

SALES PROMOTION, VISUAL MERCHANDISING, AND FOMO ON SHOPEE USERS IMPULSE BUYING: THE INTERVENING ROLE OF HEDONIC SHOPPING MOTIVATION

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ABSTRACT

The rapid growth of e-commerce, particularly through the Shopee platform, has encouraged the emergence of impulse buying behavior influenced by both external and internal consumer factors, such as sales promotions, visual merchandising, and Fear of Missing Out (FoMO). This issue is important to examine because it shapes the shopping behavior of students in Lowokwaru District, Malang, who are active participants in online transactions. This study aimed to analyze the effects of sales promotions, visual merchandising, and FoMO on impulse buying and hedonic shopping motivation, including the mediating role of hedonic shopping motivation in these relationships. Using a quantitative survey method, data were collected through questionnaires distributed to 100 active Shopee users in Lowokwaru District and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). FoMO shows the strongest and most dominant influence on both impulse buying and hedonic shopping motivation. Nevertheless, similar to the other variables, hedonic shopping motivation does not significantly mediate the relationship between FoMO and impulse buying. Overall, the study confirms that external stimuli play a more dominant role in shaping impulsive buying behavior than internal motivational factors. Practically, these findings suggest that Shopee marketing strategies should prioritize creating urgency-driven campaigns and social-driven promotional cues that trigger consumers' Fear of Missing Out to effectively stimulate impulse purchases.

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1. Introduction

The development of digital technology has significantly transformed modern consumption patterns. The rapid expansion of digital-based systems has encouraged people of various age groups to fulfill their daily needs through online shopping platforms.

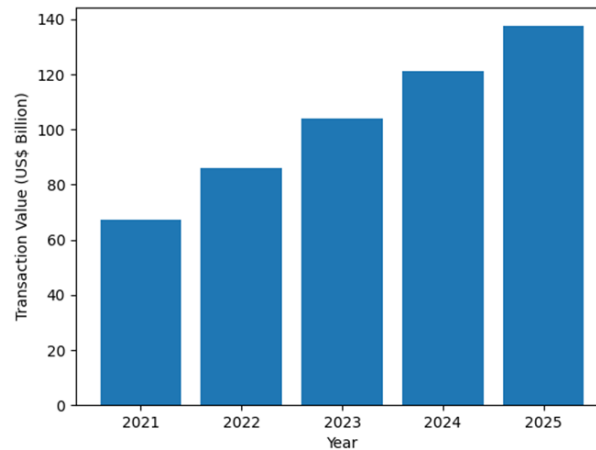


Figure 1. Growth of E-Commerce Transactions in Indonesia

Indonesia has emerged as one of the largest contributors to e-commerce growth in the Asia-Pacific region. Data from Katadata's Databoks show continuous growth in digital shopping adoption, and RedSeer projects that Indonesia's e-commerce market will reach US\$137.5 billion by 2025, driven by a consumption-based economy, a predominantly young population, digital acceleration, and a preference for convenience (RedSeer, 2025).

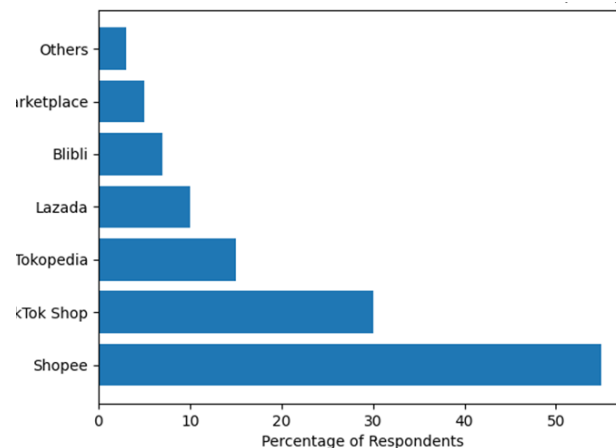


Figure 2. Most Accessed E-Commerce Platforms in Indonesia (2025)

Intense competition among e-commerce platforms encourages companies to implement persuasive marketing strategies to maintain their market share. Shopee currently dominates the Indonesian e-commerce market in terms of visits and user engagement (Katadata, 2025). The high frequency of transactions indicates that consumers are repeatedly exposed to promotional stimuli, creating a strong environment for impulse buying behavior. Impulse buying refers to spontaneous purchases made without prior planning, often driven by emotional responses rather than actual needs (Ekawati, 2024).

On the Shopee platform, impulse buying is frequently triggered by external marketing stimuli such as sales promotions and visual merchandising, as well as psychological factors like Fear of Missing Out (FoMO). Sales promotions, including flash sales, free shipping vouchers, cashback, and limited-time discounts, create urgency and encourage unplanned purchases (Paerah & Ismayanti, 2024). Visual merchandising in the form of attractive application displays, high-quality product photos, and engaging store layouts enhances consumers' emotional shopping experiences (Cahyani & Purwanto, 2022). Meanwhile, FoMO drives consumers to make

immediate purchases due to fear of missing trends or exclusive offers (Rachman et al., 2024). Hedonic shopping motivation is considered an intervening variable because consumers who shop for pleasure and emotional satisfaction tend to be more susceptible to impulsive purchases (Santi, 2025).

This study is particularly urgent in Lowokwaru District, Malang, because the area has a uniquely dense student population compared to many other urban districts. Lowokwaru is known as the educational center of Malang, hosting numerous universities and a large number of students who are digitally literate, socially connected, and highly exposed to online trends (Irfandi & Anggraeni, 2020). Students typically have strong social influence, high social media engagement, and lifestyle-oriented consumption patterns, yet often have limited financial control, making them more vulnerable to impulsive and emotionally driven purchases (Santi, 2025). These characteristics make the student population in Lowokwaru distinct from older or more economically stable consumer groups in other cities.

Previous studies reveal inconsistent findings regarding the determinants of impulse buying, indicating a clear research gap. Some studies report that sales promotions significantly influence impulse buying (Irfandi & Anggraeni, 2020), while others find that their effect on hedonic shopping motivation is weak or insignificant. Research on visual merchandising also shows mixed results; some studies find a direct effect on impulse buying, while others suggest the effect is indirect or minimal (Cahyani & Purwanto, 2022; Ismawatie & Viyani, 2024). Similarly, FoMO has been identified as a strong psychological driver in certain studies (Rachman et al., 2024), but other research suggests its effect may vary depending on motivational factors (Widodo, 2024). Furthermore, the mediating role of hedonic shopping motivation remains debated. While some studies show it strengthens the relationship between marketing stimuli and impulse buying (Suhermin et al., 2023), others indicate that it does not significantly act as an intervening variable (Santi, 2025). These inconsistencies highlight the need for further investigation, particularly within a student-dominated digital environment.

Therefore, examining the influence of sales promotion, visual merchandising, and FoMO on impulse buying with hedonic shopping motivation as an intervening variable among Shopee users in Lowokwaru District is both relevant and necessary. This study aims to clarify inconsistent findings and provide a deeper understanding of how marketing stimuli and psychological factors interact to influence impulsive buying behavior in a highly digital and student-centered context.

2. Literature Review

The rapid growth of e-commerce has significantly transformed consumer purchasing behavior, particularly in relation to impulse buying. Impulse buying refers to spontaneous purchasing decisions made without prior planning and is often driven by emotional responses rather than rational evaluation (Mandolfo, 2021). In Indonesia, this behavior has become increasingly prevalent alongside the expansion of digital marketplaces such as Shopee, especially among younger consumers who are highly responsive to online stimuli (Irfandi & Anggraeni, 2020).

This study is grounded in the Stimulus–Organism–Response (S-O-R) theory, which explains that external environmental stimuli influence an individual's internal psychological state, which in turn leads to behavioral responses (Kotler & Keller, 2021). In the context of this research, sales promotion, visual merchandising, and Fear of Missing Out (FoMO) function as stimuli (S); hedonic shopping motivation represents the organism (O); and impulse buying serves as the response (R). This framework highlights the interaction between marketing stimuli and consumers' internal emotional processes in shaping impulsive purchasing behavior.

The Effect of Sales Promotion on Impulse Buying

Sales promotion is defined as short-term incentives such as discounts, vouchers, and cashback offers designed to stimulate immediate purchases (Wahyuni & Setyawati, 2020). Promotional programs, especially those tied to special online shopping events like Harbolnas and Gajian Festival, create excitement and perceived economic benefits that enhance consumers' emotional enjoyment of shopping (Paerah & Ismayanti, 2024). These promotions not only increase the perceived value of products but also generate feelings of pleasure and thrill, which strengthen hedonic shopping motivation—the desire to shop for fun, entertainment, and emotional gratification. Sales promotion refers to consumers' perceptions of short-term incentives such as discounts, vouchers, cashback, and limited-time offers that encourage immediate purchases (Irfandi & Anggraeni, 2020).

H1: Sales promotions have a positive effect on impulse buying.

The Effect of Visual Merchandising on Impulse Buying

Visual merchandising in an online context refers to the visual presentation of products and platform interfaces, including layout design, colors, images, videos, and interactive features (Kumar & Sinha, 2021). Attractive and well-organized visual displays enhance the shopping experience by stimulating positive emotions and sensory enjoyment. Interactive elements such as animations and dynamic product presentations further increase user engagement and pleasure while browsing (Ngo et al., 2024). As a result, visually appealing e-commerce environments foster hedonic shopping motivation. Visual merchandising describes how products are visually presented in the online shopping environment, including layout design, image quality, color appeal, and promotional displays that attract consumer attention (Irfandi & Anggraeni, 2020).

H2: Visual merchandising has a positive effect on impulse buying.

The Effect of Fear of Missing Out (FoMO) on Impulse Buying

Another important stimulus influencing internal motivation is Fear of Missing Out (FoMO), defined as the anxiety that others might be experiencing rewarding events or opportunities that one is missing (Ashraf et al., 2022). In online shopping contexts, FoMO emerges when consumers see limited-time promotions, trending products, or social proof indicating that others are purchasing certain items. This psychological pressure encourages consumers to stay engaged and make purchases to avoid feelings of regret or exclusion (Rachman et al., 2024). FoMO reflects consumers' anxiety about missing valuable opportunities, limited deals, or popular products, which can create urgency in purchasing decisions (Qur'ani, 2024).

H3: Fear of Missing Out (FoMO) has a positive effect on impulse buying.

The Effect of Sales Promotion on Hedonic Shopping Motivation

Hedonic shopping motivation itself is defined as the drive to shop for enjoyment, excitement, stress relief, and emotional satisfaction rather than purely functional needs (Santi, 2025). Consumers with strong hedonic motivation are more likely to browse for pleasure, seek entertainment, and reward themselves through shopping activities. Prior studies indicate that when shopping is driven by hedonic motives, consumers are more vulnerable to impulse buying because emotional gratification overrides rational evaluation (Zhang & Li, 2020). Hedonic shopping motivation represents the internal drive to shop for pleasure, enjoyment, and emotional satisfaction, such as excitement, entertainment, and mood enhancement during browsing activities (Song, et al, 2020).

H4: Sales promotion has a positive effect on hedonic shopping motivation.

The Effect of Visual Merchandising on Hedonic Shopping Motivation

The S-O-R theory explains that visual merchandising acts as an effective stimulus that enhances hedonic shopping motivation through emotional responses, as visually appealing products can evoke pleasure and excitement. Attractive product arrangement, colors, decorations, and aesthetic layouts not only help consumers find items easily but also create an enjoyable and immersive shopping experience (Anggraeni, 2020). Previous research (Ngo et al., 2024) shows that visual merchandising and hedonic shopping motivation equally influence impulse buying.

H5: Visual merchandising has a positive effect on hedonic shopping motivation.

The Effect of Fear of Missing Out (FoMO) on Hedonic Shopping Motivation

Fear of Missing Out (FoMO) is closely related to hedonic shopping motivation, as consumers are emotionally driven to make purchases due to promotions, trends, or events, consistent with the S-O-R theory. FoMO acts as a stimulus that strengthens hedonic motivation through emotional and psychological pressure, especially when consumers feel anxious about missing popular or limited products (Deliana, 2024). As FoMO increases, consumers' hedonic motivation also rises, encouraging emotionally driven purchases to fulfill pleasure and a sense of social belonging (Yuliana et al., 2021).

H6: Fear of missing out (FoMO) has a positive effect on hedonic shopping motivation.

The Effect of Hedonic Shopping Motivation on Impulse Buying

Hedonic shopping motivation is closely linked to impulse buying, as pleasure-driven desires and emotional satisfaction often lead consumers to make spontaneous and unplanned purchases. Research (Coelho et al., 2023; Brabo et al., 2021) shows that stronger hedonic motivation significantly increases the likelihood of impulse buying, driven by excitement, trends, and emotional fulfillment. Impulse buying is defined as spontaneous and unplanned purchasing behavior driven more by emotions than rational evaluation. Impulse buying is defined as spontaneous and unplanned purchasing behavior driven more by emotions than rational evaluation (Arifin, dkk, 2020).

H7: Hedonic shopping motivation has a positive effect on impulse buying.

The Effect of Sales Promotion on Impulse Buying the Intervening of Hedonic Shopping Motivation

Sales promotions such as discounts, coupons, and limited-time offers can trigger impulse buying by creating urgency and immediate benefits. According to the SOR theory, sales promotion acts as a stimulus, hedonic shopping motivation as the organism, and impulse buying as the response. This effect is stronger when consumers seek emotional pleasure, making promotions both attractive and capable of encouraging impulsive purchases (Brabo et al., 2021).

H8: Hedonic shopping motivation mediates the effect of sales promotion on impulse buying.

The Effect of Visual Merchandising on Impulse Buying the Intervening of Hedonic Shopping Motivation

Visual merchandising, such as dramatic lighting, attractive colors, and aesthetic layouts, provides visual stimuli that evoke pleasure and enhance hedonic shopping motivation (Wahyuni & Setyawati, 2020).. Based on the SOR theory, visual merchandising acts as a stimulus, hedonic motivation as the organism, and impulse buying as the behavioral response. This effect is strengthened as consumers become emotionally engaged and more responsive to positive visual experiences, increasing the likelihood of spontaneous purchases (Ngo et al., 2024).

H9: Hedonic shopping motivation mediates the effect of visual merchandising on impulse buying.

The Effect of Fear of Missing Out (FoMO) on Impulse Buying the Intervening of Hedonic Shopping Motivation

Fear of Missing Out (FoMO) is a feeling of anxiety about missing opportunities or experiences enjoyed by others, which often leads consumers to make unplanned purchases. According to the SOR theory, FoMO acts as a stimulus, hedonic shopping motivation as the organism, and impulse buying as the behavioral response. This psychological condition increases hedonic motivation driven by pleasure and emotional satisfaction, ultimately strengthening impulsive buying behavior (Ashraf, 2022).

H10: Hedonic shopping motivation mediates the effect of FoMO on impulse buying.

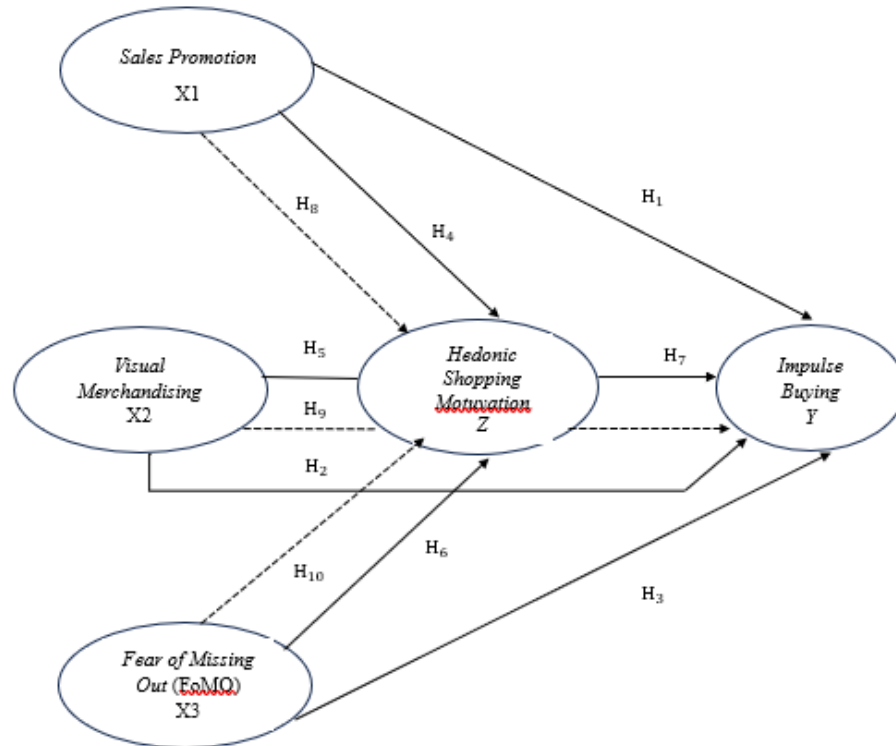


Figure 3. Research Model

The conceptual framework examines the interplay between sales promotions (X1), visual merchandising (X2), Fear of Missing Out (FoMO) (X3), hedonic shopping motivation (Z), and impulse buying (Y) to understand how these factors influence consumer behavior in the context of e-commerce. Sales promotions (X1) directly impact impulse buying (Y).

3. Research Method

This study uses an explanatory approach or explanatory research, which aims to reveal the relationship between certain variables and explain existing generalizations, as explained by Aplin et al. (2022). Specifically, this study examines the influence of Sales promotion, Visual merchandising, and also fear of missing out (FoMO) on impulse buying, with hedonic shopping motivation as an intervening variable. In terms of design, this study includes a survey that aims to obtain factual data regarding phenomena occurring in society, including economic, social, and political aspects, as well as exploring the attitudes and opinions of respondents. The location of the study was carried out in Lowokwaru District, Malang City, which was chosen because of its high population density and also the presence of active users of the e-commerce Shopee as the

object of study. The study was conducted from August to December 2025. The population of this study consisted of Shopee users in Lowokwaru District, Malang City. Because the exact number of users meeting the research criteria is unknown, a non-probability sampling approach was applied. Specifically, the study used purposive sampling, in which respondents were selected based on predetermined criteria relevant to the research objectives (Sugiyono, 2023: 215). This technique allows the sample to represent individuals who have experience with online shopping and are capable of providing information related to impulse buying behavior. The minimum sample size was set at 100 respondents, as recommended by (Hair et al, 2019), considering the presence of 20 indicators in this study to meet the standards of the path relationship model. This study examines the influence of Sales Promotion (X1), Visual Merchandising (X2), and Fear of Missing Out (FoMO) (X3) on Impulse Buying (Y), with Hedonic Shopping Motivation (Z) acting as a mediating variable.

4. Results

Shopee, founded in 2015 by Forrest Li in Singapore, has rapidly grown into a leading e-commerce platform in Southeast Asia, particularly Indonesia. Shopee emphasizes ease of use, free shipping, discounts, and a convenient payment system, along with gamification elements to increase user engagement. International expansion since 2016 has strengthened Shopee's position in the e-commerce market. This study involved 100 active Shopee respondents aged 17–41 in Lowokwaru District, Malang, who showed that impulsive buying behavior was influenced by hedonic motivation, sales promotions, visual merchandising, and the fear of missing out (FoMO). The questionnaire results show that the majority of respondents often make purchases without planning, increasing the desire to shop impulsively.

Tabel 1. Respondent Profile

Category	Description	Number of Respondents	Percentage
Age	17–21 years	57	57%
	22–26 years	22	22%
	27–31 years	6	6%
	32–36 years	8	8%
	36–41 years	7	7%
Employment Status	Students	55	55%
	Private Employees	15	15%
	Housewives	12	12%
	Others (Civil Servants, Freelancers)	8	8%
Shopping Activity on Shopee	More than 3 purchases per week	78	78%
	Less than 3 purchases per week	22	22%
Total Respondents		100	100%

Source: Research Data, (2026)

Based on the table above, the majority of respondents were aged 17–21 years, accounting for 57% of the total sample. In terms of employment status, most respondents were students, representing 55% of the respondents. Furthermore, regarding shopping activity on Shopee, 78% of respondents made purchases more than three times per week, indicating a high level of shopping activity on the platform.

Tabel 2. Outer Loadings

Variabel	Item	Nilai	Keterangan
<i>Impulse buying</i>	IB Y1	0,914	Valid
	IB Y2	0,853	Valid
	IB Y3	0,870	Valid
<i>Hedonic shopping motivation</i>	HSM Z2	0,918	Valid
	HSM Z3	0,929	Valid
<i>Sales promotion</i>	SP X1.1	0,838	Valid
	SP X1.2	0,746	Valid
	SP X1.3	0,848	Valid
	SP X1.4	0,835	Valid
	SP X1.5	0,818	Valid
<i>Visual merchandising</i>	VM X2.1	0,895	Valid
	VM X2.2	0,853	Valid
	VM X2.3	0,921	Valid
	VM X2.4	0,853	Valid
	VM X2.5	0,909	Valid
Fear of Missing Out (FoMO)	FoMO X3.1	0,877	Valid
	FoMO X3.2	0,900	Valid
	FoMO X3.3	0,891	Valid
	FoMO X3.4	0,918	Valid

Source: Processed research data, (2026)

Table 2 shows that all indicators have loading factor values >0.70 , except for HSM Z1, which was removed. This indicates that all other indicators are valid and also adequately measure their respective latent variables, thus the outer measurement model meets the convergent validity criteria.

Tabel 3. Fornell-Larcker Criterion

	FOMO	HSM	IB	SP	VM
FOMO	0,897				
HSM	0,784	0,924			
IB	0,750	0,721	0,880		
SP	0,754	0,686	0,728	0,818	
VM	0,774	0,746	0,723	0,745	0,890

Source: Processed research data, (2026)

The $\sqrt{\text{AVE}}$ value on the diagonal is higher than the correlations between the other constructs. This confirms discriminant validity, indicating that each variable is able to distinguish itself from other variables and also measures different concepts validly. Furthermore, these results demonstrate that the indicators of a construct are not highly correlated with other constructs in the model. This ensures that the statistical overlap between variables is minimal, thereby strengthening the overall integrity of the measurement model.

Referring to Table 4 regarding the direct influence of independent variables on dependent variables without going through intermediary variables, the purpose of analyzing direct effects is to determine whether a variable has a direct and significant impact on other variables in the structural model. This analysis provides a fundamental understanding of the primary relationships between the observed constructs before considering any intervening factors. By isolating these paths, the study can clearly identify which external stimuli exert the most substantial pressure on the target outcome.

Referring to Table 5 regarding the influence of an independent variable on a dependent variable that occurs through a mediating variable. The analysis of indirect effects is useful for understanding the mediating role of hedonic shopping motivation in explaining how external stimuli lead to impulse buying behavior. This step clarifies whether the psychological drive of the consumer acts as a necessary bridge that translates external triggers into actual purchasing

actions. Consequently, it offers a more nuanced view of the consumer's decision-making process by highlighting the internal mechanisms at play.

Tabel 4. Dirrect Effect

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
<i>Sales Promotion > Impulse Buying</i>	0,289	0.297	0.121	2.389	0.017
<i>Visual Merchandising > Impulse Buying</i>	0.240	0.227	0.122	1,965	0.049
<i>Fear of Missing Out (FoMO) > Impulse Buying</i>	0.346	0.353	0.114	3,032	0.002
<i>Sales Promotion > Hedonic Shopping Motivation</i>	0.106	0.111	0.107	0,994	0.320
<i>Visual Merchandising > Hedonic Shopping Motivation</i>	0,305	0,302	0,114	2,663	0,008
<i>Fear of Missing Out (FoMO) > Hedonic Shopping Motivation</i>	0,468	0,467	0,014	4,521	0.000
<i>Hedonic Shopping Motivation > Impulse Buying</i>	0,219	0,210	0,128	1,689	0,091

Source: Processed research data, (2026)

Tabel 5. Indirect Effect

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
<i>Sales Promotion > Hedonic Shopping Motivation > Impulse Buying</i>	0,023	0,026	0,031	0,733	0,463
<i>Visual Merchandising > Hedonic Shopping Motivation > Impulse Buying</i>	0,066	0,063	0,049	1,357	0,175
<i>Fear of Missing Out (FoMO) > Hedonic Shopping Motivation > Impulse Buying</i>	0,101	0,095	0,062	1,622	0,105

Source: Processed research data, (2026)

5. Discussion

The Influence of Sales Promotion on Impulse Buying

Based on the results of this study, the hypothesis was accepted. These results indicate that sales promotions can influence impulse buying. The stronger the sales promotions implemented by the e-commerce platform Shopee, the more likely it is that consumers will increase their impulsive purchasing power.

These results can also be explained through Stimulus-Response Theory (SR Theory), where sales promotions (discounts, free shipping vouchers, and other attractive promotions) function

as a stimulus provided by the e-commerce platform Shopee, which then triggers a response in the form of impulse buying among consumers in Lowokwaru District, Malang.

This research aligns with research by Irfandi & Anggraeni (2020), which showed that sales promotion regression results have a positive and significant influence on impulse buying. This means that the more attractive the sales promotion (such as a large discount or free shipping voucher), the higher the tendency of students to make impulse purchases on Shopee. Furthermore, the results of this study also support previous research by Wahyuni & Setyawati (2020), which showed that sales promotion regression results have a positive and significant effect on impulse buying. This means that sales promotions such as discounts and vouchers significantly encourage Shopee users to make impulse purchases because they offer attractive added value.

The Influence of Visual merchandising on Impulse buying

Based on the results of this study, the hypothesis was accepted. These results indicate that visual merchandising can influence impulse buying. The better the layout or visual display provided by the e-commerce platform Shopee, the more likely it is that consumers will increase their impulsive purchasing power. The results of this study can also be explained through Stimulus-Response Theory (SR Theory), where visual merchandising (product layout, slideshows, signage, and other visual elements on the Shopee platform) functions as a stimulus provided by the e-commerce platform, which then triggers a response in the form of impulse buying in consumers in Lowokwaru District, Malang.

These results align with previous research by Anggraeni (2020), which shows that visual merchandising plays a significant role in encouraging impulse buying. This indicates that store layout, product layout, signage, and other visual elements can trigger consumers to respond spontaneously to shopping stimuli. Furthermore, the results of this study support previous research by Kumar and Sinha (2021), which emphasized the importance of visual merchandising strategies in e-commerce for increasing sales, but also poses a risk of overconsumption for consumers.

The Influence of Fear of Missing Out (FoMO) on Impulse buying

Based on the results of this study, the hypothesis was accepted. These results indicate that the presence of Fear of Missing Out (FoMO) can influence impulse buying.

These results can also be explained through Stimulus-Response Theory (SR Theory), where Fear of Missing Out (FoMO), such as flash sale notifications, personalized recommendations, or social media pressure on the Shopee platform, serves as a psychological stimulus provided by e-commerce, which then triggers a response in the form of impulse buying among consumers in Lowokwaru District, Malang.

These results align with previous research by Deliana et al. (2024), which found that FoMO significantly contributes to impulse buying. This confirms the relevance of FoMO as a key psychological factor in the digital era, especially for Generation Z, who are active on social media. Furthermore, this research supports previous research by Astuti (2024), which found that FoMO significantly contributes to increased impulse buying on e-commerce platforms. This underscores the importance of understanding the consumer psychology of Generation Z in Indonesia, particularly students who actively shop online.

The Influence of Sales promotion on Hedonic shopping motivation

Based on the results of this study, this hypothesis was rejected. These results indicate that the presence of sales promotions does not affect the hedonic shopping motivation of Shopee e-

commerce users in Lowokwaru, Malang. This finding aligns with previous research by Brabo et al. (2021), which found that sales promotions did not significantly contribute to variations in hedonic motivation. Specific findings indicate that the path coefficient between sales promotions and hedonic shopping motivation is insignificant. This confirms that promotional strategies need to be combined with other elements, such as competitive pricing, to be effective.

In urban areas like Lowokwaru, which are dominated by students, hedonic shopping motivation is more driven by emotional aspects than promotions. Interviews revealed that some users were more motivated by the "pleasure of finding unique products" than promotions, supporting the finding that promotions need to be combined with other elements to strengthen hedonic shopping motivation. This research provides implications for e-commerce platforms like Shopee to focus on emotional aspects and pricing, not just promotions, to encourage sustainable impulse buying.

The Influence of Visual merchandising on Hedonic shopping motivation

Based on the results of this study, the hypothesis was accepted. These results indicate that the presence of visual merchandising can influence hedonic shopping motivation among Shopee e-commerce users in Lowokwaru, Malang. The S-O-R model explains that in the context of e-commerce, visual merchandising (product visual displays, videos, and animations) acts as an external stimulus that stimulates the consumer's organism, including hedonic shopping motivation (the pleasure of shopping).

These results align with research conducted by Ngo et al. (2024), which found that visual merchandising significantly contributes to increasing hedonic motivation on e-commerce platforms. The main finding states that visual merchandising, such as the use of high-quality product videos, interactive animations, and attractive visual displays, directly influences hedonic shopping motivation.

The Influence of Fear of Missing Out (FoMO) on Hedonic shopping motivation

Based on the results of this study, the hypothesis was accepted. These results indicate that the presence of Fear of Missing Out (FoMO) can influence Hedonic Shopping Motivation among Shopee e-commerce users in Lowokwaru, Malang. The S-O-R model explains that in the context of e-commerce, FoMO, as the fear of missing out on an opportunity or trend, functions as a psychological stimulus that stimulates the consumer's organism, similar to hedonic shopping motivation.

The results of this study align with research by Yuliana et al. (2021), which showed that FoMO significantly positively influences hedonic shopping motivation. FoMO has a direct, positive effect on hedonic motivation. Individuals with high FoMO tend to be driven to shop for pleasure, social experiences, and to reduce feelings of missing out, which in turn increases impulse buying.

The Influence of Hedonic shopping motivation on Impulse buying

Based on the results of this study, this hypothesis was rejected. These results indicate that hedonic shopping motivation does not influence impulse buying among Shopee e-commerce users in Lowokwaru, Malang.

These results align with previous research by Zhang & Li (2020). This study found that hedonic shopping motivation did not act as a significant mediator. This means that although the online environment encourages impulse buying, hedonic motivations (such as enjoyment and experience) did not significantly mediate or strengthen this relationship. However, these results are inconsistent with previous research by Coelho et al. (2023). Hedonic shopping motivation fully mediated the relationship between personal values and impulse buying. This means that personal

values encourage individuals to seek pleasure through shopping, which then increases the tendency to impulse buy.

Shopee users in Lowokwaru, Malang, tend to shop rationally and are influenced by economic factors such as budget constraints and daily needs, rather than simply the intrinsic pleasure of the shopping experience. For example, during promotions like flash sales, impulse buying often occurs due to discounts or limited product availability, rather than hedonic motivations. This aligns with the local cultural context in Malang, where the younger generation focuses more on practical and social values, so the pleasure element of visuals or experiences is not strong enough to drive impulse purchases without external stimuli.

The Influence of Sales Promotion on Impulse Buying with Hedonic Shopping Motivation as an Intervening Variable

Based on the results of this study, this hypothesis was rejected. These results indicate that hedonic shopping motivation does not mediate the relationship between sales promotions and impulse buying among Shopee e-commerce users in Lowokwaru, Malang. Shopee e-commerce users in Lowokwaru District, Malang, are often influenced by sales promotions such as large discounts or flash sales that offer immediate financial benefits, thus encouraging impulsive buying without involving hedonic motivations such as the pleasure of shopping.

These results align with previous research by Brabo et al. (2021), which demonstrated that hedonic shopping motivation does not mediate the influence of sales promotions on impulse buying. The mediation test showed an insignificant effect, meaning that sales promotions directly trigger impulse buying without using hedonic motivation as an intermediary.

The Influence of Visual Merchandising on Impulse Buying with Hedonic Shopping Motivation as an Intervening Variable

Based on the results of this study, this hypothesis was rejected. These results indicate that hedonic shopping motivation is unable to mediate the relationship between visual merchandising and impulse buying among Shopee e-commerce users in Lowokwaru, Malang. Shopee e-commerce users in Lowokwaru District, Malang, often respond to visual merchandising (attractive product images or a simple interface) with impulse purchases driven by utility aspects (price information or stock availability) rather than hedonic motivations (aesthetic pleasure or excitement).

These results align with previous research by Kumar & Sinha (2021), which showed no evidence of the mediating role of hedonic shopping motivation. The indirect effect through hedonic shopping motivation was found to be insignificant, indicating that hedonic shopping motivation does not mediate the relationship between visual merchandising and impulse buying in an e-commerce context. Instead, other factors such as utility aspects or situational cues may play a stronger role. This contrasts with research conducted by Ngo et al. (2024) which showed that mediation analysis confirmed that hedonic shopping motivation mediates the relationship between visual merchandising and impulse buying. This mediation effect underscores that visual merchandising stimulates hedonic motivation.

The Influence of Fear of Missing Out (FoMO) on Impulse Buying with Hedonic Shopping Motivation as an Intervening Variable

Based on the results of this study, this hypothesis was rejected. These results indicate that hedonic shopping motivation is unable to mediate the relationship between fear of missing out (FoMO) and impulse buying among Shopee e-commerce users in Lowokwaru, Malang. Shopee e-commerce users in Lowokwaru District, Malang, often experience fear of missing out (FoMO)

through flash sale notifications or limited-time products, which directly encourage impulsive purchases without involving hedonic motivations such as the pleasure or excitement of shopping.

The results of this study align with research conducted by Ashraf et al. (2024). The mediating role of hedonic shopping motivation in the relationship between FoMO and impulse buying was not proven. This indicates that hedonic shopping motivation does not mediate the impact of FoMO on impulse buying. Conversely, FOMO has a direct and significant influence on impulse buying, without the mediation of hedonic motivation. Meanwhile, research conducted by Yuliana et al. (2021) found the opposite. Hedonic shopping motivation mediated the relationship between FOMO and impulse buying. This means that FOMO drives hedonic shopping motivation (such as pleasure, excitement, and the social experience of shopping), which in turn increases the tendency to make impulsive purchases.

6. Conclusion

This study highlights that impulse buying behavior in e-commerce is influenced more strongly by external stimuli and psychological urgency than by hedonic enjoyment alone. Sales promotions were found to directly encourage spontaneous purchases, showing that consumers often respond to perceived economic benefits rather than purely emotional motives. Visual merchandising enhanced both shopping enjoyment and impulse buying, yet its effect was driven not only by aesthetics but also by the clarity and attractiveness of product presentation. Fear of Missing Out (FoMO) emerged as the most powerful psychological driver, pushing consumers to make immediate purchasing decisions due to feelings of urgency and concern about losing opportunities. Interestingly, hedonic shopping motivation did not play a dominant mediating role, suggesting that pleasure-oriented motives are not always sufficient to trigger impulse buying without strong situational cues. These findings provide a new perspective within the Stimulus–Organism–Response framework by demonstrating that the internal emotional state does not always serve as the main pathway linking marketing stimuli to impulsive behavior. However, this study is limited to a specific regional context and relies on self-reported data, which may affect generalizability. Practically, e-commerce platforms can optimize promotional strategies, visual presentation, and urgency cues to stimulate consumer response, while still considering ethical boundaries and consumer well-being. Future research should investigate additional psychological or situational factors and expand the scope to different platforms and populations to deepen understanding of online impulse buying behavior.

Ethical Considerations

In this study, the authors upheld ethical research principles by ensuring that all participants were provided with clear information regarding the purpose of the study, the procedures involved, and their right to refuse or discontinue participation at any time without consequence. The confidentiality of respondent data was strictly maintained, and personal information was not used for purposes other than research analysis. All research procedures were conducted in accordance with academic ethical standards to respect the rights and privacy of participants.

Author Contribution

All authors contributed to the development and writing of this article. The first author contributed to data collection, data analysis, and preparation of the initial draft of the manuscript. The second author contributed to the conceptualization, research design, and study supervision. The third author contributed to the development of the theoretical framework, methodology, and

validation of the results. In addition, all authors were involved in reviewing and editing the manuscript and have read and approved the final version for submission.

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