

DRIVERS OF IMPULSE BUYING IN LIVE-STREAMING E-COMMERCE AMONG GEN Z IN SELANGOR, MALAYSIA

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(Received 03rd July 2026; revised 15th September 2026; accepted 23rd September 2026)

Abstract. E-commerce in Malaysia is expanding quickly, supported by the growth of live-streaming platforms that make online shopping more interactive, and increase impulse buying, especially among Generation Z. This study investigates the external factors that influence impulsive buying behaviour in live-streaming e-commerce among Generation Z in Selangor. Grounded in Stern's Impulse Buying Theory, the study examines four independent variables, trustworthiness, expertise, visual merchandising, and sales promotion, and their effect on impulse buying behaviour. Using convenience sampling, data were collected from 210 respondents via self-administered questionnaires employing a five-point Likert scale. Pearson correlation and multiple regression analysis were applied. The findings revealed all four variables showed significant positive correlations with impulsive buying behaviour. However, multiple regression results indicated that only trustworthiness, expertise, and sales promotion were significant predictors, while visual merchandising did not show a significant independent effect. Expertise appeared as the strongest predictor, and the model explained 52.4% of the variance in impulsive buying behaviour. The findings are useful for researchers, consumers, and online marketers in developing strategies and raising awareness of consumer behaviour in digital shopping.

Keywords: *expertise, trustworthiness, visual merchandising, sales promotion, Stern's Impulse Buying theory*

Introduction

Live-streaming e-commerce has rapidly grown to become a worldwide phenomenon. Starting in China, this shopping format became very popular during COVID-19 when consumers used online platforms more often (Xu et al., 2023; Han, 2022). China remains the largest market, with millions of users, while other regions, such as the United States and Europe, are experiencing significant growth (Koetsier, 2022). The market value in these regions is projected to increase strongly in the next few years (Grand View Research, 2023). In Southeast Asia, Indonesia is also becoming one of the fastest growing markets, showing that live-streaming shopping is influencing both developed economy as well emerging markets (Andika et al., 2025). In Malaysia, the adoption of e-commerce has been rising rapidly. This growth can be attributed to the country's advanced online and mobile network systems as well as continuous support from the government agencies. The Department of Statistics Malaysia (DOSM, 2024), reported that the information and communications technology (ICT) sector, which includes e-commerce, contributed RM427.7 billion, or 23.5% of the national gross domestic product (GDP). Selangor consistently recorded the highest e-commerce transaction values among all Malaysian states, and has the largest proportion of households engaged in online purchases (Selangor Journal, 2020).

E-commerce has grown in popularity because it is more convenient, time-saving, and cost-effective compared to traditional shopping. In recent years, the live-streaming technology has enhanced the online shopping experience by combining entertainment

with an instant purchasing process (Hu and Chaudhry, 2020). In a shopping context, live-streaming gives consumers a more engaging experience compared to conventional social commerce. It provides a shopping format that is more interactive, realistic, and visually attractive, which makes consumers not only more involved, but also increases the chance of impulsive buying (Li et al., 2022; Kang et al., 2021; Sun et al., 2019). Wongkitrungrueng and Assarut (2020) explained that the development of Social Commerce (S-Commerce) has been driven by the high use of social media platforms such as Facebook and Instagram. These platforms allow small retailers and start-up businesses to establish business accounts with relative ease. The rapid evolution of social commerce has led to the integration of live streaming features in several established social networking platforms, including Facebook Live (Kang et al., 2021). In Malaysia, Facebook Live is commonly used for business broadcasting, especially for products such as apparel, electronics, consumables, health and beauty products, jewellery and food items (Pek, 2021). Facebook is anticipated to have a penetration rate of 70-71% and a user base of 24 million in Malaysia by 2023, making it the leading social online community platform within the nation (Statista, 2023). Generation Z, or Gen Z, are individuals born approximately between 1997 and 2012, and are prominent users of digital and social media platforms (Slepian et al., 2024). They are commonly referred to as the first “digital natives” because of exposure to advanced smartphone technology since birth, and a significant proportion (44%) of this cohort relies on this technology (Vahrenkamp, 2017). They are characterised as digital natives who expect highly personalised, technology-driven interactions when shopping, and who readily adapt to new retail formats (Priporas et al., 2017). Furthermore, Gen Z is also known to have a strong tendency for impulsive buying, which can be linked to their heavy usage of social media platforms like Twitter, Pinterest, and Facebook (Liu et al., 2021; Zafar et al., 2021). Djafarova and Bowes (2021) found that nearly half of Gen Z are involved in impulsive shopping. This indicates that Gen Z constitutes a critical consumer segment warranting further investigation, especially regarding impulsive buying behaviour in live-streaming e-commerce contexts.

Although live-streaming e-commerce has attracted increasing academic interest in recent years, existing research has mainly focused on customer engagement, consumer perceptions, and impulsive buying behaviour in general (Cao et al., 2022; Hu and Chaudhry, 2020; Wang and Wu, 2019). Scholars, including Zhang et al. (2022), Chen et al. (2022), and Zuo and Xiao (2021), highlight that the literature on live-streaming e-commerce remains limited and requires further investigation. In particular, limited attention has been given to understanding the factors that influence impulsive buying behaviour among Gen Z consumers in the live-streaming e-commerce environment. Given that Gen Z consumers are highly engaged with social media, demonstrate a greater tendency towards impulsive purchases, and are more exposed to live-streaming commerce platforms, it is important to examine the factors that encourage their impulsive buying behaviour. Therefore, this study aims to identify the factors influencing impulsive buying among Gen Z consumers in live-streaming e-commerce. The factors studied are trust in the seller, expertise of the seller, product visual presentation and sales promotion.

Review of literature

This study adopts Stern's (1962) Impulsive Buying Theory as its underlying theoretical framework. The theory posits that not all consumer purchases come from

rational decision-making processes. Rather, various situational and external factors can trigger unplanned purchasing behaviour (Hofmann et al., 2008; Luo, 2005). According to Dutta and Mandal (2018), Stern's theory differs from Motivation Theory and Maslow's Hierarchy of Needs Theory, which view consumer as rational and deliberate decision-makers. Stern (1962) believed that external stimuli can motivate impulse buying among consumers. The theory further highlights that marketers can use different promotion tools and marketing strategies to attract consumers' attention, and stimulate unplanned purchases (Iyer et al., 2020; Dutta and Mandal, 2018). In the context of live-streaming e-commerce, the sellers are able to demonstrate products in real time, allowing consumers to obtain more detailed and immediate product information (Xu et al., 2020). Live-streaming platforms such as Facebook Live and Instagram Live have become popular channels for promoting products and encouraging consumer purchases (Figure 1).

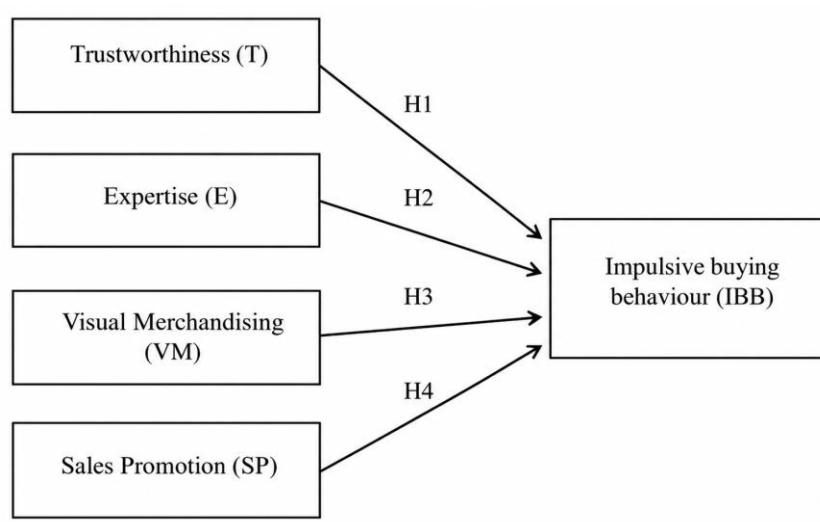


Figure 1. Research framework.

Impulse buying and planned buying are two different behaviours. Planned buying happens when consumer act rationally and know their goal. However, impulse buying is more spontaneous, with emotion, and strongly affected by surrounding situation (Iyer et al., 2020). Redine et al. (2023) mentioned that impulse buying can give strong emotional feeling and also provide satisfaction to hedonic desire. However, when this behaviour is excessive, it can bring negative outcomes. For example, people may develop a compulsive need to shop, face financial problems, and also feel psychological pressure such as guilt and anxiety (Sun and Bao, 2023; Redine et al., 2023). In addition, Iyer et al. (2020) explained that impulsive buying is often seen as negative form of consumption, because it shows irrational spending of money, buying things that are not practical and also higher risks when making purchase. To “trust” someone means to believe that the person will act morally and respectfully during social interaction, and not taking advantage for their own benefit (Hwang and Kim, 2007; Gefen et al., 2003). Bao and Yang (2022) explained that online sellers need to build consumer trust in their products and services in order to generate the flow experience that drives the urge to buy impulsively. Their findings showed that when consumers trust a seller, they are more likely to engage in impulsive purchasing; without that trust, they tend to avoid completing the transaction. Wongkitrungrueng et al. (2020) showed that consumers’

trust in products depends on their belief that the goods really match the description given by the live streamer, including the quality and features. Leeraphong and Sukrat (2018) also argued that trust has a strong influence on impulse buying, and this trust usually comes from the customer's experience. In addition, Ming et al. (2021) stated that when a live streamer is seen as trustworthy, it will build consumer trust, and this trust can increase the likelihood of impulse buying. Similarly, Chen et al. (2021) found that live streamer endorsement is positively associated with impulsive buying behaviour among consumers.

Expertise in live-streaming e-commerce refers to the depth of understanding the streamer has about the product they are promoting (Liu, 2022). In this case, Liu further explained that streamers not only show their product but also give a detailed explanation, which can help viewers to know more about the product. According to Lo et al. (2022), viewers' parasocial interaction with the streamer and the vicarious experience created during the broadcast can strongly affect consumer purchase intention and behaviour in live-streaming shopping. Chen et al. (2020) found that when viewers believe that a streamer is very knowledgeable, it builds trust, and this trust improves the possibility of purchase. The trust from product knowledge can also motivate people to buy more items. Lee and Chen (2021) also found that knowledgeable streamers also bring more entertainment value to the shopping, and this may increase impulse buying. In the same way, Setyani et al. (2019) discovered that viewers are more willing to make unplanned purchases if they perceive the streamer is credible and knowledgeable. Visual merchandising is used by sellers to improve the attractiveness of their product and to differentiate themselves from other brands, especially in competitive markets where products look similar. In an integrative review of the visual merchandising literature, Basu et al. (2022) concluded that store displays, layout, and product presentation are consistently linked to stronger impulse buying responses, creating a positive perception that also make shopping easier for customers. Because of this, providing good quality information through more product exposure can increase consumer emotions and lead to stronger impulsive buying behaviour (Xie and Luo, 2021).

Sales promotion is a strategy used by sellers to encourage and increase sales (Bandyopadhyay et al., 2021). Gorji and Siami (2020) explained that the impact of promotional display on consumer attitude and behaviour comes from both physical and informational elements. The use of layout and promotion tools can attract customer attention and also give them product information. Bandyopadhyay et al. (2021) found that immediate monetary and non-monetary promotions significantly increase consumers' urge to buy impulsively, with this effect strengthened among consumers high in hedonic shopping motivation. Roesler (2018) also mentioned that around 67% of consumers reported they made unplanned purchases because of coupons or discounts from the seller. Their findings also suggest that the link between promotion and impulse buying is strongest when discounts are immediate rather than delayed, consistent with the price-reduction-driven purchasing seen among Gen Z consumers in the present study. Guided by prior literature, the following hypotheses are proposed by the study:

H1: There is a significant relationship between trustworthiness and impulsive buying behaviour among Gen Z.

H2: There is a significant relationship between expertise and impulsive buying behaviour among Gen Z.

H3: There is a significant relationship between visual merchandising and impulsive buying behaviour among Gen Z.

H4: There is a significant relationship between sales promotion and impulsive buying behaviour among Gen Z.

H5: There is a significant factor that dominantly influences impulsive buying behaviour among Gen Z in live-streaming e-commerce.

Materials and Methods

This study examines the factors that drive impulsive buying behaviour among Gen Z in Selangor. Selangor is situated on the West Coast of Peninsular Malaysia and known as the most developed state with a strong GDP. Selangor consistently maintained the highest e-commerce transaction values, with a recorded amount of RM98.3 billion in 2019 and RM133.2 billion in 2020 (Department of Statistics Malaysia, 2023). The target population comprised of Gen Z individuals, which means people aged between 18 and 28 years old. From this group, only those who buy products or services through live-streaming platform were included. As the total number of Gen Z with live-streaming shopping experience in Selangor is unknown, sample size was determined using the item-to-response ratio recommended by Hinkin (1995), which specifies a ratio of 1:4 to 1:10. This study adopted the ratio of 1:10, and since the questionnaire consisted of 21 items, a minimum 210 respondents was required. Sixteen items measured the independent variables, trustworthiness, sellers' expertise, visual merchandising, sales promotion, while five items measured the dependent variable, impulsive buying behaviour. Data were collected using a self-administered questionnaire prepared in Google Form and shared online through Facebook, WhatsApp, and Telegram. Convenience sampling was employed, whereby respondents could access the survey using a link or scan a QR code. Three screening questions were included to ensure that only qualified respondents participated. The screening criteria required the respondents to be Gen Z between 18 to 28 years, residing in Selangor, and having prior experience with making purchases through live-streaming platforms.

A close-ended questionnaire was used for data collection. Section A gathered demographic information with closed-ended items. Section B contained questions on trustworthiness adapted from Lee and Chen (2021), Park and Lin (2020), and Xiao et al. (2018). Section C measured expertise of the seller, also adopted from Lee and Chen (2021) and Xiao et al. (2018). Section D included items about visual merchandising from Huang and Suo (2021). Section E measured sales promotion items, adopted from Wang (2021) and Chen (2020). Section F measured impulsive buying behaviour, using items from Zhang et al. (2022) and Li et al. (2022). The answers were recorded on a five-point Likert-scale, from 1 (Strongly Disagree) until 5 (Strongly Agree). The questionnaires underwent a pilot test to make sure the questionnaire items were clear and internally consistent. Cronbach's Alpha values for all variables exceeded 0.7, meeting the threshold recommended. This indicates that the items reliably measure impulsive buying behaviour in live streaming e-commerce. After completing data

collection, a second reliability test was conducted. The value of Cronbach's Alpha again exceeded 0.7. This result confirmed that the instrument was reliable and therefore suitable for further analysis.

Results and Discussion

The research data were analysed using SPSS 27.0. Descriptive analysis was conducted to provide an overview of respondents' background. Pearson correlation analysis was applied to examine both the strength and direction of the association between the independent variables and live-streaming impulsive buying. Furthermore, multiple linear regression was conducted to evaluate how the predictor variables affected impulsive buying within the live-streaming context.

Respondent profile

The analysis was conducted on 210 valid responses, after excluding eight responses from participants residing outside Selangor. *Table 1* presents the respondents' demographic characteristics, live-streaming platform use and monthly spending on live-streaming purchases. In regard to gender, female respondents predominate the study (71.4%), indicating women are actively engaging in live-streaming or are more willingly to participate in research. Ethnically, Chinese respondents formed the largest group (49.5%), followed by Malay (33.4%) and Indian (17.1%), distribution that may reflect the patterns of digital shoppers among different ethnic groups in Selangor. Age-wise, the majority of respondents (56.2%) were aged between 21 and 23 years, representing the typical age range of Gen Z. Meanwhile, 24.3% were aged 24–28, and 19.5% were in the 18–20 age group. All respondents confirmed residency in Selangor and prior experience with live-streaming e-commerce. Facebook Live was the leading platform (72.4%), followed by Instagram Live (24.3%) and TikTok Live (3.3%). The statistics show that Facebook Live remains the most popular platform among Gen Z. The data also shows that nearly half (45.7%) had spent under RM150 monthly on live streaming. A further 36.2% reported spending between RM150 and RM250, while 18.1% spent over RM250. The findings indicate that Gen Z spends moderately on live-streaming purchases.

Table 1. Respondent profile and live-streaming e-commerce usage.

Category	Frequency	Percentage
Gender		
Male	60	28.6
Female	150	71.4
Race		
Malay	70	33.3
Chinese	104	49.5
Indian	36	17.1
Age range		
18–20	41	19.5
21–23	118	56.2
24–28	51	24.3
Live-streaming platform used		
Facebook Live	152	72.4
Instagram Live	51	24.3
TikTok Live	7	3.3
Monthly spending on live-streaming purchases		
Less than RM150	96	45.7
RM150–RM250	76	36.2
More than RM250	38	18.1

Results of hypothesis testing

Pearson correlation analysis revealed that all four variables were significantly and positively associated with impulsive buying behaviour in live-streaming e-commerce among Gen Z consumers in Selangor (Table 2). Expertise recorded the highest correlation value ($r=0.628$), followed by trustworthiness ($r=0.606$), sales promotion ($r=0.580$), and visual merchandising ($r=0.559$). The result suggests that customers have a higher tendency to make impulsive purchases when the live broadcaster is highly knowledgeable and experienced in the product and brand. These results provide support for H1, H2, H3 and H4. Table 3 presents the summary of the multiple regression model. The multiple correlation coefficient ($R=0.724$) indicates a strong association between the predictors and impulsive buying behaviour in live-streaming e-commerce. The coefficient of determination ($R^2=0.524$) shows that the four predictors collectively explain 52.4% of the variance in impulsive buying behaviour among Gen Z consumers, while the remaining 47.6% could be accounted for by other variables not captured in this model. The adjusted R^2 value of 0.514 further confirms the model's reliability by taking into account the number of predictors used, ensuring that the model's explanatory strength is presented accurately. Multiple linear regression was conducted to determine the most dominant factor influencing impulsive buying behaviour among Gen Z consumers in live-streaming e-commerce in Selangor. As shown in Table 4, expertise recorded the highest beta value ($\beta=0.353$), followed by trustworthiness ($\beta=0.203$), visual merchandising ($\beta=0.117$), and sales promotion ($\beta=0.195$). All predictors, with the exception of visual merchandising, demonstrated p-values less than 0.05, indicating statistically significant relationships with impulsive buying behaviour. These findings confirm that sellers' expertise emerged as the most dominant factor, thus supporting H5.

Table 2. Pearson correlation coefficient analysis.

Variable	r-value	p-value
Trustworthiness	0.606	0.000
Expertise	0.628	0.000
Visual merchandising	0.559	0.000
Sales promotion	0.580	0.000

Note: **correlation is significant at the 0.01 level (2-tailed).

Table 3. Model summary.

Model	R	R-Square	Adjusted R-Square	Std. Error of the Estimate
1	0.724 ^a	0.524	0.514	2.590

Note: Predictors: (Constant), T, E, VM, SP.

Table 4. Results of multiple linear regression.

Variables	Unstandardised Coefficients		Standardised Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	3.307	1.243	-	2.661	0.008
Trustworthiness	0.242	0.090	0.203	2.697	0.008
Expertise	0.411	0.072	0.353	5.738	0.000
Visual Merchandising	0.160	0.093	0.117	1.715	0.088
Sales Promotion	0.234	0.082	0.195	2.843	0.005

Note: a. Dependent Variable: Impulsive Buying Behaviour.

This study investigated the influence of trustworthiness, expertise, visual merchandising, and sales promotion on impulsive buying behaviour in live-streaming e-commerce among Gen Z in Selangor, guided by Stern's (1962) Impulsive Buying Theory. Correlation analysis revealed that all four predictors had statistically significant positive associations with impulsive buying behaviour ($p < 0.01$). However, multiple regression analysis identified only expertise ($\beta = 0.353$, $p < 0.001$), trustworthiness ($\beta = 0.203$, $p = 0.008$), and sales promotion ($\beta = 0.195$, $p = 0.005$) as significant predictors, with expertise emerging as the strongest. Visual merchandising, while significantly correlated with impulsive buying behaviour ($r = 0.559$, $p < 0.001$), did not remain significant in the regression model ($\beta = 0.117$, $p = 0.088$). The finding that expertise emerged as the most influential factor is consistent with Lee and Chen (2021), who discovered that streamer expertise positively influences consumer satisfaction and lead to impulsive purchases. Similarly, Chen et al. (2020) found that knowledgeable streamers provide detailed product information, enabling consumers to make quicker and more confident purchase decisions. The high beta coefficient for expertise suggests that Gen Z consumers are particularly responsive to streamers who communicate product value convincingly during live broadcasts.

The result showed that trustworthiness is an important factor that can predict impulsive buying. Previous studies (Park and Lin, 2020; Al-Adwan and Kokash, 2019) explained that social interaction, for example, interpersonal communication, play an important role in shaping consumer purchase intention. This interaction can increase consumer trust, and may subsequently lead to impulse buying behaviour. Bao and Yang (2022) also supported this result, noting that the inability to physically inspect products is a key difference between online and offline shopping. Therefore, trust becomes a crucial requirement for online shopping, and once established through a positive flow experience, it encourages consumers to make purchase decisions more readily. Sales promotion was found to be an important predictor of impulsive buying behaviour, consistent with previous research (Bandyopadhyay et al., 2021). This study has shown that consumer intention is influenced by the attractiveness of discount offers, as customers are highly susceptible to price incentives, particularly when promotions are immediate rather than delayed. This pattern is consistent with the price-reduction-driven impulsive buying observed among Gen Z consumers in the present study. Therefore, offering discounts can increase the likelihood of unplanned purchases among Gen Z consumers in live-streaming e-commerce.

Although visual merchandising was significantly correlated with impulsive buying behaviour, the result shows it does not have a significant effect in the multiple regression model. This is consistent with Basu et al. (2022), who noted that the influence of visual merchandising on impulse buying is contingent on contextual and individual factors, which may explain why visual displays do not always translate into a significant independent effect once other variables are accounted for. This finding nonetheless differs from earlier studies that reported visual merchandising has a strong influence on impulse buying behaviour (Yang et al., 2022).

Conclusion

This research examined how trustworthiness, expertise, visual merchandising, and sales promotion affect Gen Z consumers impulsive buying behaviour in live-streaming e-commerce in Selangor. Correlation analysis result confirmed that all four variables are

significantly related to impulse buying. However, when regression analysis was applied, only three variables remained significant, namely trustworthiness, expertise, and sales promotion. Expertise emerged as the strongest predictor. Visual merchandising, although correlated, was not significant in regression, suggesting that its effect is already explained by other interpersonal and promotional factors. The strong effect of expertise indicates that streamer knowledge and skill in presenting a product are important in shaping consumer purchase behaviour. Trustworthiness is also crucial, as building consumer confidence through honesty, consistency, and transparency encourages buying decisions. Sales promotion, especially discounts and limited time offers, was also effective in triggering impulsive purchases, which is consistent with the spending style of Gen Z consumers. The finding that visual merchandising did not remain significant in the regression model provides a new insight. In live-streaming e-commerce, static visual displays may be less important compared to interactive communication and promotional tactics. Therefore, sellers should focus more on how products are presented and promoted in real time rather than on visual layout alone. From a practical point of view, live-streaming sellers and marketers should train streamers to have good product knowledge and communication skills, maintain trust through ethical practices, and design promotional strategies that create urgency but still credible. For consumers, understanding these factors may help them make more careful and informed decisions when shopping online. Future research could extend this study by examining different demographic groups beyond Gen Z and other geographical locations to enhance generalisability. Additionally, incorporating internal psychological factors such as emotions, mood states, and impulsivity traits could provide deeper insights into the mechanisms underlying impulsive buying behaviour in live-streaming contexts. Comparative studies across different live-streaming platforms such as TikTok Live, YouTube Live could also help determine whether platform-specific features influence the relative importance of the predictors examined.

Acknowledgement

The authors would like to thank everyone who participated in this study. This research is self-funded.

Conflict of interest

The authors confirm that there is no conflict of interest involve with any parties in this research study.

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