

## Impulse buying in live streaming e-commerce: The role of social presence, social facilitation, and celebrity endorsement

Yona Rania Qonitah<sup>1\*</sup>, Rina Suthia Hayu<sup>2</sup>

<sup>1,2</sup> Universitas Bengkulu, Bengkulu, Indonesia

[yonaraniaqonitah@gmail.com](mailto:yonaraniaqonitah@gmail.com)

\*Correspondent Author

### ARTICLE INFORMATION

#### Article History

Received: 21-07-2025

Revised: 03-09-2025

Accepted: 08-09-2025

#### Keywords

Social Presence;

Social Facilitation;

Celebrity Endorsement;

Impulse Buying;

### ABSTRACT

The phenomenon of live shopping, which is increasingly popular among Generation Z, is driving changes in online shopping behavior. This study aims to examine how live streamers' attractive appearance and their real-time interaction impact hedonic and utilitarian attitudes, which in turn drive impulse buying. Additionally, it investigates the role of celebrity endorsements in moderating the correlation between these attitudes and the impulse buying behavior of Generation Z Shopee Live users in Indonesia. A quantitative research approach was utilized for this study, involving 349 Generation Z respondents selected through purposive sampling based on their impulse buying experiences on Shopee Live. Data analysis was conducted using structural equation model with partial least square analysis with Smart PLS version 4. The results revealed that live streamers' attractive appearance and their real-time interaction positively and significantly impact hedonic and utilitarian attitudes. Additionally, these attitudes were also found to positively and significantly affect impulse buying behavior. Interestingly, celebrity endorsements were detected to negatively moderate the relationship between hedonic attitudes and impulse buying, while positively moderating the correlation between utilitarian attitudes and impulse buying. The findings of this research provide valuable insights for e-commerce platforms and marketers in crafting effective live shopping strategies. By improving the visual attractiveness of streamers and promoting interactive communication, platforms can enhance both hedonic and utilitarian shopping experiences, thus fostering impulse purchases. In addition, the use of celebrity endorsements should be approached carefully, as their impact varies based on whether consumer motivations are pleasure-driven or practicality-driven.

This article has open access under the [CC-BY-SA](#) license.



### 1. Introduction

The rapid development of technology in Indonesia has encouraged the utilisation of communication networks and the Internet in various human activities to improve efficiency

and effectiveness (Purnamasari et al., 2025). The presence of the Internet has had many important impacts on various industrial sectors, including the emergence of e-commerce services. According to Halim et al. (2022), e-commerce refers to all online commercial activities through smartphones and computing devices, including the purchase and sale of physical and digital products, which serve as a bridge between businesses, consumers, and society. The forecast stipulates that the number of e-commerce users in Indonesia will rise from 2024 to 2028, reaching a total of 57.1 million users, which represents a growth of 41.45% (Dharma et al., 2024). In 2025, the leading e-commerce platforms in Indonesia are expected to be Shopee, Tokopedia, and Blibli (Sarjono et al., 2026).

Rapidly growing e-commerce and online shopping have led to the emergence of new innovations and phenomena, one of which is online shopping via the live streaming feature on e-commerce, known as live shopping. Live streaming commerce refers to online buying and selling activities performed through live streaming platforms, facilitating real-time interaction, entertainment, and social engagement in a virtual environment between streamers and their audiences (Xu et al. 2020). E-commerce platforms such as Shopee incorporate live streaming through a feature called Shopee Live, which is the most frequently used platform in Indonesia, with a percentage of 61% (Maharani et al., 2025). With Shopee Live's dominance as a live shopping platform in Indonesia, the interactive and engaging experience offered can influence consumer behaviour, especially among Generation Z.

According to the 2020 Census, Generation Z, born between 1997 and 2012, is the largest generation in Indonesia, comprising approximately 74.93 million people or 27.94% of the population (Zhulkarnain et al., 2024). This generation is known as digital natives because they grew up in an environment that is highly connected to technology and digital media, which shapes their mindset, behaviour, and shopping preferences (Chang & Chang, 2023). Generation Z is more prone to impulse buying during live shopping because of the combination of visual appeal, real-time interaction, exclusive discounts, and emotional engagement in live streaming sessions (Septian, 2024). The rise of live shopping in Indonesia not only creates economic opportunities but also presents challenges in understanding the key factors influencing Generation Z's impulse-buying behaviour.

Impulse buying describes the tendency of individuals to make sudden, unplanned purchases without considering the possible consequences or engaging in prior decision-making (Ming et al., 2021). Impulse buying tends to occur more frequently in live-streaming commerce than in conventional online transactions (Xu et al., 2020). This commerce takes place in real time and interactively, with the live streamer showing the appearance, function, and explanation of the product, as well as responding to questions related to price, delivery, and other information, which can influence consumer behaviour (Lee & Chen, 2021).

Consumer impulse buying behaviour in live shopping is influenced by various factors, including social presence and facilitation. The attractive appearance of live streamers can increase hedonic attitudes, namely feelings of pleasure, satisfaction, and entertainment obtained during live streaming sessions based on social presence (Gunawardena, 1995). Meanwhile, the real-time interaction of live streamers has a positive influence on utilitarian attitudes, which are consumers' perceptions of the usefulness and functional value during live shopping based on social facilitation theory (Rafaeli & Noy, 2002). The attractive appearance of live streamers, clarity of the information conveyed, and real-time interaction are key factors in shaping consumers' hedonic and utilitarian attitudes (Li et al., 2023; Ni & Ueichi, 2024). These hedonic and utilitarian attitudes also positively and significantly affect impulse buying behaviour (Kimiagari & Malafe, 2021). This indicates that consumers are drawn to live streaming content not only for its entertainment value, which provides pleasure and enjoyment, but also for its practical benefits and usefulness to consumers.

Additionally, collaborating with famous celebrities who attract high media attention is an effective strategy for live streamers to advertise products and increase sales. Celebrity endorsement is a form of communication that involves celebrities as spokespersons for a particular product or brand to convey promotional messages to targeted consumers (Gilal et al., 2020). The credibility, attractiveness, and public recognition that celebrities have can influence consumer perceptions and emotions; thus, they can act as moderators that strengthen the correlation between attitudes and impulse buying (Al Mamun et al., 2023; Harafah et al., 2024). Celebrity endorsements have been shown to positively affect hedonic and utilitarian attitudes and impulse-buying behaviour (Macheka et al., 2024; Nzuva, 2021).

This study adopts the stimulus–organism–response theory, which has been previously used to explain impulsive buying in live shopping (Xia et al., 2024; Chung et al., 2025). Li et al. (2023) note that this model unfolds how external stimuli live (live streamers' attractive appearance and their real-time interaction) influence the internal state of an individual (utilitarian and hedonic attitude), which subsequently shapes behavioral responses (impulse buying). This study also distinguishes between the roles of celebrities and live streamers, as they serve different functions. The celebrity endorsement variable is suggested as a moderator that influences the correlation between the organism and its response.

The differences in research findings are highlighted by Juanim et al. (2024), who showed that utilitarian attitudes do not significantly impact impulse buying. In contrast, Karamoy et al. (2024) showed that utilitarian attitudes negatively and significantly influenced impulse buying. In contrast, Kimiagari and Malafe (2021) and Lavuri et al. (2022) claimed that there is a significant positive relationship between utilitarian attitudes and impulse buying. Additionally, Liu et al. (2024) reported that hedonic attitudes do not significantly affect impulse buying, whereas Karahan and Şahin (2025) showed that hedonic attitudes positively influence impulse buying. Moreover, the difference from previous studies lies in the role of celebrity endorsement. Previous studies have used celebrities as an independent variable in analysing impulse buying behaviour (Al-Romeedy & Zaki, 2024; Ong et al., 2025), while this study uses celebrity endorsement as a moderating variable. In terms of the object, previous studies were conducted on users of the Taobao Live platform in China (Li et al., 2023; Li et al., 2025), while this study analyzes Shopee Live users from Generation Z in Indonesia.

This study examines how live streamers' attractive appearance and real-time interaction influence hedonic and utilitarian attitudes that drive impulse-buying behaviour. It also explores the moderating role of celebrity endorsement in the relationship between these attitudes and impulse buying among Generation Z Shopee Live users in Indonesia. These findings deepen the understanding of impulse buying in live streaming commerce and provide practical insights for marketers to design more effective strategies, helping brands and streamers enhance content and engagement to attract Generation Z in Indonesia to buy.

## 2. Literature Review and Hypothesis Development

### 2.1. Literatur Review

#### 2.1.1. Stimulus Organism Response Theory

Mehrabian and Russell (1974) introduced the stimulus organism response theory, which explains how external stimuli (S) affect an individual's internal state (O), resulting in a behavioural response (R) of either approach or avoidance. According to Zheng et al. (2019), this theory reflects how external stimuli influence the internal state of an individual (for instance, their emotions), which subsequently shapes behavioural responses. Previous studies have used the stimulus–organism response theory to analyse impulse buying on live shopping platforms (Xia et al., 2024; Chung et al., 2025). This research highlights the attractive appearance and real-time interactions of live

streamers as key stimuli in this context. The organism refers to consumers' utilitarian and hedonic attitudes, while the response represents impulse-buying behaviour. Additionally, this study distinguishes between the roles of celebrities and live streamers, as they serve different functions. The celebrity endorsement variable is suggested as a moderator that influences the correlation between the organism and response (Li et al., 2023).

### **2.1.2. Social Presence**

According to Gunawardena (1995), social presence is how strongly an individual feels "present" or connected to others when interacting, either in person or through communication media. This theory can be applied to examine how gestures, vocal intonation, and facial expressions facilitate remote, two-way interactions. Live streaming platforms enhance social presence through real-time interactions and captivating performances, resulting in a more immersive and interactive experience. This dynamic reduces the psychological distance between streamers and their audiences, thereby rendering the experience more personal and emotionally engaging (Ming et al., 2021; Li et al., 2023). Live streamers' attractive appearance refers to their physical attractiveness, which they may use to enhance their visual appeal in interpersonal, social, and professional contexts (Wang et al., 2017). The appealing appearance of live streamers, characterised by an attractive face, well-dressed style, and attention-grabbing demeanour, creates a pleasant experience for consumers, which in turn increases their attention and engagement during the live streaming session (Lee & Chen, 2021). Moreover, the attractive appearance of livestreamers can offer viewers emotional fulfilment during live shopping experiences, which in turn reinforces their hedonic attitudes (Liu et al., 2020).

Social presence suggests that the attractive appearance of live streamers can increase hedonic attitudes, which are the feelings of pleasure, satisfaction, and entertainment obtained during the live streaming session. In live content, this hedonic attitude reflects the extent to which consumers consider live content fun and entertaining (Park & Lin, 2020). Consumers with hedonic values enjoy online shopping because of unique features, such as videos and animations, that make the shopping experience more enjoyable. Consumers who feel happy and entertained during live streaming sessions tend to make spontaneous purchases because a pleasant shopping experience encourages purchasing decisions without much consideration (Suwito & Susilowati, 2025).

### **2.1.3. Social Facilitation**

According to Rafaeli and Noy (2002), social facilitation originates from communication technology that is useful for two-way interactions. This theory states that consumer purchasing behaviour in telecommunications can be influenced by the presence and interactions of other parties. In live shopping, this is reflected in the direct interactions between audiences and streamers (Ming et al., 2021). Peer-to-peer technology makes it possible for live streamers and viewers to engage with one another instantly, allowing real-time communication (Lessel et al., 2017). These interactions include various forms of direct communication, such as recommendations, discount promotions, and product demonstrations, which can increase consumers' utilitarian attitudes towards products and encourage them to make purchases (Guan et al., 2022).

According to social facilitation theory, real-time interactions with livestreamers positively affect consumers' utilitarian attitudes, which are consumers' perceptions of the usefulness and functional value of live shopping. In online shopping, utilitarian

value relates to practical purposes, such as comparing prices, evaluating product features, and considering services (Rani et al., 2023). Within the context of live content, a utilitarian attitude refers to how useful or beneficial media content is to consumers (Park & Lin, 2020). Utilitarian consumers tend to think rationally and evaluate prices in relation to quality, convenience, and time efficiency. Utilitarian attitudes, which play a crucial role in determining consumer decision-making, frequently impact purchase intentions. When a product's functional value aligns with consumer expectations, it fosters a more positive utilitarian attitude, thereby creating loyalty to the product (Zamil et al., 2023).

#### **2.1.4. Celebrity Endorsement**

Celebrity endorsement has emerged as a prevalent marketing strategy used by companies to effectively capture consumers' attention and enhance brand appeal. Celebrity endorsement is a form of communication that involves celebrities as spokespersons for a particular product or brand to convey promotional messages to targeted consumers (Gilal et al., 2020). Information from trusted sources, such as celebrities, can influence a person's beliefs, opinions, attitudes, or behaviour (Ong et al., 2025). Consumers feel satisfied and happy when they purchase or use products and services endorsed by celebrities. Compared to regular live streamers, celebrities tend to attract greater media exposure, enjoy broader public admiration, and have higher levels of name recognition. The celebrity endorsement strategy in live shopping, where celebrities collaborate with live streamers to promote products on live streaming platforms, has been shown to positively affect consumers' motivation to make purchases (Nabil et al., 2022).

#### **2.1.5. Impulse Buying**

Impulse buying describes the tendency of individuals to make sudden, unplanned purchases without considering the possible consequences or engaging in prior decision-making (Ming et al., 2021). Impulse buying tends to occur more frequently in online shopping environments than in conventional ones. This is because online transactions can stimulate impulsive behaviour more dominantly without considering the subsequent effects of impulsive purchases (Wu et al., 2020). Live streaming commerce tends to increase the tendency of consumers to make impulsive purchases (Xu et al., 2020). This is because, unlike conventional e-commerce, live streaming integrates social interaction through peer-to-peer technologies within the social commerce framework (Sun et al., 2019). This commerce takes place in real time and interactively, with live streamers demonstrating product displays, functions, and explanations, as well as responding to questions about pricing, shipping, and other information, which can influence consumer behaviour (Lee & Chen, 2021). Live streamers in live shopping tend to provide specific information to consumers during real-time interactions, which can alter their perceptions of products and encourage them to purchase items that they do not need. This stipulates that consumers' attitudes toward live streamers influence their decisions to make impulsive purchases.

### **2.2. Hypothesis Development**

#### **2.2.1. Positive Effect of Live Streamers' Attractive Appearance on Hedonic Attitude**

The stimulus organism response theory reflects how external stimuli, such as the attractive appearance of live streamers, impact an individual's internal state, which includes hedonic attitudes. In live streaming commerce, an attractive appearance, which includes an appealing face, good dress sense, and engaging personalities of



streamers, provides consumers with enjoyable experiences (Qian et al., 2024). Social presence suggests that the attractive appearance of live streamers can increase hedonic attitudes, which are feelings of pleasure, satisfaction, and entertainment obtained during a live streaming session (Li et al., 2023). Research has also shown that attractive faces of live streamers can evoke positive emotions in viewers, enhancing emotional empathy towards them (Shi et al., 2024). This visual appeal boosts enjoyment during live streaming, leading to stronger hedonic attitudes focused on entertainment (Lee & Chen, 2021). Additionally, handsome or beautiful live streamers can create a sense of assurance, thereby increasing consumer trust in the products they promote (Li et al., 2023). Zheng et al. (2019) and Huang (2023) also reported that the visual attractiveness of a product has a significant positive impact on hedonic attitudes. **H1: Live Atreamers' Attractive Appearance Has a Positive Effect on Hedonic Attitude.**

#### **2.2.2. Positive Effect of Live streamers' Attractive Appearance on Utilitarian Attitude**

According to the stimulus–organism response theory, the attractive appearance of live streamers functions as a stimulus, whereas consumers' utilitarian attitudes reflect the organism. The attractive appearance of live streamers boosts consumer enjoyment and confidence in advertised products, as attractiveness signals professionalism and trustworthiness (Cheng et al., 2024). Well-groomed, professional, and visually appealing streamers are seen as credible, enhancing the perceived relevance and usefulness of the product information shared by them (Peng et al., 2024). This credibility reduces uncertainty, leading consumers to evaluate products based on rational considerations, thereby fostering stronger utilitarian attitudes toward functionality and value (Ni & Ueichi, 2024). Supporting this, Zheng et al. (2019) and Yu et al. (2025) demonstrated that visual attractiveness significantly and positively influences utilitarian attitudes. These findings suggest that consumers are more inclined to develop positive utilitarian attitudes when the live streamer presents themselves in an attractive and professional way. **H2: Live Streamers' Attractive Appearance Has a Positive Effect on Utilitarian Attitude.**

#### **2.2.3. Positive Effect of Live Streamers' Real-Time Interaction on Utilitarian Attitude**

Within the stimulus organism response theory, real-time interaction serves as an important stimulus that shapes consumers' internal evaluation. For instance, assessments shape utilitarian attitudes, which represent the organism and are based on practicality, efficiency, and usefulness (Ni & Ueichi, 2024). Based on social facilitation theory, these interactions, which include recommendations, discount promotions, and product demonstrations, are often perceived as reliable and relevant, thereby enhancing consumer trust and utilitarian attitudes (Guan et al., 2022). Real-time interaction reduces uncertainty and enhances convenience by providing immediate responses that support effective decision making (Ko & Ho, 2024). Moreover, it demonstrates the streamer's marketing skills and professional communication, strengthening consumer confidence in the information provided. Song et al. (2022) and Li et al. (2023) detected that real-time interaction significantly and positively affects utilitarian attitude, as the interactive nature of communication increases both the informational and functional value of the shopping experience. **H3: Live Streamers' Real-Time Interaction Has a Positive Effect on Utilitarian Attitude.**

#### **2.2.4. Positive Effect of Live Streamers' Real-Time Interaction on Hedonic Attitude**

Live streamers are essential to the live commerce process, as they help build an engaging and dynamic shopping environment (Shi et al., 2024). Their real-time

interactions with consumers foster a personal and engaging atmosphere. Direct engagement through greetings, comments, and responses makes the shopping experience more relaxed and enhances positive emotions that strengthen hedonic attitudes. Friendly and engaging responses from streamers increase consumers' enjoyment, turning shopping into an entertaining experience (Fajar and Otok, 2024). Based on the stimulus organism response theory, real-time interaction represents the stimulus, while consumers' hedonic attitude reflects the organism, illustrating how interactive engagement stimulates positive emotional evaluation. Consumer engagement is greatly influenced by live streamers' ability to interact in real time and respond effectively. Supporting this, Joo and Yang (2023) and Jiang et al. (2024) emphasise that interactive communication during live commerce fosters enjoyment and entertainment, which are key dimensions of hedonic attitudes. **H4: Live Streamers' Real-Time Interaction Has a Positive Effect on Hedonic Attitude.**

#### **2.2.5. Positive Effect of Hedonic Attitude on Impulse Buying**

Within the stimulus organism response theory, hedonic attitude functions as the organism, whereas impulse buying represents the response, indicating that emotional evaluations derived from enjoyment and entertainment act as internal motivators that trigger unplanned purchasing behaviours. Hedonic attitude represents the affective evaluation that consumers form when they experience enjoyment, excitement, and entertainment while shopping. These positive emotions can reduce cognitive control, increase spontaneous decision-making, and ultimately drive impulse buying behavior (Liu et al., 2024). The enjoyment consumers derive from live streaming content can influence their hedonic attitudes toward online shopping, encouraging impulsive purchasing behaviour (Cheng, 2020). When consumers feel greater enjoyment or pleasure, they are more likely to engage in impulsive purchases (Rani et al., 2023; Utama et al., 2025). Zheng et al. (2019) and Karamoy et al. (2024) found that hedonic attitudes positively influence impulse buying, indicating that consumers who experience pleasure during live streaming sessions tend to be more impulsive in making purchases. **H5: Hedonic Attitude Has a Positive Effect on Impulse Buying.**

#### **2.2.6. Positive Effect of Utilitarian Attitude on Impulse Buying**

According to the stimulus-organism response theory, a utilitarian attitude represents an organism that reflects consumers' rational and functional evaluations during live shopping. Consumers with strong utilitarian attitudes, driven by practical considerations, may make immediate unplanned purchases when a product is useful, high quality, and aligned with their needs (Chang et al., 2023). During live shopping, consumers tend to make impulsive purchases when they view products as practical and meeting their needs, as this perceived benefit can trigger an immediate desire to buy. According to previous studies, utilitarian attitudes positively influence impulse buying behaviour, as they lead consumers to consider factors such as product quality, durability, and after-sales support (Kimiagari & Malafe, 2021; Liu et al., 2024; Vidyanata, 2025). Liao et al. (2022) and Li et al. (2023) also revealed that utilitarian attitudes positively influence consumers' impulsive purchasing behavior, as online consumers prioritize practicality during live shopping. **H6: Utilitarian Attitude Has a Positive Effect on Impulse Buying.**

#### **2.2.7. The Moderating Role of Celebrity Endorsement on The Effect of Hedonic Attitude on Impulse Buying**

Within the stimulus organism response theory, hedonic attitude reflects the organism, impulse buying represents the response, and celebrity endorsement serves as a moderator that strengthens the correlation between consumers' emotional states and their purchasing behaviours. Celebrities receive more media attention, public appeal, and awareness than average live streamers, which may enhance customer trust and purchasing motivation (Nabil et al., 2022). During live shopping, celebrities create feelings of happiness and entertainment while also strengthening credibility, as they are often seen as trustworthy and influential (Maharani et al., 2025). This credibility boosts the perceived value of promoted products and shapes consumers' hedonic attitudes, which are tied to enjoyment, excitement, and emotional satisfaction. In live streaming commerce, endorsements can enrich the entertainment value of shopping while also giving consumers greater confidence in the promoted products (Rungruangjit, 2022). These combined effects reinforce consumers' hedonic attitudes and make them more likely to engage in impulsive purchasing behaviours (Harafah et al., 2024). Supporting this, Park and Lin (2020) showed that celebrity endorsements positively influence hedonic attitudes, demonstrating that endorsements from well-known figures not only strengthen consumers' emotional engagement but also encourage impulsive buying decisions. **H7: Celebrity Endorsement Moderates the Effect of Hedonic Attitude on Impulse Buying.**

#### **2.2.8. The Moderating Role of Celebrity Endorsement on The Effect of Utilitarian Attitude on Impulse Buying**

Celebrity endorsements are widely recognised as persuasive marketing strategies that can shape consumer attitudes and purchase behaviours (Moraes et al., 2019). When a credible and appealing celebrity endorses a product, consumers are more likely to view it as trustworthy, reliable, and aligned with their functional needs (Kalam et al., 2025). Based on the S-O-R theory, utilitarian attitudes reflect the organism, while impulse buying represents the response, with celebrity endorsement acting as a moderator that strengthens the correlation between consumers' rational evaluations and their purchase behaviour. This strengthened perception can amplify the influence of utilitarian attitudes on purchase decisions, as consumers feel more justified in making impulsive purchases that they perceive to be practical and beneficial. Celebrity endorsements also serve as signals of product quality and reliability, reducing consumer uncertainty and providing rational grounds for spontaneous purchases (Chen et al., 2025). Karamoy et al. (2024) detected that celebrity endorsements positively influence and can enhance consumers utilitarian attitudes. Celebrity endorsements influence consumers' rational aspects (utilitarian attitudes), ultimately increasing their interest in making impulsive purchases. **H8: Celebrity Endorsement Moderates the Effect of Utilitarian Attitude on Impulse Buying.**

#### **2.2.9. Control Variables**

This study uses several control variables, including gender, income level, and educational background. This is because prior research has indicated that impulse buying is affected by factors such as gender, income level, and educational background (Ampadu et al., 2022; Lavuri et al., 2022). Gender is a demographic factor that significantly influences impulse-buying behaviour. Women are more responsive to emotional, social, and visual cues in online shopping, making them more prone to impulsive purchases of fashion and beauty products (Ngo et al., 2025). In contrast, men



tend to be more rational and utility-focused, prioritising practical needs when making purchase decisions (Chen et al., 2022).

Income level influences the tendency to engage in impulse buying because it is directly related to consumer purchasing power. Tessy and Setiasih (2024) demonstrated that income significantly affects impulse buying behavior. According to Legros et al. (2024), consumers with higher income levels are more inclined to engage in unplanned purchases. People with greater financial means are more inclined to make impulsive purchases because such decisions have minimal effects on their finances. Educational background also affects how consumers process information and decide on purchases. Individuals with higher education are usually more critical in evaluating products, but they can still be driven to make impulsive purchases through promotions (Rana & Tirthani, 2012). Individuals with lower educational attainment are more susceptible to visual stimuli, emotional triggers, and cues that prompt spontaneous purchase. **H9: Gender, Income Level, and Education Background Has a Significant Effect on Impulse Buying**

### 2.3. Research Framework

Figure 1 adopts the research model suggested by Li et al. (2023), which explores how attractive appearance and real-time interaction of live streamers affect hedonic and utilitarian attitudes, ultimately influencing impulse buying behaviour. In particular, live streamers' attractive appearance and hedonic attitude are grounded in social presence, whereas their real-time interaction and utilitarian attitude are grounded in social facilitation. Furthermore, this study examines the moderating role of celebrity endorsement in the correlation between these attitudes and impulse buying behaviour.

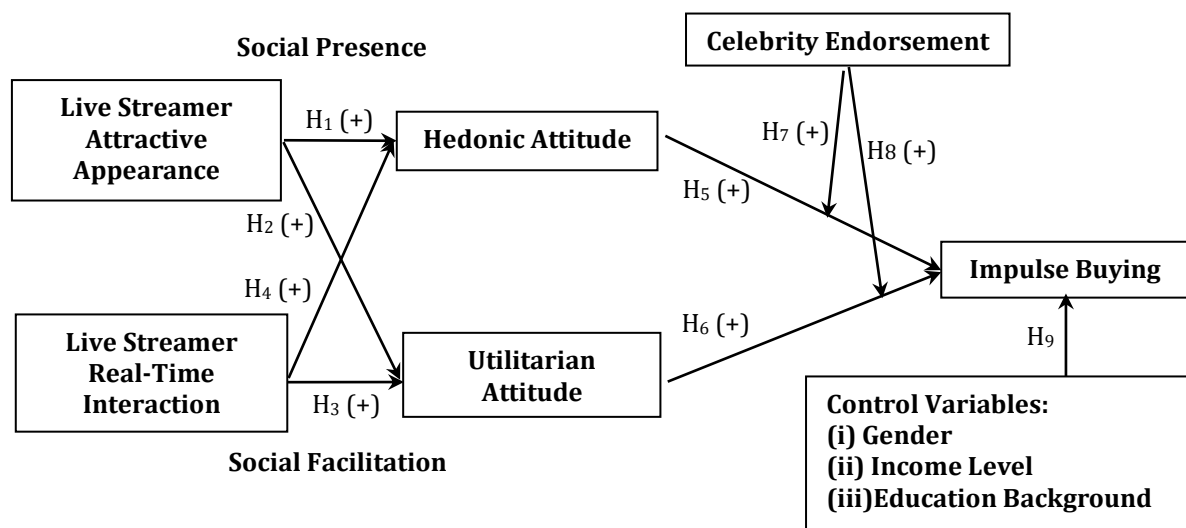


Figure 1. Research Framework

## 3. Research Method

### 3.1. Population and Sampling Method

This study adopts a quantitative method to evaluate constructs relevant to the research topic, allowing an objective and measurable analysis of the relationship between variables. This study focuses on exploring how the attractive appearance and real-time interaction of live streamers affect both hedonic and utilitarian attitudes, which

subsequently drive impulse buying behaviour. In addition, it analyzes how celebrity endorsements may moderate the correlation between these attitudes and impulsive buying among Generation Z users of Shopee Live in Indonesia. The data collection process employed a survey method using an online questionnaire designed with Google Forms and shared through multiple social media channels. The research population included Generation Z in Indonesia who have used Shopee Live and engaged in impulse buying on the platform. This research applied purposive sampling, a non-probability sampling technique in which respondents were deliberately selected according to the predefined criteria. The sample taken has several relevant criteria, namely active Shopee users from Generation Z (born in 1997-2012) within the age range of 13-28 years, have watched Shopee Live, have watched Shopee Live sessions with celebrity endorsements, and have made impulse buying during live streaming sessions. The study involved a total of 349 respondents as the research sample.

### **3.2. Data Collecting Method**

All variables in this study were assessed using measurement items adapted from Li et al. (2023). The attractive appearance of livestreamers was assessed using three items, while their real-time interaction was measured using four items. Hedonic and utilitarian attitudes were measured using three items each. Three items were used to measure the role of celebrity endorsements. Impulse buying was measured using three items: The survey items were evaluated on a five-point Likert scale, with 1 indicating strongly disagree and 5 indicating strongly agree.

### **3.3. Data Analysis Method**

This research used structural equation modelling (SEM) with partial least squares (PLS) path analysis, utilising Smart PLS version 4 for the analysis. This study uses SEM-PLS because the research model has a complex structure and many variable interactions, and allows analysis of various causal relationships, especially with latent variables, both direct, indirect, mediation, and moderation relationships. The SEM-PLS analysis consisted of a validity test that included factor loading values, requiring each indicator to have a loading value  $> 0.7$ . Reliability was evaluated using Cronbach's alpha and composite reliability, both of which must be  $> 0.7$ . Hypothesis testing was conducted using the bootstrapping method, with T-statistic values expected to be  $> 1.96$  and p-values  $< 0.05$  to indicate statistical significance (Hair et al., 2019).

## **4. Results and Discussion**

### **4.1. Characteristics of Respondents**

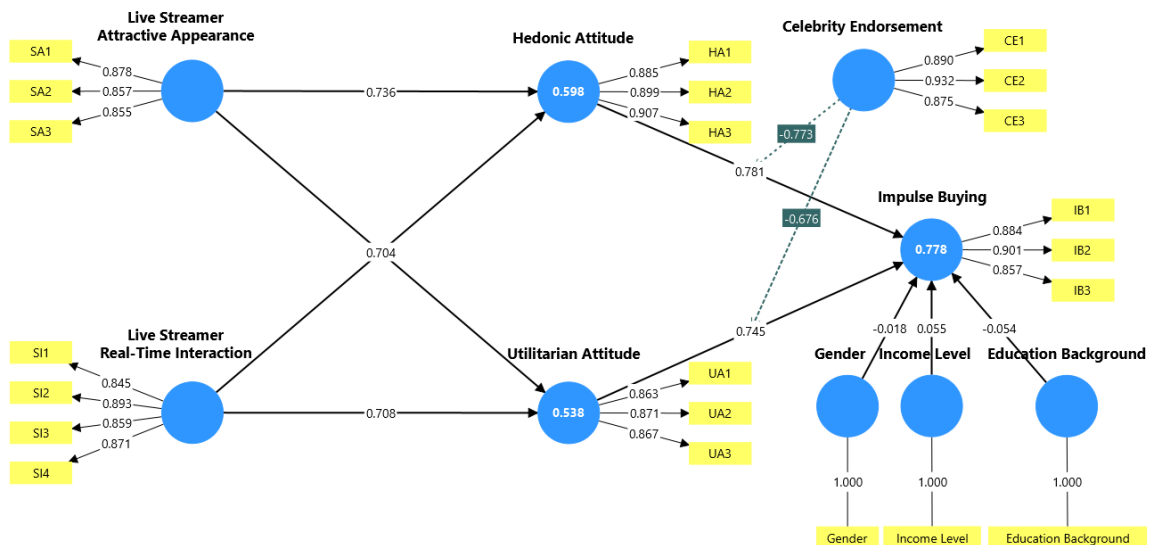
Table 1 presents the demographic characteristics of the respondents who participated in this study. Among all participants, the majority were female (65.9%), while the remaining were male (34.1%). By age category, most of the respondents were 18-22 years old (57.9%). Most respondents were from Java (44.1%). Based on education and employment status, most respondents were high school graduates (55.3%) and students/college students (64.8%). Most of their monthly income was between IDR 1.000.001-2.000.000 (40.4%). The frequency of access to Shopee Live was mostly in the range of 3-5 times per week (41.8%), with the most common duration of access being  $< 1$  h (53.3%). In the past three months, most respondents made impulse purchases  $< 3$  times (42.4%).

**Table 1. Characteristics of Respondents**

<b>Demography</b>	<b>Category</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Gender	Male	119	34.1
	Female	230	65.9
Age	13-17 years old	25	7.2
	18-22 years old	202	57.9
	23-28 years old	122	35
Domicile	Sumatera	132	37.8
	Jawa	154	44.1
	Bali & Nusa Tenggara	19	5.4
	Kalimantan	20	5.7
	Sulawesi	14	4
	Maluku & Papua	10	2.9
Education Background	Junior high school	20	5.7
	Senior high school	193	55.3
	Diploma	32	9.2
	Bachelor	97	27.8
	Postgraduate	7	2
Occupation	Student/College Student	226	64.8
	Civil Servant/BUMN/TNI/Polri	16	4.6
	Private employee	75	21.5
	Self-employed	26	7.4
	Others	6	1.7
Income	≤ IDR 1.000.000	81	23.2
	IDR 1.000.001-2.000.000	141	40.4
	IDR 2.000.001-3.000.000	30	8.6
	IDR 3.000.001-4.000.000	59	16.9
	≥ IDR 4.000.001	38	10.9
Frequency of accessing Shopee Live per week	1-2 times	139	39.8
	3-5 times	146	41.8
	6-10 times	36	10.3
	>10 times	28	8
Average duration of time spent accessing Shopee Live	<1 hour	186	53.3
	1-2 hour	111	31.8
	3-4 hours	33	9.5
	>4 hours	19	5.4
Frequency of impulse buying on Shopee Live in the past 3 months	<3 times	148	42.4
	3-5 times	135	38.7
	6-10 times	40	11.5
	>10 times	26	7.4
Commonly used payment methods	Cash/COD	97	27.8
	Bank Transfer	107	30.7
	Debit/Credit Card	31	8.9
	E-wallet (ShopeePay)	114	32.7
	Others	0	0

#### 4.2. Validity Test

Figure 2 presents the measurement model, which depicts how the attractive appearance and real-time interaction of live streamers affect hedonic and utilitarian attitudes, which subsequently leads to impulse buying. Additionally, the model emphasises the moderating effect of celebrity endorsement on the correlation between these attitudes and impulsive buying.



**Figure 2. Measurement Model**

As shown in Table 2, all indicators for each construct demonstrated factor loading values  $> 0.7$ , indicating that they are valid measures of the constructs used in this research. In general, a high loading factor value indicates that the indicators used can strongly reflect the constructs, thereby supporting the validity of the analysed model.

**Table 2. Validity Test Result**

Item	Celebrity Endorsement	Hedonic Attitude	Impulse Buying	Live streamers' Attractive Appearance	Live streamers' Real-Time Interaction	Utilitarian Attitude
CE1	0.890					
CE2	0.932					
CE3	0.875					
HA1		0.885				
HA2		0.899				
HA3		0.907				
IB1			0.884			
IB2			0.902			
IB3			0.856			
SA1				0.878		
SA2				0.857		
SA3				0.855		
SI1					0.845	
SI2					0.893	
SI3					0.859	
SI4					0.871	
UA1						0.863
UA2						0.871
UA3						0.867

#### 4.3. Reliability Test

The reliability test assesses the consistency and dependability of a measurement tool in evaluating a given construct. Reliability was measured using composite reliability and Cronbach's alpha, with acceptable values of  $> 0.7$ . As demonstrated in Table 3, all latent constructs fit this criterion, suggesting that the indicators reliably represent the constructs that they are intended to measure.

**Table 3. Reliability Test Result**

Variable	Composite Reliability	Cronbach's Alpha
Celebrity Endorsement	0.927	0.881
Hedonic Attitude	0.925	0.879
Impulse Buying	0.912	0.856
Live streamers' Attractive Appearance	0.898	0.829
Live streamers' Real-Time Interaction	0.924	0.890
Utilitarian Attitude	0.901	0.835

#### 4.4. Hypothesis Test

This study conducted hypothesis testing using the bootstrapping method through Smart PLS version 4. As shown in Table 4, most of the hypotheses were accepted. The results indicate that live streamers' attractive appearance significantly and positively influences hedonic attitudes. Therefore, the first hypothesis is accepted. Live streamers' attractive appearance also significantly and positively affects utilitarian attitudes; therefore, the second hypothesis is accepted. Additionally, live streamers' real-time interactions significantly and positively influenced utilitarian attitudes. These findings confirm that the third hypothesis is accepted. Live streamers' real-time interactions also significantly and positively affect hedonic attitudes. Therefore, the fourth hypothesis is accepted. Furthermore, hedonic attitudes significantly and positively affect impulse buying; thus, the fifth hypothesis is accepted. Similarly, utilitarian attitudes also positively and significantly affect impulse buying, indicating that the sixth hypothesis is accepted. In terms of moderation, celebrity endorsement significantly and negatively moderated the correlation between hedonic attitudes and impulse buying; thus, the seventh hypothesis was rejected. Conversely, celebrity endorsement significantly and positively moderated the correlation between utilitarian attitudes and impulse buying, indicating that the eighth hypothesis was accepted. Bootstrapping analysis also showed that control variables, including gender, did not significantly affect impulse buying; thus, the hypothesis was rejected. However, income level significantly and positively affected impulse buying, while educational background showed a significant negative influence on impulse buying, therefore accepted.

**Table 4. Hypothesis Test Result**

Hypothesis	Original Sample (O)	Sample Mean (M)	T Statistics ( O/STDEV )	P Value
Live Streamers' Attractive Appearance → Hedonic Attitude	0.475	0.480	6.009	0.000
Live Streamers' Attractive Appearance → Utilitarian Attitude	0.285	0.283	3.748	0.000
Live Streamer Real-Time Interaction → Utilitarian Attitude	0.497	0.495	6.291	0.000
Live Streamer Real-Time Interaction → Hedonic Attitude	0.353	0.345	4.256	0.000



Hypothesis	Original Sample (O)	Sample Mean (M)	T Statistics ( O/STDEV )	P Value
Hedonic Attitude → Impulse Buying	0.138	0.136	2.069	0.019
Utilitarian Attitude → Impulse Buying	0.370	0.371	6.508	0.000
Celebrity Endorsement x Hedonic Attitude → Impulse Buying	-0.166	-0.171	4.651	0.000
Celebrity Endorsement x Utilitarian Attitude → Impulse Buying	0.099	0.101	2.831	0.002
Gender → Impulse Buying	-0.013	-0.013	0.490	0.312
Income Level → Impulse Buying	0.131	0.131	3.268	0.001
Education Background → Impulse Buying	-0.098	-0.097	2.735	0.003

## 4.5. Discussion

### 4.5.1. The Effect of Live streamers' Attractive Appearance on Hedonic Attitude

Live streamers' attractive appearance significantly and positively influenced hedonic attitudes. Live streamers' attractive appearance refers to their physical attractiveness used to enhance their visual appeal in interpersonal, social, and professional contexts (Wang et al., 2017). When watching live streams, consumers tend to evaluate the streamer's appearance, expressions, and vocal characteristics. These factors shape an enjoyable experience, with the streamer's appeal being the key driver of consumer entertainment satisfaction (Lu et al., 2022). Within the stimulus organism response theory, the streamer's attractive appearance, such as facial features, charisma, and fashion, acts as a stimulus that draws attention, evokes positive emotions, and fosters hedonic attitudes of enjoyment, excitement, and satisfaction (Nguyen et al., 2025). For Generation Z, who are highly responsive to digital aesthetics and visual appeal, streamer attractiveness is crucial for building emotional engagement and enhancing the entertainment value of live streaming (Li et al., 2025). These findings are consistent with Zhou and Lou (2024), who highlight the role of visual appeal in generating pleasure, and Lee and Chen (2021) who confirm that streamer attractiveness enhances emotional perceptions such as satisfaction and interest in live content.

### 4.5.2. The Effect of Live streamers' Attractive Appearance on Utilitarian Attitude

Live streamers' attractive appearance significantly and positively influenced utilitarian attitudes. Within the stimulus organism response theory, the stimulus lies in the visual appeal of streamers, which not only provides pleasure and enthusiasm (hedonic) but also conveys valuable information about products and services. This stimulus shapes the organism, represented by utilitarian attitudes, as consumers trust information that is clearer, more reliable, and functionally relevant when conveyed by visually appealing streamers (Nguyen et al., 2025). Consumers tend to pay attention to a streamer's appearance, emotions, and voice intonation during live streams (Lu et al., 2022). Streamers with appealing appearances can attract consumers' attention, build emotional connections, and make product demonstrations more convincing and trustworthy, thereby increasing the utilitarian or practical value of the products being showcased (Shi et al., 2024). This is consistent with Zheng et al. (2019) and Tang et al. (2023), who state that high visual appeal can increase consumer viewing intent, engagement, and understanding while building trust and preference for the products offered.

#### **4.5.3. The Effect of Live streamers' Real-Time Interaction on Utilitarian Attitude**

Live streamers' real-time interactions has been found to significantly and positively affect utilitarian attitudes. Within the stimulus organism response theory, the real-time interaction of live streamer functions as the stimulus, as it allows direct and instant communication with consumers that enhances product clarity, information accuracy, and comprehension (Lessel et al., 2017). These informative and transparent exchanges shape the organism, represented by consumers' utilitarian attitudes, by emphasising the products' functional and practical value. When consumers experience strong interactivity, such as detailed product demonstrations and clear explanations, their confidence in the product's usefulness increases, reinforcing their utilitarian attitudes (Wang et al., 2025). Thus, marketers must select and train live streamers to deliver clear product information, respond instantly to consumer questions, and effectively showcase product functionality. Consistent with prior studies, interactivity in live streaming through product demonstrations and accurate information enhances value perception, builds trust, and strengthens utilitarian attitudes (Ni & Ueichi, 2024; Yu et al., 2025).

#### **4.5.4. The Effect of Live streamers' Real-Time Interaction on Hedonic Attitude**

Live streamers' real-time interactions significantly and positively influenced hedonic attitudes. From the perspective of stimulus organism response theory, the real-time interaction of a live streamer serves as a stimulus, with direct and responsive communication fostering involvement, excitement, and entertainment. These interactions shape the organism, as reflected in consumers' hedonic attitudes, by evoking positive emotions such as enjoyment, pleasure, and emotional satisfaction (Li et al., 2024). When consumers have the opportunity to ask questions, receive immediate feedback, and feel acknowledged by the streamer, the shopping process becomes more engaging and entertaining, enhancing hedonic experiences (Joo & Yang, 2023; Jiang et al., 2024). Therefore, marketers must foster interactive communication during live streaming to create engaging experiences that strengthen consumers' hedonic satisfaction. Supporting this, Song et al. (2022) and Li et al. (2023) highlighted that real-time interaction strengthens consumers' hedonic attitudes through impressive performance and engaging communication by the live streamer.

#### **4.5.5. The Effect of Hedonic Attitude on Impulse Buying**

Hedonic attitudes significantly and positively influenced impulse buying. Within the stimulus organism response theory, the organism is represented by a hedonic attitude, which arises from feelings of pleasure, excitement, and entertainment experienced during live streaming sessions. These positive emotional states reduce self-control and heighten the tendency to make spontaneous purchases, thereby stimulating impulse buying (Cahyani & Marcelino, 2023; Kang & Namkung, 2024). Consumers who derive enjoyment from live streaming are more inclined to engage in unplanned purchases, as emotional motivation, pleasure, and enjoyment are key drivers of such decisions (Febrilia et al., 2024; Utama et al., 2025). Among Generation Z, a sense of fun and entertainment plays a key role in driving impulsive buying behaviour; therefore, marketers must design engaging and enjoyable shopping experiences that stimulate spontaneous purchases. Consistent with Zheng et al. (2019), Soelton et al. (2021), and Silalahi et al. (2025), consumers who experience strong hedonic value tend to be more susceptible to impulsive buying, often motivated by emotions such as excitement and enjoyment. Individuals driven by strong hedonic motives tend to shop to improve their mood, thereby increasing their vulnerability to impulsive buying (Indrawati et al., 2022;

Juanim et al., 2024).

#### **4.5.6. The Effect of Utilitarian Attitude on Impulse Buying**

Utilitarian attitudes had a significant positive effect on impulse buying. Within the stimulus–organism response theory, utilitarian attitudes serve as the organism, emerging from consumers' assessments of the usefulness, practicality, and functional value of products showcased in live streaming. These rational considerations drive impulse buying responses, as individuals are more likely to engage in spontaneous purchases when they perceive products as valuable, practical, and reasonably priced (Park & Lin, 2020; Ming et al., 2021). When live streams showcase products that align with consumer needs, satisfaction and purchase motivation increase, making consumers more likely to buy products impulsively. Promotional strategies, such as discounts, bonuses, and special offers, create the impression of gaining additional value, thereby encouraging unplanned purchases (Zhang et al., 2024). Kimiagari and Malafe (2021) support this finding, stating that functional and rational perceptions of products can encourage impulse purchases if consumers feel that the products are beneficial.

#### **4.5.7. The Effect of Hedonic Attitude on Impulse Buying Moderated by Celebrity Endorsement**

Celebrity endorsement significantly and negatively moderated the correlation between hedonic attitudes and impulse buying. Within the framework of the stimulus–organism response theory, hedonic attitude functions as the organism that drives consumers' emotional enjoyment and excitement during live streaming, which in turn influences the response in the form of impulse buying. This indicates that celebrity endorsement, as a moderating factor, weakens the correlation between hedonic attitudes and impulse buying. This result implies that when consumers have a hedonic attitude toward live-streaming experiences, the presence of celebrities does not strengthen but rather weakens the impulse to make spontaneous purchases. This indicates that, regardless of the appeal of celebrities, among Generation Z, the enjoyable experience of live streaming content is stronger in driving impulse buying without needing to be reinforced by the presence of celebrities (Lina et al., 2022). This is consistent with Li et al. (2023) finding that celebrity endorsement negatively moderates the correlation between consumer hedonic attitudes and impulse buying. This negative effect is attributed to the lack of communication and marketing skills of celebrities, as well as their bad reputation and credibility issues (Ryu & Han, 2021). When an endorsement is ineffective, it can further weaken the correlation between consumers' hedonic attitudes and their tendency to make impulsive purchases.

#### **4.5.8. The Effect of Utilitarian Attitude on Impulse Buying Moderated by Celebrity Endorsement**

This study's findings contrast with those of Li et al. (2023), who stated that celebrity endorsement does not play a moderating role in the correlation between utilitarian attitudes and impulse buying, while this study shows that celebrity endorsement positively and significantly influences that correlation as a moderating factor. The presence of celebrities in live sessions makes consumers perceive the promoted products as more trustworthy, thereby encouraging impulse buying (Asakdiyah et al., 2024; Harafah et al., 2024). Within the stimulus–organism response theory, utilitarian attitudes function as the organism that reflects rational evaluations of product functionality, while impulse buying represents the response. In this context, celebrity endorsement acts as a moderator that strengthens the correlation between the

organism and response by amplifying the impact of rational considerations on impulsive purchase behaviour. Thus, even though consumers have a rational shopping orientation and focus on the functional benefits of a product (utilitarian), the presence of celebrities can increase their tendency to engage in impulse buying. This indicates that celebrities not only serve as an attraction but also influence how rational consumers respond to impulsive-buying triggers. Karamoy et al. (2024) and Chen et al. (2025) support this finding by showing that celebrities can affect the rational or utilitarian attitude of consumers, leading to impulse buying behavior.

#### **4.5.9. The Effect of Control Variables**

The study findings show that gender has no significant influence on impulse buying behaviour. These findings suggest that both female and male members of Generation Z have relatively similar tendencies toward impulsive buying (Cavazos-Arroyo & Máñez-Guaderrama, 2022). This is because Gen Z consumption patterns are influenced more by other factors, such as real-time interaction, the attractive appearance of live streamers, and the entertainment experience of live streaming, rather than gender differences. This finding aligns with Melati et al. (2024), who highlighted that gender differences do not influence impulse buying.

Moreover, this study found that income level positively and significantly impacted impulse buying. This suggests that individuals with higher income levels are more prone to impulsive buying behaviour. Generation Z tends to be more consumptive and active on digital media, and those with higher incomes have greater purchasing power, making them more susceptible to impulse buying (Ngo et al., 2025). Consistent with Tessy and Setiasih (2024), income can serve as a predictor because awareness of the availability of funds to purchase an item triggers an impulse to buy without considering financial consequences.

Additionally, the study's results revealed that educational background significantly and negatively impacted impulse buying. Individuals with more advanced educational backgrounds have a lower tendency to engage in impulse buying. Among Generation Z, higher levels of education encourage more rational and planned thinking, improve their understanding of financial management, and enhance their ability to control impulsive shopping urges. This is consistent with Rana and Tirthani (2012), who revealed that higher education levels are linked to a reduced tendency for impulse buying. Consumers with lower education levels are more prone to impulsive purchases, while highly educated consumers tend to be more rational and aware of marketing tactics, making them less susceptible to impulse buying.

## **5. Conclusion**

The attractive appearance and real-time interaction of live streamers serve as key drivers in influencing consumer attitudes, namely hedonic and utilitarian attitudes, which in turn lead to impulse buying within live commerce platforms in the context of Generation Z consumers. This confirms that visual aspects, real-time communication, and interactive experiences are crucial in influencing consumers' emotional and rational responses to the content and products presented during live streaming sessions. The findings of this study also highlight the influential role of celebrity endorsements as a moderating factor. Celebrity endorsements do not strengthen but weaken the correlation between hedonic attitudes and impulse buying, indicating that hedonic attitudes are more influential without the presence of celebrities. Conversely, in the case of utilitarian attitudes, the presence of celebrities actually strengthens impulse buying. This suggests that the influence of celebrities is more effective when consumers consider the product's functional aspects.

Theoretically, this research deepens the insight into impulse buying behaviour, especially among Generation Z in the era of live streaming commerce. These findings support the stimulus organism response theory, which states that attractive appearances and real-time interactions (stimulus) influence hedonic and utilitarian attitudes (organism), which then drive impulse buying behaviour (response). The findings regarding the moderating effect of celebrity endorsements contribute a new theoretical insight, suggesting that celebrity endorsements can either strengthen or weaken the emotional and rational effects on impulse-buying behaviour.

Practically, this study provides important insights for marketers and live commerce platforms, such as Shopee Live and other live commerce platforms. Brands or businesses must select visually appealing live streamers who can actively interact with consumers to create an enjoyable and interactive shopping experience. The use of celebrity endorsements must be done strategically by selecting celebrities who are appealing and trustworthy and considering whether the endorsement triggers emotional (hedonic) or functional (utilitarian) reactions that align with marketing objectives and the characteristics of a dynamic and digitally native target market, such as Generation Z.

Although the Shopee Live platform is one of the most popular in Indonesia, these findings may not be representative of other live-streaming commerce platforms, such as Tokopedia Play, LazLive, and TikTok Live. Consumer behaviour may vary across platforms because of their unique features and distinct characteristics. Hence, the object of study should be expanded in future research to include other live streaming commerce platforms to enhance the overall understanding and strengthen the generalisability of the findings. Moreover, the research model used does not include other potential factors that could impact impulse buying. Thus, future studies should consider incorporating additional variables, such as fear of missing out or scarcity cues, to enrich the model and further explain the factors influencing impulse buying.

## References

- Al Mamun, A., Naznen, F., Yang, Q., Ali, M. H., & Hashim, N. M. H. N. (2023). Modelling the significance of celebrity endorsement and consumer interest on attitude, purchase intention, and willingness to pay a premium price for green skincare products. *Heliyon*, 9(6). <https://doi.org/10.1016/j.heliyon.2023.e16765>
- Al-Romeedy, B. S., & Zaki, H. S. (2024). How celebrity-endorsed travel livestreaming triggers impulsive buying? The role of trust and positive emotions. *Journal of Vacation Marketing*, 13567667241268667. <https://doi.org/10.1177/13567667241268667>
- Ampadu, S., Jiang, Y., Debrah, E., Antwi, C. O., Amankwa, E., Gyamfi, S. A., & Amoako, R. (2022). Online personalized recommended product quality and e-impulse buying: A conditional mediation analysis. *Journal of Retailing and Consumer Services*, 64, 102789. <https://doi.org/10.1016/j.jretconser.2021.102789>
- Asakdiyah, S., Bonaga, J. K., Maheswari, U., Prastowo, I., & Salampessy, A. P. (2024). The mediating role of customer loyalty on the effect of celebrity endorsement to impulse buying behavior. *Jurnal Fokus Manajemen Bisnis*, 14(1), 124–135. <https://doi.org/10.12928/fokus.v14i1.10228>
- Cahyani, L., & Marcelino, D. (2023). Positive emotions as mediation between hedonic shopping motivations on impulsive buying behavior of E-Commerce in Indonesia. *APMBA (Asia Pacific Management and Business Application)*, 11(3), 347-362. <https://doi.org/10.21776/ub.apmba.2023.011.03.7>



- Cavazos-Arroyo, J., & Máñez-Guaderrama, A. I. (2022). Antecedents of online impulse buying: An analysis of gender and centennials' and millennials' perspectives. *Journal of Theoretical and Applied Electronic Commerce Research*, 17(1), 122-137. <https://doi.org/10.3390/jtaer17010007>
- Chang, C. W., & Chang, S. H. (2023). The impact of digital disruption: Influences of digital media and social networks on forming digital natives' attitude. *Sage Open*, 13(3), 21582440231191741. <https://doi.org/10.1177/21582440231191741>
- Chang, Y. W., Hsu, P. Y., Chen, J., Shiau, W. L., & Xu, N. (2023). Utilitarian and/or hedonic shopping-consumer motivation to purchase in smart stores. *Industrial Management & Data Systems*, 123(3), 821-842. <https://doi.org/10.1108/IMDS-04-2022-0250>
- Chen, C. H., Gao, K., Lin, C., Huang, A., & Li, C. (2025). Celebrity endorsement on social media in China: Familiarity and likeability heuristics in impulse purchase. *Asia Pacific Business Review*, 1-25. <https://doi.org/10.1080/13602381.2025.2492627>
- Chen, S., Zhi, K., & Chen, Y. (2022). How active and passive social media use affects impulse buying in Chinese college students? The roles of emotional responses, gender, materialism and self-control. *Frontiers in Psychology*, 13, 1011337. <https://doi.org/10.3389/fpsyg.2022.1011337>
- Cheng, G., Li, W., He, M., & Liao, L. (2024). Exploring consumer responses to official endorsement: Roles of credibility and attractiveness attributes in live streaming. *Frontiers in Psychology*, 15, 1371343. <https://doi.org/10.3389/fpsyg.2024.1371343>
- Cheng, H. H. (2020). The effects of product stimuli and social stimuli on online impulse buying in live streams. In *Proceedings of the 7th International Conference on Management of e-Commerce and e-Government* (pp. 31-35). <https://doi.org/10.1145/3409891.3409895>
- Chung, X. L., Yasmin, F., Haider, S. A., Sinnappan, P., Poulova, P., Baskaran, S., Tehseen, S., & Idris, I. (2025). Impulsive buying behaviour in live-streaming commerce: An application of SOR theory. *Cogent Social Sciences*, 11(1), 2474861. <https://doi.org/10.1080/23311886.2025.2474861>
- Dharma, P., Purwanegara, M. S., & Wibowo, S. A. (2024). Proposed marketing strategy to increase brand loyalty: Study case of Lazada Indonesia. *International Journal of Current Science Research and Review*, 7(07), 4701-16. <https://doi.org/10.47191/ijcsrr/V7-i7-15>
- Fajar, F., & Otok, B. W. (2024). The effect of attractiveness, expertise, visual attractiveness and interactivity on online impulsive buying behavior. *Jurnal Ilmiah Manajemen Kesatuan*, 12(4), 1337-1346. <https://doi.org/10.37641/jimkes.v12i4.2741>
- Febrilia, I., Rahmi, R., Lada, S., & Chekima, B. (2024). Online impulse buying: Investigating the role of e-commerce attributes, customer motivation, and urge to buy impulsively. *The Journal of Behavioral Science*, 19(1), 95-108.
- Gilal, F. G., Paul, J., Gilal, N. G., & Gilal, R. G. (2020). Celebrity endorsement and brand passion among air travelers: Theory and evidence. *International Journal of Hospitality Management*, 85, 102347. <https://doi.org/10.1016/j.ijhm.2019.102347>
- Guan, Z., Hou, F., Li, B., Phang, C. W., & Chong, A. Y. L. (2022). What influences the purchase of virtual gifts in live streaming in China? A cultural context-sensitive model. *Information Systems Journal*, 32(3), 653-689. <https://doi.org/10.1111/isj.12367>
- Gunawardena, C. N. (1995). Social presence theory and implications for interaction and collaborative learning in computer conferences. *International Journal of Educational Telecommunications*, 1(2), 147-166.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). *Multivariate Data Analysis (8th ed.)*. Cengage Learning.

- Halim, E., Nur, C., Adiba, A., Kurniawan, Y., & Saputra, L. S. (2022). Comparative analysis of the effect of live streaming shopping on E-commerce and S-commerce on impulsive buying behavior in Indonesia. In *Proceedings of the International Conference on Industrial Engineering and Operations Management* (pp. 4396-4407).
- Harafah, W. O. U. M. P., Maski, G., & Prasetyia, F. (2024). Celebrity endorsement's impact on female college student behavior: Investigating bandwagon effect, hedonic, and utilitarian value. *Jurnal Aplikasi Manajemen*, 22(4). <https://doi.org/10.21776/ub.jam.2024.022.04.19>
- Huang, L. T. (2023). Building streamers' personal brand loyalty by the brand resonance pyramid model in live streaming commerce. In *PACIS (Pacific Asia Conference on Information Systems) 2023 Proceedings*, 51.
- Indrawati, I., Ramantoko, G., Widarmanti, T., Aziz, I. A., & Khan, F. U. (2022). Utilitarian, hedonic, and self-esteem motives in online shopping. *Spanish Journal of Marketing-ESIC*, 26(2), 231-246. <https://doi.org/10.1108/SJME-06-2021-0113>
- Jiang, C., He, L., & Xu, S. (2024). Relationships among para-social interaction, perceived benefits, community commitment, and customer citizenship behavior: Evidence from a social live-streaming platform. *Acta Psychologica*, 250, 104534. <https://doi.org/10.1016/j.actpsy.2024.104534>
- Joo, E., & Yang, J. (2023). How perceived interactivity affects consumers' shopping intentions in live stream commerce: roles of immersion, user gratification and product involvement. *Journal of Research in Interactive Marketing*, 17(5), 754-772. <https://doi.org/10.1108/JRIM-02-2022-0037>
- Juanim, J., Alghifari, E. S., & Setia, B. I. (2024). Exploring advertising stimulus, hedonic motives, and impulse buying behavior in Indonesia's digital context: Demographics implications. *Cogent Business & Management*, 11(1), 2428779. <https://doi.org/10.1080/23311975.2024.2428779>
- Kalam, A., Goi, C. L., & Tiong, Y. Y. (2025). The effects of celebrity endorser on consumer advocacy behavior through the customization and entertainment intention-A multivariate analysis. *Young Consumers*, 26(1), 1-35. <https://doi.org/10.1108/YC-07-2023-1800>
- Kang, J. W., & Namkung, Y. (2024). The role of service quality attributes and perceived value in US consumers' impulsive buying intentions for fresh food e-commerce. *Journal of Theoretical and Applied Electronic Commerce Research*, 19(3), 1893-1906. <https://doi.org/10.3390/jtaer19030093>
- Karahan, M. O., & Şahin, F. (2025). The influence of atmospheric cues on impulsive buying behavior: Exploring the roles of utilitarian and hedonic browsing. *Market-Trziste*, 37(1), 73-94. <https://doi.org/10.22598/mt/2025.37.1.73>
- Karamoy, R. V., Masnita, Y., & Kurniawati, K. (2024). Pengaruh celebrity characteristic terhadap impulse buying melalui celebrity endorsement dan hedonic attitude serta utilitarian attitude: Pendekatan teori SOR. *J-MAS (Jurnal Manajemen dan Sains)*, 9(2), 1452-1461. <https://doi.org/10.33087/jmas.v9i2.2007>
- Kimiagari, S., & Malafe, N. S. A. (2021). The role of cognitive and affective responses in the relationship between internal and external stimuli on online impulse buying behavior. *Journal of Retailing and Consumer Services*, 61, 102567. <https://doi.org/10.1016/j.jretconser.2021.102567>
- Ko, H. C., & Ho, S. Y. (2024). Continued purchase intention in live-streaming shopping: Roles of expectation confirmation and ongoing trust. *Cogent Business & Management*, 11(1), 2397563. <https://doi.org/10.1080/23311975.2024.2397563>
- Lavuri, R., Jindal, A., & Akram, U. (2022). How perceived utilitarian and hedonic value influence online impulse shopping in India? Moderating role of perceived trust and perceived risk. *International Journal of Quality and Service Sciences*, 14(4), 615-634. <https://doi.org/10.1108/IJQSS-11-2021-0169>

- Lee, C. H., & Chen, C. W. (2021). Impulse buying behaviors in live streaming commerce based on the stimulus organism response framework. *Information*, 12(6), 241. <https://doi.org/10.3390/info12060241>
- Legros, E., Han, Y., & Park, J. E. (2024). The impact of online behavioral advertising on consumer attitude and impulse buying: The moderating role of privacy concerns. *Asia Marketing Journal*, 26(3), 201-212. <https://doi.org/10.53728/2765-6500.1638>
- Lessel, P., Vielhauer, A., & Krüger, A. (2017, May). Expanding video game live-streams with enhanced communication channels: A case study. In *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems* (pp. 1571-1576). <https://doi.org/10.1145/3025453.3025708>
- Li, K., Ji, C., Prentice, C., Sthapit, E., & He, Q. (2025). Unveiling the myth: How streamer attractiveness drives impulse buying in live streaming. *Services Marketing Quarterly*, 46(1-2), 1-26. <https://doi.org/10.1080/15332969.2025.2478732>
- Li, L., Kang, K., Zhao, A., & Feng, Y. (2023). The impact of social presence and facilitation factors on online consumers' impulse buying in live shopping–Celebrity endorsement as a moderating factor. *Information Technology & People*, 36(6), 2611-2631. <https://doi.org/10.1108/ITP-03-2021-0203>
- Li, X., Huang, D., Dong, G., & Wang, B. (2024). Why consumers have impulsive purchase behavior in live streaming: The role of the streamer. *BMC psychology*, 12(1), 129. <https://doi.org/10.1186/s40359-024-01632-w>
- Liao, C., Qiao, L., Wang, X., & Lu, S. (2022). Exploring food waste prevention through advent food consumption: The role of perceived concern, consumer value, and impulse buying. *Frontiers in Sustainable Food Systems*, 6, 988260. <https://doi.org/10.3389/fsufs.2022.988260>
- Lina, Y., Hou, D., & Ali, S. (2022). Impact of online convenience on generation Z online impulsive buying behavior: The moderating role of social media celebrity. *Frontiers in Psychology*, 13, 951249. <https://doi.org/10.3389/fpsyg.2022.951249>
- Liu, R., Hamid, A. B. A., & Ya'akub, N. I. (2024). Revisiting perceived gratification, consumer attitudes and purchase impulses in cross-border e-commerce live streaming: a direct and indirect effects model. *Journal of Systems and Information Technology*, 26(1), 51-70. <https://doi.org/10.1108/JSIT-10-2023-0214>
- Liu, Z., Yang, J., & Ling, L. (2020). Exploring the influence of live streaming in mobile commerce on adoption intention from a social presence perspective. *International Journal of Mobile Human Computer Interaction (IJMHCI)*, 12(2), 53-71. <https://doi.org/10.4018/IJMHCI.2020040104>
- Lu, B., Wu, D., & Zhao, R. (2022). An investigation into factors affecting individuals' gifting intention in live streaming: A streamer–content perspective. *Journal of Electronic Business & Digital Economics*, 1(1/2), 90-110. <https://doi.org/10.1108/jebde-04-2022-0007>
- Macheka, T., Quaye, E. S., & Ligaraba, N. (2024). The effect of online customer reviews and celebrity endorsement on young female consumers' purchase intentions. *Young Consumers*, 25(4), 462-482. <https://doi.org/10.1108/YC-05-2023-1749>
- Maharani, N. Z., Eitiveni, I., Purwandari, B., & Purwaningsih, E. H. (2025). How do celebrity characteristics as streamers in live-streaming commerce influence impulsive buying? A case study of Shopee Live. *Human Behavior and Emerging Technologies*, 2025(1), 6977436. <https://doi.org/10.1155/hbe2/6977436>
- Mehrabian, A., & Russell, J. A. (1974). *An Approach to Environmental Psychology*. The MIT Press.
- Melati, I., Purwanto, B. M., Caturyani, Y., Olivia Irliane, P., & Widyaningsih, Y. A. (2024). The mediation effect of the urge to buy impulsively on grocery online impulse buying decisions. *Cogent Business & Management*, 11(1), 2316941. <https://doi.org/10.1080/23311975.2024.2316941>

- Ming, J., Jianqiu, Z., Bilal, M., Akram, U., & Fan, M. (2021). How social presence influences impulse buying behavior in live streaming commerce? The role of SOR theory. *International Journal of Web Information Systems*, 17(4), 300-320. <https://doi.org/10.1108/IJWIS-02-2021-0012>
- Moraes, M., Gountas, J., Gountas, S., & Sharma, P. (2019). Celebrity influences on consumer decision making: New insights and research directions. *Journal of marketing management*, 35(13-14), 1159-1192. <https://doi.org/10.1080/0267257X.2019.1632373>
- Nabil, M., Khaled, H., Taher, H., Ayman, M., Ashoush, N., & Shawky, R. (2022). Celebrity endorsement and its impact on purchase intention of luxurious brands. *The Business & Management Review*, 13(2), 285-296.
- Ngo, T. T. A., Nguyen, H. L. T., Mai, H. T. A., Nguyen, H. P., Mai, T. H. T., & Hoang, P. L. (2025). Analyzing the role of customers' experiences and emotional responses in shaping Generation Z's impulse buying behavior on Shopee video platform. *PLoS One*, 20(5), e0322866. <https://doi.org/10.1371/journal.pone.0322866>
- Nguyen, L., Nguyen, U., & Vo, H. Q. (2025). Identifying key streamer characteristics affecting customers' impulsive purchase behaviors: SOR model approach. *Cogent Business & Management*, 12(1), 2527917. <https://doi.org/10.1080/23311975.2025.2527917>
- Ni, S., & Ueichi, H. (2024). Factors influencing behavioral intentions in livestream shopping: A cross-cultural study. *Journal of Retailing and Consumer Services*, 76, 103596. <https://doi.org/10.1016/j.jretconser.2023.103596>
- Nzuva, S. M. (2021). Celebrity endorsement: Is it still useful as a strategic marketing tool? A focus on medium and large-size enterprises. *International Journal of Economics and Management Studies*, 8(5), 10-14445. <https://doi.org/10.14445/23939125/ijems-v8i5p109>
- Ong, H. T., Chua, J. M. M., David, S. G. T., Shi, V., & Yson, R. A. M. (2025). From stardom to shopping carts: Unmasking the power of Korean celebrity endorsers through credibility, brand congruence, and parasocial relationships. *Review of Integrative Business and Economics Research*, 14(3), 462-477.
- Park, H. J., & Lin, L. M. (2020). The effects of match-ups on the consumer attitudes toward internet celebrities and their live streaming contents in the context of product endorsement. *Journal of Retailing and Consumer Services*, 52, 101934. <https://doi.org/10.1016/j.jretconser.2019.101934>
- Peng, X., Ren, J., & Guo, Y. (2024). Enhance consumer experience and product attitude in E-commerce live streaming: Based on the environmental perspective. *Industrial Management & Data Systems*, 124(1), 319-343. <https://doi.org/10.1108/IMDS-12-2022-0743>
- Purnamasari, R., Hasanudin, A. I., Zulfikar, R., & Yazid, H. (2025). Technological infrastructure and financial resource availability in enhancing public services and government performance: The role of digital innovation adoption in Indonesia. *Social Sciences & Humanities Open*, 11, 101621. <https://doi.org/10.1016/j.ssaho.2025.101621>
- Qian, Y., Hou, F., Li, B., Guan, Z., & Ma, T. (2024). Unveiling the influence of streamer characteristics and consumer experiences on purchase intention in live commerce. In *ICEB 2024 Proceedings (Zhuhai, China)*. 19.
- Rafaeli, S., & Noy, A. (2002). Online auctions, messaging, communication and social facilitation: A simulation and experimental evidence. *European Journal of Information Systems*, 11(3), 196-207. <https://doi.org/10.1057/palgrave.ejis.3000434>
- Rana, S., & Tirthani, J. (2012). Effect of education, income and gender on impulsive buying among Indian consumer an empirical study of readymade garment customers. *Management*, 1(12), 145-146. <https://doi.org/10.15373/2249555X/SEP2012/50>



- Rani, V. Z., Rofiq, A., & Juwita, H. A. J. (2023). The influence of intensity of TikTok use, utilitarian value, and hedonic value on impulsive buying mediated by urge to buy impulsively. *International Journal of Research in Business & Social Science*, 12(5). <https://doi.org/10.20525/ijrbs.v12i5.2690>
- Rungruangjit, W. (2022). What drives Taobao live streaming commerce? The role of parasocial relationships, congruence and source credibility in Chinese consumers' purchase intentions. *Heliyon*, 8(6). <https://doi.org/10.1016/j.heliyon.2022.e09676>
- Ryu, E. A., & Han, E. (2021). Social media influencer's reputation: Developing and validating a multidimensional scale. *Sustainability*, 13(2), 631. <https://doi.org/10.3390/su13020631>
- Sarjono, H., Mahira, T., & Soeratin, B. S. (2026). E-Supply Chain Management and Customer Satisfaction in Indonesian E-Commerce. *Golden Ratio of Mapping Idea and Literature Format*, 6(1), 173-188. <https://doi.org/10.52970/grmilf.v6i1.1381>
- Septian, A. (2025). Pengaruh scarcity persuasion terhadap impulsive buying yang dimoderasi oleh shopping motivation dalam e-commerce live streaming: Platform Shopee Live. *Economics and Digital Business Review*, 6(1), 78-96.
- Shi, R., Wang, M., Qiao, T., & Shang, J. (2024). The effects of live streamer's facial attractiveness and product type on consumer purchase intention: An exploratory study with eye tracking technology. *Behavioral Sciences*, 14(5), 375. <https://doi.org/10.3390/bs14050375>
- Silalahi, A. D. K., Tedjakusuma, A. P., Eunike, I. J., & Riantama, D. (2025). How does time pressure shape impulsive buying behavior? Hedonic vs. utilitarian values emerges as a key driver on E-commerce platforms. *Digital Business*, 100138. <https://doi.org/10.1016/j.digbus.2025.100138>
- Soelton, M., Ramli, Y., Wahyono, T., Saratian, E. T. P., Oktaviar, C., & Mujadid, M. (2021). The impact of impulse buying on retail markets in Indonesia. *The Journal of Asian Finance, Economics and Business*, 8(3), 575-584. <https://doi.org/10.13106/jafeb.2021.vol8.no3.0575>
- Song, Z., Liu, C., & Shi, R. (2022). How do fresh live broadcast impact consumers' purchase intention? Based on the SOR theory. *Sustainability*, 14(21), 14382. <https://doi.org/10.3390/su142114382>
- Sun, Y., Shao, X., Li, X., Guo, Y., & Nie, K. (2019). How live streaming influences purchase intentions in social commerce: An IT affordance perspective. *Electronic Commerce Research and Applications*, 37, 100886. <https://doi.org/10.1016/j.elerap.2019.100886>
- Suwito, G. A., & Susilowati, M. W. K. (2025). Scarcity effect on impulse buying: The mediating role of arousal. *Jurnal Fokus Manajemen Bisnis*, 15(1), 55-69. <https://doi.org/10.12928/fokus.v15i1.12418>
- Tang, X., Hao, Z., & Li, X. (2024). The influence of streamers' physical attractiveness on consumer response behavior: Based on eye-tracking experiments. *Frontiers in Psychology*, 14, 1297369. <https://doi.org/10.3389/fpsyg.2023.1297369>
- Tessy, N. R. B., & Setiasih, S. (2024). The impulsive buying behavior of H&M products in Gen-Z: The role of income and self-esteem. *Journal of Consumer Sciences*, 9(1), 122-141. <https://doi.org/10.29244/jcs.9.1.122-141>
- Utama, A., Hariningsih, E., Mustikasari, A., Wardana, W., & Wibowo, A. (2025). Shopping under the influence: How price discounts and hedonic motivation drive impulse buying among young consumers in Indonesia. *Cogent Business & Management*, 12(1), 2539456. <https://doi.org/10.1080/23311975.2025.2539456>
- Vidyanata, D. (2025). Exploring the dynamics of parasocial interactions with hosts and co-viewers in live-streaming shopping. *Jurnal Dinamika Manajemen*, 16(1), 58-76. <https://doi.org/10.15294/jdm.v16i1.12364>



- Wang, K., Zhang, C., Li, S., Tong, X., & Liao, D. (2025). Do the characteristics of live streaming matter? The evidence from China on consumer purchase intention. *Spanish Journal of Marketing-ESIC*. <https://doi.org/10.1108/SJME-12-2023-0324>
- Wang, S. W., Kao, G. H. Y., & Ngamsiriudom, W. (2017). Consumers' attitude of endorser credibility, brand and intention with respect to celebrity endorsement of the airline sector. *Journal of Air Transport Management*, 60, 10-17. <https://doi.org/10.1016/j.jairtraman.2016.12.007>
- Wu, L., Chiu, M. L., & Chen, K. W. (2020). Defining the determinants of online impulse buying through a shopping process of integrating perceived risk, expectation-confirmation model, and flow theory issues. *International Journal of Information Management*, 52, 102099. <https://doi.org/10.1016/j.ijinfomgt.2020.102099>
- Xia, Y. X., Chae, S. W., & Xiang, Y. C. (2024). How social and media cues induce live streaming impulse buying? SOR model perspective. *Frontiers in Psychology*, 15, 1379992. <https://doi.org/10.3389/fpsyg.2024.1379992>
- Xu, X., Wu, J. H., & Li, Q. (2020). What drives consumer shopping behavior in live streaming commerce?. *Journal of Electronic Commerce Research*, 21(3), 144-167.
- Yu, L., Tang, W., & Gao, W. (2025). A study on the mechanism of live streamer's behavior characteristics affecting consumers' impulsive buying: The role of perceived value and social identity. *Acta Psychologica*, 255, 104950. <https://doi.org/10.1016/j.actpsy.2025.104950>
- Zamil, A. M., Ali, S., Akbar, M., Zubr, V., & Rasool, F. (2023). The consumer purchase intention toward hybrid electric car: A utilitarian-hedonic attitude approach. *Frontiers in Environmental Science*, 11, 1101258. <https://doi.org/10.3389/fenvs.2023.1101258>
- Zhang, H., Zheng, S., & Zhu, P. (2024). Why are Indonesian consumers buying on live streaming platforms? Research on consumer perceived value theory. *Heliyon*, 10(13). <https://doi.org/10.1016/j.heliyon.2024.e33518>
- Zheng, X., Men, J., Yang, F., & Gong, X. (2019). Understanding impulse buying in mobile commerce: An investigation into hedonic and utilitarian browsing. *International journal of information management*, 48, 151-160. <https://doi.org/10.1016/j.ijinfomgt.2019.02.010>
- Zhou, X., & Lou, C. (2024). Modeling the effects of streamer characteristics and platform affordances in livestreaming e-commerce: A mixed-methods approach. *Journal of Current Issues & Research in Advertising*, 45(1), 112-139. <https://doi.org/10.1080/10641734.2023.2252036>
- Zhulkarnain, N. A., Nurhalim, A., Mahanani, Y., & Hassan, R. (2024). Determinants that affect generation Z consumer loyalty in Wardah skincare. *Halal Studies and Society*, 1(2), 8-13. <https://doi.org/10.29244/hass.1.2.8-13>