, product information tends to be more usable and worthy of value in a live-streaming commerce context from the perspective of consumers. Most extant studies on background setting and consumer's perceived value focus on the e-commerce area, and a lack of studies concentrate on the live-streaming commerce context. Hence, it is proposed to improve consumers' perceived value by raising the compatibility between background settings and objects and improving informative printing in the live-streaming commerce context (Qi and Masrom, 2023).

Individuals may suffer cognitive dissonance when cognitively uncoordinated content is shown on the website, which may negatively affect their perceived value (Harmon-Jones and Harmon-Jones, 2021; Liu and Pan, 2021). Yang et al. (2022) stated that consumers' perceptions of value are affected streamer's shopping guidance style and the effectiveness of the streamer's identification by varying degrees. Compared with typical streamers, experts are more skillful in utilising phrases with particular meanings, such as first and patent, which enhance consumers' perceived value. However, extant studies overlooked the impact of background factors, and most studies paid attention to investigating the effect of streamers on consumer's perceived value. Based on cognitive dissonance theory, taking orchard as a live-streaming background fitting is more effective in motivating consumers' cognitive state than a study, which consequently develops positive perceived value in consumers' minds. Hence, it is expected that consumers' perceived value can be improved through developing a proper matchup of streamer funds (Yang et al., 2022).

In addition, Xu et al. (2020) defined perceived trust as an individual's confidence in or dependence on other's skills and knowledge. As demonstrated by Xu et al., (2022), live-streaming commerce offers distinctive benefits in authenticity, responsiveness, and exposure, all of which may improve consumer's trust and confidence in seller identity and product quality.

More importantly, scholars have paid attention to the marketing research of consumers' shopping experience, since it dominantly affects consumers' perceptions of trust and confidence in business (Shang et al., 2023). Retail marketers often change the background setting of physical stores in order to improve the effectiveness of goods display (Park et al., 2015). In contrast to physical stores, consumers may have more concerns about product uncertainty and may suffer more shopping risks in an online environment (Thakur, 2018). Therefore, online retail marketers improve website authenticity and improve consumer trustworthiness by designing more eye-catching and attractive websites (Harris and Goode, 2004). Shang et al., (2023) demonstrated that consumers' trust and recognition in the

commercials are affected by whether the website background setting matches the product type or not. It is true that live-streaming commerce still has some weaknesses in online shopping, though it can provide consumers with an authentic shopping environment. Hence, product sales are projected to be affected by consumers' perception of trust and confidence in a live-streaming commerce context (Qi and Masrom, 2023).

Consumers can understand an advertising message when a good matching streamer responds to them in the live-streaming commerce context (Markoska, 2021). Argyris et al. (2021) proved that there is a positive relationship between streamer image design and consumers' trust and purchase intention. In order to gain confidence, recognition, and trust from the consumers, streamers usually present a visually friendly image through videos, and pictures (Argyris et al., 2020). Hence, consumers' trust and willingness to join in the live-streaming commerce to a great extent are affected by whether the streamer image is compatible with the livestreaming commerce background setting. Past studies have also proved that consumers' reliance on live-streaming commerce is affected by streamer bottom adjustment.

4.3.2. Affective State Factors: Xu et al. (2019) defined affective states as an individual's emotional reactions when exposed to an outside stimulus. Perceived pleasure has been taken as the representative affective state factor in past studies. Li et al. (2022) defined perceived pleasure as to the extent that an individual's enjoyment or satisfaction. Sarah et al. (2021) confirmed that online situational design has an impact on an individual's affective states. Sarah et al. (2021) further pointed out that consumer satisfaction is affected by stimulation on the website when making a purchase. Zuo and Xiao (2021) supported that the better the website is designed, the higher user satisfaction is achieved, which consequently has a higher likelihood of motivating consumers' shopping behaviours.

Because of affective responses, purchase intentions are quickly aroused when exposed to outside stimuli (Lu and Su, 2009). It is witnessed that consumers' purchase intention is enhanced when they are in a good mood in physical stores (Park et al., 2005). Park et al. (2005) further demonstrated that an eye-catching website interface can arouse an individual's positive emotional states, which positively arouses consumers' purchase intention.

Hence, it is expected that the both proper streamer and product are important factors affecting consumers' emotional state, which positively facilitate consumers' purchase intentions in the live-streaming commerce context. Extant studies investigated how perceived pleasure affects consumers' shopping decisions in both physical environments and virtual online environments. It is believed that consumers' purchase intentions can be also enhanced through improving consumers' emotional state in the live-streaming commerce context, which is eventually beneficial to developing sticky and loyal consumers (Ruiz-Mafe et al., 2018).

5. Conclusions

The development and growth of live-streaming commerce change consumers' shopping behaviours nowadays, however, a lack of studies investigating this new

phenomenon. We provide some insights into the domain of live-streaming commerce through carrying out a scoping review. When conducting the research, it is witnessed that an increasing number of publications focus on the area of livestreaming commerce. Moreover, this research categorized the factors that affect purchase intentions into three dimensions, which are technological factors, background fitting factors, and cognitive and affective states factors. It is expected that this research will provide some insights for both researchers and practitioners and will make some contribution to the understanding of the live-streaming commerce domain.

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References

- [1] Scheibe, K. and Zimmer, F. (2019). Game Mechanics on Social Live-Streaming Websites. Proceedings of the Annual Hawaii International Conference on System Sciences. 8-11 Jan 2019, Maui, United States.
- [2] Ho, R. C. and Rajadurai, K. G. Strategies and Tools for Managing Connected Consumers. IGI Global, (2020), pp. 130-142.
- [3] Xu, P., Cui, B. J. and Lyu, B. (2022). Influence of Streamer's Social Capital on Purchase Intention in Live Streaming E-commerce. Frontiers in Psychology 12 (2022) 748172.
- [4] Qi, L. and Masrom, M. (2023). Role of Live E-Commerce on Consumer Purchase Intentions. International Journal of Professional Business Review 8: 6 (2023) e02435-e02435.
- [5] Lu, B. and Chen, Z. (2021). Live Streaming Commerce and Consumers' Purchase Intention: An Uncertainty Reduction Perspective. Information and Management 58: 7 (2021) 103509.
- [6] Park, H. H., Jeon, J. O. and Sullivan, P. (2015). How does Visual Merchandising in Fashion Retail Stores Affect Consumers' Brand Attitude and Purchase Intention?. The International Review of Retail, Distribution, and Consumer Research 25:1 (2015) 87-104.
- [7] Parboteeah, D. V., Valacich, J. S. and Wells, J. D. (2009). The Influence of Website Characteristics on a Consumer's Urge to Buy Impulsively. Information Systems Research 20:1 (2009) 60-78.
- [8] Chi, T. (2018). Mobile Commerce Website Success: Antecedents of Consumer Satisfaction and Purchase Intention. Journal of Internet Commerce 17: 3 (2018) 189-215.
- [9] Lin, Y. T., Osman, S., Cheng, K. W., Sam, T. H., Ruiteng, X. and Rajanthran, S. K. (2023). Factors Influencing Live-Stream Shopping Behaviour among Malaysian Consumers. Resmilitaris 13:2 (2023) 1548-1568.
- [10] Sawmong, S. (2022). Examining the Key Factors that Drives Live Stream Shopping Behavior. Emerging Science Journal 6:6 (2022) 1394-1408.
- [11] Wongkitrungrueng, A. and Assarut, N. (2020). The Role of Live Streaming in Building Consumer Trust and Engagement with Social Commerce Sellers. Journal of Business Research 117 (2020) 543-556.
- [12] Li, X., Zhao, X. and Pu, W. (2020). Measuring Ease of Use of Mobile Applications in E-commerce Retailing from the Perspective of Consumer Online Shopping Behaviour Patterns. Journal of Retailing and Consumer Services 55 (2020) 102093.
- [13] Chen, C. D., Zhao, Q. and Wang, J. L. (2022). How Livestreaming Increases Product Sales: Role of Trust Transfer and Elaboration Likelihood Model. Behaviour and Information Technology 41: 3 (2022) 558-573.
- [14] Ma, L., Gao, S. and Zhang, X. (2022). How to Use Live Streaming to Improve Consumer Purchase Intentions: Evidence from China. Sustainability 14: 2 (2022) 1045.
- [15] Sun, Y., Shao, X., Li, X., Guo, Y. and Nie, K. (2019). How Live Streaming Influences Purchase Intentions in Social Commerce: An IT Affordance Perspective. Electronic Commerce Research and Applications 37 (2019) 100886.
- [16] Yim, M. Y. C., Chu, S. C. and Sauer, P. L. (2017). Is Augmented Reality Technology an Effective Tool for E-Commerce? An Interactivity and Vividness Perspective. Journal of Interactive Marketing 39: 1 (2017) 89-103.
- [17] Cai, J., Wohn, D.Y., Mittal, A. and Sureshbabu, D. (2018). Utilitarian and Hedonic Motivations for Live Streaming Shopping, ACM International Conference on Interactive Experiences for TV and Online Video. 26-28 June, Seoul, Republic of Korea.
- [18] Kang, K., Lu, J., Guo, L. and Li, W. (2021). The Dynamic Effect of Interactivity on Customer Engagement Behavior through Tie Strength: Evidence from Live Streaming Commerce Platforms. International Journal of Information Management 56 (2021) 102251.
- [19] Lu, Y., Zhao, L. and Wang, B. (2010). From Virtual Community Members to C2C E-commerce Buyers: Trust in Virtual Communities and its Effect on Consumers' Purchase Intention. Electronic Commerce Research and Applications 9: 4 (2010) 346-360.

- [20] Konuk, F. A. (2018). The Role of Store Image, Perceived Quality, Trust, and Perceived Value in Predicting Consumers' Purchase Intentions towards Organic Private Label Food. Journal of Retailing and Consumer Services 43 (2018) 304-310.
- [21] Sin, S. S., Nor, K. M. and Al-Agaga, A. M. (2012). Factors Affecting Malaysian Young Consumers' Online Purchase Intention in Social Media Websites. Proceedia-Social and Behavioral Sciences 40 (2012) 326-333.
- [22] Huang, Y. and Suo, L. (2021). Factors Affecting Chinese Consumers' Impulse Buying Decision of Live Streaming Ecommerce. Asian Social Science 17: 5 (2021) 16-32.
- [23] Zhao, Y., Li, Y., Wang, N., Zhou, R. and Luo, X. (2022). A Meta-analysis of Online Impulsive Buying and the Moderating Effect of Economic Development Level. Information Systems Frontiers 24:5 (2022) 1667-1688.
- [24] Abdelsalam, S., Salim, N., Alias, R. A. and Husain, O. (2020). Understanding Online Impulse Buying Behavior in Social Commerce: A Systematic Literature Review. IEEE Access 8 (2020) 89041-89058.
- [25] Yang, X., Ma, L., Zhao, X. and Kankanhalli, A. (2020). Factors influencing User's Adherence to Physical Activity Applications: A Scoping Literature Review and Future Directions. International Journal of Medical Informatics 134 (2020) 104039.
- [26] Dhingra, S., Gupta, S. and Bhatt, R. (2020). A Study of Relationship among Service Quality of E-commerce Websites, Customer Satisfaction, and Purchase Intention. International Journal of E-Business Research 16:3 (2020) 42-59.
- [27] Zarei, G., Asgarnezhad Nuri, B. and Noroozi, N. (2019). The Effect of Internet Service Quality on Consumers' Purchase Behavior: the Role of Satisfaction, Attitude, and Purchase Intention. Journal of Internet Commerce 18: 2 (2019) 197-220.
- [28] Hanjaya, M., Kenny, K. and Gunawan, F. (2019). Understanding Factors Influencing Consumers Online Purchase Intention via Mobile App: Perceived Ease of Use, Perceived Usefulness, System Quality, Information Quality, and Service Quality. Marketing of Scientific and Research Organisations 2:32 (2019) 175-206.
- [29] Shang, Q., Ma, H., Wang, C. and Gao, L. (2023). Effects of Background Fitting of e-Commerce Live Streaming on Consumers' Purchase Intentions: A Cognitive-Affective Perspective. Psychology Research and Behavior Management (2023): 149-168.
- [30] McCormick, K. (2016). Celebrity Endorsements: Influence of a Product-Endorser Match on Millennials Attitudes and Purchase Intentions. Journal of Retailing and Consumer Services 32 (2016) 39-45.
- [31] Zheng, X., Men, J., Yang, F. and Gong, X. (2019). Understanding Impulse Buying in Mobile Commerce: An Investigation into Hedonic and Utilitarian Browsing. International Journal of Information Management 48 (2019) 151-160.
- [32] Hu, M. and Chaudhry, S. S. (2020). Enhancing Consumer Engagement in E-commerce Live Streaming via Relational Bonds. Internet Research 30:3 (2020) 1019-1041.
- [33] Xu, X., Wu, J. H. and Li, Q. (2020). What Drives Consumer Shopping Behavior in Live-Streaming Commerce?. Journal of Electronic Commerce Research 21:3 (2020) 144-167.
- [34] Park, H. J. and Lin, L. M. (2020). The Effects of Match-Ups on the Consumer Attitudes toward Internet Celebrities and their Live Streaming Content in the Context of Product Endorsement. Journal of Retailing and Consumer Services 52 (2020) 101934.
- [35] Li, M., Wang, Q. and Cao, Y. (2022). Understanding Consumer Online Impulse Buying in Live Streaming E-commerce: a Stimulus-Organism-Response Framework. International Journal of Environmental Research and Public Health 19:7 (2022) 4378.
- [36] Meng, L. M., Duan, S., Zhao, Y., Lü, K. and Chen, S. (2021). The Impact of Online Celebrity in Live Streaming E-Commerce on Purchase Intention from the Perspective of Emotional Contagion. Journal of Retailing and Consumer Services 63 (2021) 102733.
- [37] Lee, C. H. and Chen, C. W. (2021). Impulse Buying Behaviors in Live Streaming Commerce based on the Stimulus-Organism-Response Framework. Information 12:6 (2021) 241.
- [38] Yang, J., Zheng, X. and Huang, L. (2022). Research on the Influence Mechanism of Consumers' Impulsive Buying under the Scenario of Public Welfare Live Streaming. Proceedings of Wuhan International Conference on E-Business. 7-26 July 2022, Wuhan, China
- [39] Argyris, Y. A., Muqaddam, A. and Miller, S. (2021). The Effects of the Visual Presentation of an Influencer's Extroversion on Perceived Credibility and Purchase Intentions—Moderated by Personality Matching with the Audience. Journal of Retailing and Consumer Services 59 (2021) 102347.
- [40] Xu, X., Wu, J. H., Chang, Y. T. and Li, Q. (2019). The Investigation of Hedonic Consumption, Impulsive Consumption, and Social Sharing in E-commerce Live-streaming Videos. Proceedings of the 23rd Pacific Asia Conference on Information Systems: Secure ICT Platform for the 4th Industrial Revolution. 8-12 July 2019, Xi'an, China.
- [41] Lin, S. C., Tseng, H. T., Shirazi, F., Hajli, N. and Tsai, P. T. (2022). Exploring Factors Influencing Impulse Buying in Live Streaming Shopping: a Stimulus-Organism-Response (SOR) Perspective. Asia Pacific Journal of Marketing and Logistics 35:6(2022) 1383-1403.
- [42] Sarah, F. H., Goi, C. L., Chieng, F. and Taufique, K. M. R. (2021). Examining the Influence of Atmospheric Cues on Online Impulse Buying Behavior Across Product Categories: Insights from an Emerging E-Market. Journal of Internet Commerce 20:1 (2021) 25-45.
- [43] Zuo, R. and Xiao, J. (2021). Exploring Consumers' Impulse Buying Behavior in Live Streaming Shopping. Proceedings of the Fifteenth International Conference on Management Science and Engineering Management. 1-4 August, Toledo, Spain.
- [44] Ruiz-Mafe, C., Chatzipanagiotou, K. and Curras-Perez, R. (2018). The Role of Emotions and Conflicting Online Reviews on Consumers' Purchase Intentions. Journal of Business Research 89 (2018) 336-344.
- [45] DeLone, W. H. and McLean, E. R. (2003). The DeLone and McLean Model of Information Systems Success: A Tenyear Update. Journal of management Information Systems 19: 4 (2003) 9-30.
- [46] Busalim, A.H., Hussin, A.R.C and Iahad, N.A. (2019). Factors Influencing Customer -Engagement in Social Commerce Websites: A Systematic Literature Review. Journal of Theoretical and Applied Electronic Commerce Research 14:2 (2019) 1-14.
- [47] Lim, W. M. (2017). Untangling the Relationships between Consumer Characteristics, Shopping Values, and Behavioral Intention in Online Group Buying. Journal of Strategic Marketing 25:7 (2017) 547-566.
- [48] Song, J., Baker, J., Lee, S. and Wetherbe, J. C. (2012). Examining Online Consumers' Behavior: A Service-oriented View. International Journal of Information Management 32:3 (2012) 221-231.

- [49] Oliveira, M. J., Huertas, M. K. Z. and Lin, Z. (2016). Factors Driving Young Users' Engagement with Facebook: Evidence from Brazil. Computers in Human Behavior 54 (2016) 54-61.
- [50] Wang, W. T., Wang, Y. S. and Liu, E. R. (2016). The Stickiness Intention of Group-buying Websites: The Integration of the Commitment–Trust Theory and E-commerce Success Model. Information and Management 53:5 (2016) 625-642.
- [51] Alshibly, H.H. (2014). A Free Simulation Experiment to Examine the Effects of Social Commerce Website Quality and Customer Psychological Empowerment on Customers' Satisfaction. Journal of Business Studies Quarterly 5:4 (2014) 21-40.
- [52] Kim, C., Galliers, R. D., Shin, N., Ryoo, J. H. and Kim, J. (2012). Factors Influencing Internet Shopping Value and Customer Repurchase Intention. Electronic Commerce Research and Applications 11: 4 (2012) 374-387.
- [53] Wang, Y. S. (2008). Assessing E-commerce Systems Success: A Specification and Validation of the DeLone and McLean Model of IS Success. Information Systems Journal 18: 5 (2008) 529-557.
- [54] Chen, L. Y. (2013). The Quality of Mobile Shopping System and its Impact on Purchase Intention and Performance. International Journal of Managing Information Technology 5 (2013) 23–32.
- [55] Wongsunopparat, S. and Deng, B. (2021). Factors Influencing Purchase Decisions of Chinese Consumers under Live Streaming E-Commerce Model. Journal of Small Business and Entrepreneurship 9:2 (2021) 1-15.
- [56] Wongkitrungrueng, A., Dehouche, N. and Assarut, N. (2020). Live Streaming Commerce from the Sellers' Perspective: Implications for Online Relationship Marketing. Journal of Marketing Management 36:5-6 (2020) 488-518.
- [57] Harmon-Jones, E. and Harmon-Jones, C. Handbook of Motivation Science. Edited James Y, S. and Wendi L, G, The Guilford Press, (2021), pp. 71-83.
- [58] Liu, Y. and Pan, Y. H. (2021). An Empirical Study on the Influencing Factors of Learning through Knowledge Sharing Live Streaming-based on Live Streaming Platform in China. Journal of the Korea Convergence Society12:12 (2021) 197-211.
- [59] Thakur, R. (2018). The Role of Self-Efficacy and Customer Satisfaction in Driving Loyalty to the Mobile Shopping Application. International Journal of Retail and Distribution Management 46:3 (2018) 283-303.
- [60] Harris, L. C. and Goode, M. M. (2004). The Four Levels of Loyalty and the Pivotal Role of Trust: A Study of Online Service Dynamics. Journal of Retailing 80:2 (2004) 139-158.
- [61] Markoska, S. (2021). Traditional vs Natural Celebrity Endorsements: an Empirical Investigation of Their Impact on Brand Attitude, Purchasing Intent and Willingness to Pay (Doctoral dissertation).
- [62] Argyris, Y. A., Wang, Z., Kim, Y. and Yin, Z. (2020). The Effects of Visual Congruence on Increasing Consumers' Brand Engagement: An Empirical Investigation of Influencer Marketing on Instagram Using Deep-Learning Algorithms for Automatic Image Classification. Computers in Human Behavior 112 (2020) 106443.
- [63] Lu, H. P. and Su, P. Y. J. (2009). Factors Affecting Purchase Intention on Mobile Shopping Websites. Internet Research 19:4 (2009) 442-458.
- [64] Park, J., Lennon, S. J. and Stoel, L. (2005). Online Product Presentation: Effects on Mood, Perceived Risk, and Purchase Intention. Psychology and Marketing 22:9 (2005) 695-719.