International Journal of Electronic Commerce Studies
Vol.17, No.1, pp.1-28, 2026
doi: 10.7903/ijecs.2590

Clicks, Crowds, and Cues: Integrating Theory of Planned Behavior, Herding, and Signaling to Explain Generation Z's Impulsive Buying in Social Commerce

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ABSTRACT

Generation Z's increasing engagement in social commerce (s-commerce) and their propensity for impulsive purchases motivated this study. S-commerce platforms with interactive social features significantly influence unplanned buying decisions. This study aimed to investigate the factors driving Generation Z's impulsive purchasing in s-commerce by integrating the Theory of Planned Behavior (TPB), herding behavior, and signaling theory. It specifically examined the roles of subjective norms, perceived behavioral control (PBC), fear of missing out (FoMO), online trust, and imitation. A quantitative approach was adopted using survey data from 362 Generation Z social commerce users, and the hypotheses were tested using Partial Least Squares Structural Equation Modeling (PLS-SEM). The results showed that subjective norms, PBC, and FoMO positively impacted impulsive purchases. Imitating others mediated the link between FoMO and impulsive purchases, and online trust mediated the relationship between PBC and impulsive purchases. The study concluded that Generation Z's impulsive buying in s-commerce results from a complex interplay of social pressures, psychological states, and platform-induced trust, highlighting the value of an integrated theoretical framework. This study offers insights for s-commerce platforms and marketers targeting this demographic.

Keywords: Generation Z, Social Commerce, Impulsive Buying, Theory of Planned Behavior, Signaling Theory

1. INTRODUCTION

Generation Z, born between 1997 and 2012, represents a cohort of digital natives who have grown up in an era dominated by social media, smartphones, and e-commerce [1]. Compared with previous generations, they exhibit distinct purchasing behaviors, driven by their preference for immediacy, interactive technology, and peer validation. Social commerce (s-commerce), an emerging subset of e-commerce, has amplified these tendencies [2]. By integrating social media features such as reviews, likes, and recommendations into online shopping platforms, s-commerce creates an environment that fosters impulsive purchasing [3]. Impulsive buying, characterized by unplanned and emotion-driven purchasing decisions, has been identified as a dominant behavior among Gen Z in digital marketplaces.

The unique characteristics of s-commerce platforms, such as instant feedback, social validation, and real-time interaction, have shifted the dynamics of consumer behavior. Features such as flash sales, trending product lists, and peer endorsements amplify the psychological triggers of impulsive buying, particularly for Generation Z, who are highly susceptible to social influence and the fear of missing out (FoMO) [4]. These platforms also leverage signaling mechanisms, such as product ratings and verified reviews, to reduce information asymmetry and enhance consumer trust, further driving purchase decisions [5]. Given the growing significance of s-commerce and its impact on consumer behavior, understanding the psychological and social mechanisms that drive impulsive purchases in this context is crucial.

Introduced by Ajzen [6], the Theory of Planned Behavior (TPB) offers a strong framework for comprehending impulsive purchasing behavior by emphasizing three fundamental components: attitudes, subjective norms, and perceived behavioral control (PBC). Subjective norms are particularly crucial in s-commerce, as they represent social pressures to perform or avoid specific actions, given that peer influence and social validation are amplified via likes, shares, and comments [7]. Signaling techniques, including ratings and reviews, which lower ambiguity and increase trust, affect PBC, which reflects people's belief in their capacity to decide on a purchase.

Herding behavior, a notion intimately related to subjective norms, occurs when customers copy the buying behavior of others to fit social expectations or prevent losing out on trends [8]. Often, this behavior is driven by FoMO,

a psychological condition defined by the dread of being left out of social events [9]. Studies indicate that FoMO significantly affects impulsive purchases in digital settings, as consumers feel driven to acquire items that are popular or trendy [10]. Signaling theory further supports the TPB by focusing on how signals, such as verified reviews and large sales numbers, improve customers' perceived trust and control, thereby enabling rapid decision making [11, 12].

Notwithstanding these developments, especially in the fast-changing s-commerce sector, the interaction of the TPB, herding behavior, and signaling theory in the context of Generation Z's impulsive purchases remains underexplored. Although well researched in many consumer settings, TPB, herding behavior, and signaling theory provide little integration to clarify impulsive purchases in s-commerce. Existing research has concentrated chiefly on individual elements, such as subjective norms or PBC, without considering their synergistic impact on impulsive purchasing behavior. Furthermore, while swarming behavior and FoMO are acknowledged as important motivators of impulsive purchases, research still lacks knowledge on the mediating effects of ideas such as online trust and imitation of others. Finally, most studies have regarded Generation Z as a homogeneous generation, ignoring the particular psychological and social factors shaping their s-commerce activities.

By integrating TPB, herding behavior, and signaling theory into a thorough framework meant to clarify impulsive buying behavior among Generation Z in s-commerce, this study aims to fill these gaps. In particular, this study examines how subjective standards, PBC, FoMO, online trust, and mimicking others drive impulsive purchases. This study aims to provide a better understanding of the psychological and social dynamics influencing customer behavior in digital markets.

The remainder of this paper is organized as follows. The introduction describes the background, literature review, research gaps, goals, and organization. The literature review expands on these theoretical underpinnings and assumptions. The methodology describes the data collection technique, measurement scales, and study design. The results show the PLS-SEM analysis outcomes, as well as the findings and discussion. The

conclusion addresses the future research objectives, contributions, limitations, and consequences.

2. LITERATURE REVIEW

2.1. Theoretical framework

Due to their significant usage of digital platforms for buying choices, Generation Z (born between 1997 and 2012) has become a key generation in the social commerce ecosystem [1]. Primarily motivated by their dependence on user-generated content, peer influence, and the curated immediacy provided by s-commerce platforms, Generation Z has a greater tendency to make impulsive purchases than other generations [3, 13]. Impulsive purchasing is defined as unplanned, instant purchases spurred by emotional or social signals rather than logical decision-making [14]. Social commerce platforms increase these signals for Generation Z through their interactive elements, such as reviews, likes, and recommendations, thus promoting impulsive buying behavior.

Introduced by Ajzen [6], the Theory of Planned Behavior offers a strong theoretical foundation for understanding impulsive buying behavior. The TPB holds that attitudes, subjective norms, and perceived behavioral control shape behavioral intentions. In s-commerce, where peer influence and social validation are magnified by likes, shares, and comments, subjective norms—social pressures felt by an individual—are more important [15]. Equally important in impulsive purchases is perceived behavioral control, which reflects a person's capacity to perform a behavior. Generation Z often assesses their confidence in making informed decisions based on signals such as product reviews and ratings.

By considering the influence of information asymmetry on consumer decision-making, signaling theory enhances the TPB [16]. Signals such as product ratings, sales volume, and online reviews in s-commerce help lower perceived uncertainty by providing customers with hints about product quality and reliability. In this sense, perceived behavioral control is improved when consumers read these signals as believable, hence lowering their decision-making anxiety [17].

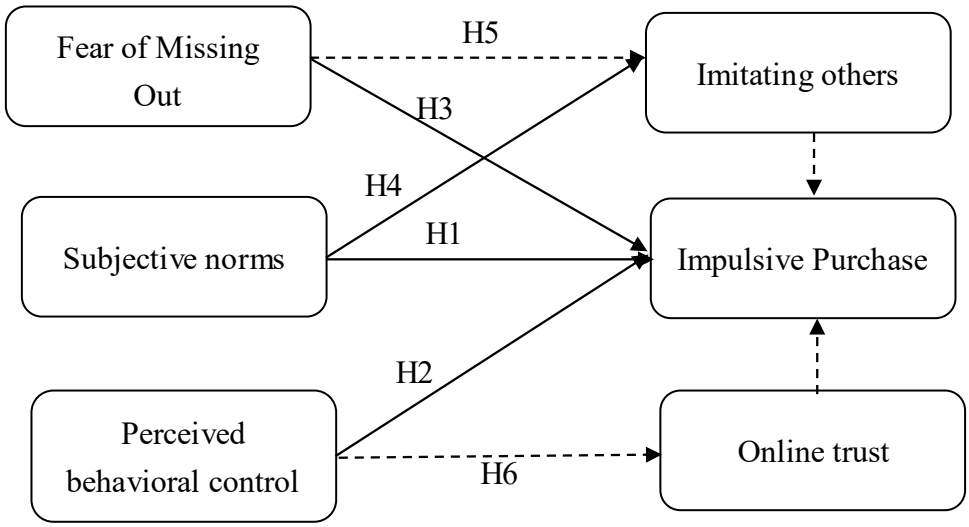

Figure 1. The theoretical framework

Often motivated by the Fear of Missing Out need for social conformity, consumers follow the acts of others, hence generating herding behavior strongly tied to subjective norms [18, 19]. Particularly among Generation Z, their tendency to mimic others' buying behaviors to fit current trends increases their vulnerability to herding behavior, as this anxiety amplifies [20]. As Generation Z seeks social approval and rapid pleasure via their purchasing choices in s-commerce settings, subjective norms and FoMO together provide a rich ground for impulsive purchases [21].

The study framework is shown in Figure 1, which combines the Theory of Planned Behavior (TPB), signaling theory, and herding behavior.

2.2. Research Hypotheses development

Reflecting a person's view of social pressure to engage or not engage in an activity, subjective norms have a significant impact on Generation Z's impulsive buying habits in social commerce [22]. This impact is a result of the natural social character of this generation, which is profoundly ingrained in online communities and is very sensitive to peer pressure and the views of influencers [23]. By their nature, social commerce platforms magnify these social signals via tools such as likes, comments, shares, and product evaluations, hence fostering an atmosphere where social validation and conformity are top priorities [24]. Therefore, the impression that important others—friends, family, influencers—approve of or participate in impulsive

purchasing practices on social commerce platforms is supposed to be favorably linked to a person's own impulsive buying habits. Hence, this study proposes the following hypothesis (H1):

> **H1:** Subjective norms positively impact the impulsive purchase of Generation Z in Social Commerce.

Perceived behavioral control, or a person's conviction in their capacity to carry out a particular activity, is also important in influencing Generation Z's impulsive purchase choices in social commerce settings [25]. People who believe they have a great deal of control over their buying behavior are more likely to engage in impulsive purchases because they feel confident in their ability to manage the potential consequences of their actions [26]. Access to sufficient financial resources, knowledge of the platform's buying procedure, and confidence in one's capacity to return or exchange undesired items might all contribute to this feeling of control. Moreover, the simplicity and convenience of social commerce platforms, with features such as one-click buying and mobile payment choices, might increase the feeling of perceived behavioral control even more, thereby enabling people to follow their impulsive desires [13]. Hence, this study proposes the following hypothesis (H2):

> **H2:** Perceived behavioral control positively impacts the impulsive purchase of Generation Z in Social Commerce.

Among Generation Z in social commerce, fear of missing out—a widespread social concern defined by the need to be constantly connected with what others are doing—is anticipated to be a strong motivator for impulsive purchases [27, 28]. The never-ending flow of information and social comparisons on these platforms may create anxiety and haste, which drives people to buy impulsively to prevent feeling left out or cut off from the most recent experiences and trends. Social commerce sites typically use this concern to increase the need to buy immediately by using strategies such as limited-time promotions, flash deals, and social proof (e.g., highlighting product popularity) [29]. Emotional involvement may be increased by the interactive exchanges and community-building features of social media platforms, which motivate impulsive purchases [30]. Hence, this study proposes the following hypothesis (H3):

> **H3:** FoMO positively impacts the impulsive purchases of Generation Z in Social Commerce.

Subjective norms also shape Generation Z's desire to emulate others in the social commerce environment beyond direct impulsive buying. Particularly in this age, which highly values peer approval and belonging, this imitation—driven by a need for social acceptability and conformity—is noticeable [31]. Social commerce platforms provide many opportunities for observation and imitation, with users regularly exposed to the buying patterns, product preferences, and lifestyle choices of their peers and influencers [24]. The visible and interactive nature of these platforms helps to spread social norms even further by enabling people to mimic the actions and attitudes of others around them. Hence, this study proposes the following hypothesis (H4):

> **H4:** Subjective norms positively impact the imitation of others in Generation Z in Social Commerce.

It is further suggested that, as a result of social influence, imitating others may moderate the association between FoMO and impulsive purchasing behavior among Generation Z in social commerce [32]. FOMO's accompanying anxiety and haste might push people to carefully watch and copy the buying habits of others, especially those they believe are "in the know" or have desired lives [33, 34]. Imitating helps people reduce their anxiety and feel more connected to their social groups, thereby dealing with their situation. People may lower the uncertainty and risk connected with impulsive purchases by watching and copying the buying choices of others, thus increasing their likelihood of participating in such activities. Furthermore, the desire to imitate influencers and the appeal of consumerism may serve as mediating variables between contact with influencers and followers' buying intentions [35, 36]. Hence, this study proposes the following hypothesis (H5):

> **H5:** Imitating others positively mediates the relationship between FoMO and impulsive purchases.

Among Generation Z, online trust—the faith in the trustworthiness and integrity of the social commerce platform and its vendors— was anticipated to moderate the link between perceived behavioral control and impulsive purchasing behavior [37]. People are more inclined to trust the platform and its providers when they are confident in their ability to navigate the system,

make informed purchasing decisions, and address any potential issues. This confidence makes people more ready to participate in impulsive purchases because it lowers the perceived danger [38, 39]. A consumer's cognitive and emotional responses in the online realm are powerfully shaped by their impression of ease, which influences their impulsive purchasing habits [13]. Research on online platforms has shown that trust formation strategies can enhance patient satisfaction [33]. Hence, this study proposes the following hypothesis (H6):

> **H6:** Online trust positively mediates the relationship between perceived behavioral control and impulsive purchases.

3. RESEARCH METHOD

3.1. Measurement Scales

Six components were assessed to explore Generation Z's impulsive buying behavior in social commerce: Online Trust (OT), Imitating Others (IO), Fear of Missing Out (FoMO), Impulsive Purchase (IP), Perceived Behavioral Control (PBC), and Subjective Norms (SN). Established scales from previous studies were used to assess each component, which were modified to suit the social commerce setting. To ensure content validity and cultural relevance, all adapted measurement items underwent a two-stage validation. First, three experts in consumer behavior and social commerce reviewed the questionnaire to assess its construct clarity and contextual relevance. Minor revisions were made according to their feedback. Second, a pilot test with 30 Generation Z respondents was conducted to evaluate the clarity and reliability of the questionnaire. The results confirmed that all items were understandable and reliable, supporting their suitability for the full-scale data collection. A format well known for its simplicity and capacity to capture degrees of agreement, all questions were assessed on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree).

The scale for Online Trust comprised three items taken from Khoa and Thanh [40], Jadil, et al. [41]. The sample items included "This platform shows integrity in its transactions," and "I believe the data given on this social commerce platform."

The three-item scale of Imitating Others was adapted from Mohd-Any, et al. [42]. “I usually buy things others suggest on social media,” and “I tend to follow trends depending on what others are buying” are among the sample items.

We utilized a four-item scale of Fear of Missing Out, modified from Nurmalasari, et al. [14]. Among the sample items: “I feel the need to buy things right now when others do” and “I feel worried when I see others buying things I do not own.”

A three-item scale modified from Ajzen [6] was used to assess Perceived Behavioral Control. “I can quickly locate the information required to make a purchase” and “I feel certain in making buying decisions on social commerce platforms” are among the sample items.

Subjective norms gauge the perceived social pressure to participate in specific activities. Ajzen [6] provided the three-item scale. Among the example items are “People I value think I should buy products from social commerce platforms” and “I feel social pressure to purchase products that others recommend.”

Adapted from Nurmalasari, et al. [14], the three-item scale of Impulsive Purchase. Among the sample items are “I sometimes buy things on social commerce platforms without prior planning” and “I buy things impulsively when I see good reviews online.” This scale reflects the fundamental traits of impulsive buying in highly interactive digital environments.

3.2. Data collection

Given their notable presence on social commerce sites and their tendency for impulsive purchases, the research focused on Generation Z (those born between 1997 and 2012). Using a purposive selection approach, a sample of 362 respondents was chosen to guarantee the inclusion of those who were actively involved in online purchasing. For structural equation modeling, the recommended sample size is at least 10 responses per variable [43]. The sample size exceeded the advised limit, as the investigation had six constructions, totaling 18 items.

The altered measurement scales served as the basis for the questionnaire design. The questionnaire consisted of three parts: (1) demographic data, (2)

social commerce use frequency, and (3) questions assessing the constructs. Originally written in English, the questionnaire was translated into Vietnamese to guarantee intelligibility for native Vietnamese speakers. A back-translation method was used to preserve accuracy.

Popular with Generation Z, social networking sites such as Instagram, Facebook, and Zalo helped to attract participants. Respondents had to have made at least one purchase on a social commerce site in the last six months to qualify for the study. This ensured that all those involved had relevant experience with the subject under investigation. The answers were checked for consistency and completeness after the data collection. Of the thirty-five missing replies, 362 legitimate replies remained in the final dataset. The Mahalanobis distance was also used to examine outliers and response biases, and no notable abnormalities were found.

The respondents' descriptive data are presented in Table 1. The sample provided a complete picture of Generation Z's behavior in social commerce by varying in terms of gender, age, educational level, and buying frequency. The gender distribution reflects a slightly higher representation of females, consistent with prior research indicating that females are more likely to engage in online shopping than males. Most respondents (60.2%) were aged between 21 and 25 years, aligning with the study's focus on Generation Z. Education levels were predominantly undergraduate (52.5%), reflecting the demographic's engagement with higher education. In terms of purchase frequency, most respondents (51.1%) reported making 1–3 purchases per month on social commerce platforms, highlighting their active participation in online shopping.

Table 1. Demographic Characteristics of Respondents

Variable	Frequency	Percentage
Gender		
Female	207	57.20%
Male	155	42.80%
Age		
18–20 years	81	22.40%
21–25 years	218	60.20%

Variable	Frequency	Percentage
26–30 years	63	17.40%
Education Level		
High School	78	21.50%
Undergraduate	190	52.50%
Graduate/Postgraduate	94	26.00%
Frequency of Purchase		
Less than once a month	89	24.60%
1–3 times a month	185	51.10%
More than 3 times a month	88	24.30%

4. RESULTS

4.1. Measurement Model Evaluation

Internal consistency reliability assesses the degree of interrelationship among items that measure the same concept. Cronbach's Alpha and Composite Reliability (CR) were used for this evaluation. Convergent validity verifies that a group of indicators reflects a single underlying concept by examining outer loadings and Average Variance Extracted (AVE).

All the constructs showed outstanding internal consistency and dependability, as shown in Table 2. Cronbach's alpha (CA) ranged from 0.771 (IO) to 0.864 (OT). These values are clearly above the generally recognized criterion of 0.70 [44, 45], suggesting that the items within each scale consistently assessed the particular constructs. Moreover, the Composite Reliability (CR) ratings, which provide a stronger measure of internal consistency in PLS-SEM because they include different item loadings, were outstanding. Ranging from 0.867 (IO) to 0.908 (OT), all over the suggested benchmark of 0.70 and several beyond the more rigorous barrier of 0.80, the CR values indicated a high degree of dependability [46].

These findings strongly support convergent validity. First, the outside loadings for all single-indication items were examined. Table 2 reveals that the lowest and maximum outer loadings for every build were much over the threshold value of 0.708. Specifically, Online Trust's outer loadings varied from 0.790 to 0.877; Imitating Others' from 0.795 to 0.855; Fear of Missing

Out's from 0.791 to 0.878; Impulsive Purchase from 0.842 to 0.888; Perceived Behavioral Control's from 0.816 to 0.890; and Subjective Norms' from 0.842 to 0.885. These high loadings show that every item significantly helps to measure its intended latent construct and shares a considerable amount of variance.

Table 2. Convergent Validity and Internal Consistency Reliability Results

Construct	Outer Loadings	CA	CR	AVE
OT	0.790 – 0.877	0.864	0.908	0.712
IO	0.795 – 0.855	0.771	0.867	0.685
FoMO	0.791 – 0.878	0.794	0.880	0.709
IP	0.842 – 0.888	0.831	0.898	0.747
PBC	0.816 – 0.890	0.798	0.882	0.713
SN	0.842 – 0.885	0.838	0.902	0.755

The Average Variance Extracted (AVE) for every build was then computed. The AVE indicates the average degree of variation a concept collects from its indicators compared to the amount attributable to measurement error. All AVE values, as shown in Table 2, surpassed the suggested minimum value of 0.50. Online Trust had an AVE of 0.712, Imitating Others 0.685, Fear of Missing Out 0.709, Impulsive Purchase 0.747, Perceived Behavioral Control 0.713, and Subjective Norms 0.755. These findings imply that, on average, more than 68% of the variation in the indicators for each construct was accounted for by the constructs themselves. This strongly supports the sufficiency of the measurement model in efficiently capturing the relevant constructs and demonstrates convergent validity.

A strong technique for evaluating discriminant validity in variance-based SEM [47], this study used the Heterotrait-Monotrait (HTMT) ratio of the correlation criterion. All HTMT values, as shown in Table 3, are well below the conservative criterion of 0.85, hence verifying excellent discriminant validity among the constructs. Between Online Trust (OT) and Impulsive Purchase (IP), the highest HTMT value recorded was 0.791. Other significant numbers include 0.789 between Fear of Missing Out (FoMO) and IP, and 0.764 between Perceived Behavioral Control (PBC) and IP. The HTMT values of the other construct pairings were also much lower, including 0.703 between PBC and Imitating Others (IO), 0.672 between FoMO and OT, and

0.629 between FoMO and IO. Emphasizing the empirical uniqueness of these notions, the lowest HTMT value recorded was 0.527 between IO and Subjective Norms (SN). Given that the HTMT values are far below the 0.85 standard, this strongly supports the theory of separation and non-overlapping of the constructs in this investigation.

These findings guarantee that every concept covers a particular component of Generation Z's impulsive buying behavior in the social commerce context, hence providing solid proof of discriminant validity for the constructs. The measurement model was verified to be strong and appropriate for further structural model analysis when combined with the previously defined convergent validity and dependability.

Table 3. Heterotrait-Monotrait Ratio (HTMT) Results

Construct	FoMO	IO	IP	OT	PBC	SN
FoMO						
IO	0.629					
IP	0.787	0.789				
OT	0.672	0.637	0.791			
PBC	0.615	0.703	0.764	0.678		
SN	0.626	0.527	0.76	0.653	0.573	

4.2. Structural Model Evaluation

Collinearity was assessed by examining the Variance Inflation Factor (VIF) values for each set of predictor constructs in the structural model. As shown in Table 4, all VIF values are well below the conservative threshold of 3.3, with the highest VIF being 1.947 for OT predicting IP. Other notable VIF values include 1.824 for FoMO predicting IP and 1.783 for PBC predicting IP. These low VIF values indicate that multicollinearity is not a concern in the structural model. Consequently, the path coefficients can be reliably interpreted without concerns about inflated standard errors or misleading results due to correlations among the predictors.

Effect size f^2 was calculated to assess the relative importance of each predictor construct in explaining the variance in endogenous constructs. As shown in Table 4, for IP, FoMO had a negligible effect ($f^2 = 0.081$), followed closely by SN ($f^2 = 0.086$) and IO ($f^2 = 0.074$). PBC had a negligible effect ($f^2 = 0.041$),

whereas OT had the most minor contribution ($f^2 = 0.052$). For IO, FoMO had a medium effect ($f^2 = 0.169$), whereas SN had a negligible effect ($f^2 = 0.046$). Finally, for OT, PBC had a significant effect ($f^2 = 0.459$), highlighting its significant role in fostering online trust. These results provide critical insights into the varying contributions of predictors, with FoMO and SN emerging as key drivers of impulsive purchasing behaviors.

Table 4. Collinearity Statistics, f^2, R^2, and Q^2

Endogenous Construct	Predictor Construct	VIF	Effect Size (f^2)	R^2	Q^2
IP	SN	1.639	0.086		
	PBC	1.783	0.041		
	FoMO	1.824	0.081	0.642	0.433
	IO	1.695	0.074		
	OT	1.947	0.052		
IO	SN	1.396	0.046	0.301	0.194
	FoMO	1.396	0.169		
OT	PBC	1.000	0.459	0.315	0.225

The coefficient of determination (R^2) measures the proportion of variance in an endogenous construct that its predictors explain. In Table 4, the R^2 value for IP was 0.642, indicating that SN, PBC, FoMO, IO, and OT collectively explained 64.2% of the variance in impulsive purchases. This represents a substantial level of explanatory power (Hair et al., 2019). For IO, the R^2 value was 0.301, meaning that SN and FoMO explained 30.1% of the variance in IO, which is considered to have moderate explanatory power. Finally, for OT, the R^2 value was 0.315, suggesting that PBC explains 31.5% of the variance in OT, reflecting moderate explanatory power. These findings underscore the model's ability to explain significant portions of the variance in impulsive purchasing behavior and its underlying mechanisms.

The Stone-Geisser Q^2 value, calculated using a blindfolding procedure with an omission distance of seven, evaluates the predictive relevance of the model. In Table 4, the Q^2 value of IP was 0.433, indicating that the model has a strong predictive relevance for impulsive purchasing behavior. For IO, the Q^2 value was 0.194, confirming a moderate predictive relevance for this construct. Similarly, for OT, the Q^2 value was 0.225, further supporting the predictive

relevance of the model. As all Q^2 values were well above zero, the results validated the model's capability to predict reflective endogenous constructs effectively. These findings reinforce the robustness of the structural model in capturing the psychological, social, and trust-related factors underlying impulsive purchasing behaviors.

In Table 5, the analysis of the direct relationships in the structural model reveals significant pathways influencing IP. Among the predictors, FoMO exhibited the most substantial direct effect ($\beta = 0.230$, $t = 3.566$, $p < 0.001$), highlighting its critical role as a psychological driver of impulsive purchases. This suggests that individuals experiencing heightened FoMO are more likely to engage in impulsive purchases to alleviate their fear of being excluded or missing out on desirable opportunities. SN also had a substantial direct impact on IP ($\beta = 0.225$, $t = 3.719$, $p < 0.001$), indicating that social influence significantly shapes impulsive purchasing behavior, especially in environments where peer expectations and societal pressures are prominent. Additionally, PBC significantly influenced IP ($\beta = 0.161$, $t = 3.395$, $p < 0.001$), demonstrating that the perception of control over purchasing decisions contributes to impulsive tendencies. The strongest direct relationship in the model was observed between PBC and OT ($\beta = 0.561$, $t = 13.458$, $p < 0.001$), underscoring the importance of fostering perceived control in cultivating trust in social commerce models.

Table 5. Structural Model Path Coefficients and Hypothesis Testing Results

Path	β	t-value	p-value	Decision
SN -> IP	0.225	3.719	<0.001	Supported
PBC -> IP	0.161	3.395	<0.01	Supported
FoMO -> IP	0.230	3.566	<0.001	Supported
SN -> IO	0.213	3.25	<0.01	Supported
FoMO -> IO -> IP	0.086	3.638	<0.001	Supported
PBC -> OT -> IP	0.107	4.788	<0.001	Supported
Direct: PBC -> OT	0.561	13.458	<0.001	

The analysis of the mediating effects highlights the importance of intermediate constructs in explaining the pathways to IP. The indirect effect of FoMO → IO → IP ($\beta = 0.086$, $t = 3.638$, $p < 0.001$) underscores the role of imitative behavior as a mediator, suggesting that individuals experiencing FoMO are more likely to engage in impulsive purchases through social comparison and mimicry of others' behaviors. Similarly, the indirect effect of PBC → OT → IP ($\beta = 0.107$, $t = 4.788$, $p < 0.001$) highlights the mediating role of online trust. This indicates that PBC indirectly drives impulsive purchasing by fostering trust in the social commerce environment, which, in turn, influences purchase decisions. These mediating effects emphasize the interconnectedness of psychological, social, and trust-related factors in shaping impulsive purchasing behavior, providing deeper insights into the mechanisms underlying Generation Z's behavior in social commerce.

4.3. Discussion

This study investigates Generation Z's impulsive buying behavior in social commerce from the perspectives of the Theory of Planned Behavior (TPB), herding behavior, and signaling theory. The study results provide a detailed analysis of how factors, including subjective standards, perceived behavioral control, fear of missing out (FoMO), online trust, and mimicking others, promote impulsive purchases in s-commerce. These findings complement and expand on previous studies, enhancing the understanding of the psychological and social factors influencing customer behavior in digital marketplaces.

The notable impact of subjective norms on impulsive purchases (H1) highlights the importance of peer influence and social validation in s-

commerce contexts. In line with Muhammad, et al. [22], this study verifies that the views and suggestions of Generation Z's social networks strongly influence their purchasing choices, especially regarding aspects such as likes, comments, and shared purchases on sites such as Instagram and TikTok. This result also fits the TPB model of Ajzen [6], which underlines the importance of social pressure in forming such behavioral intention. Nevertheless, this study goes beyond earlier work by showing that subjective norms not only directly affect impulsive purchases but also motivate herding behavior, as seen by the favorable effect of subjective standards on mimicking others (H4). This result supports Rahmawati and Raharja [31], who contend that social conformity is a significant motivator of herding behavior in online settings.

The function of perceived behavioral control (H2) confirms TPB's relevance to impulsive purchase behavior in s-commerce even more. The findings show that Generation Z customers are more inclined to make impulsive purchases when they have more control over their buying decisions, enabled by simple navigation, trustworthy reviews, and safe payment methods. This result supports Lina, et al. [13], who underlined the need to lower decision-making anxiety using reliable signals, such as product ratings and validated reviews. Moreover, the mediating function of online trust (H6) increases the theoretical knowledge of PBC by combining signaling theory, which holds that trustworthy cues lower information asymmetry and boost customer confidence [13]. The present study contributes to this discussion by experimentally proving that online trust mediates the link between PBC and impulsive purchases, thus stressing the need to build trust in s-commerce systems.

Reflecting the psychological urgency Generation Z feels when exposed to limited-time offers, flash deals, and trendy items, Fear of Missing Out (FoMO) became a significant motivator of impulsive purchases (H3). This result is consistent with Duy and Khoa [29], who underlined the commonality of FoMO in social media-driven customer behavior. Furthermore, the research shows that FoMO not only affects impulsive purchasing directly but also motivates herding behavior through its notable effect on mimicking others (H5). This result corroborates Dinh, et al. [35], Alabri [36], who contend that in circumstances of ambiguity and urgency, herding behavior often acts as a heuristic for decision-making. This study enhances the literature by experimentally confirming the mediating function of copying others in the

link between FoMO and impulsive purchases, providing a more complete understanding of how social and psychological elements interact in s-commerce settings.

The results also highlight the interaction between psychological constructs and digital trust systems. The mediation function of online trust in the link between PBC and impulsive purchases (H6) emphasizes the need for trust-building techniques in s-commerce. This is in line with Lee and Kim [37], who highlighted that trust enables rapid decision-making and lowers the perceived risk. However, the present study shows that online trust not only improves PBC but also directly affects impulsive purchase behavior. The double function of online trust emphasizes its vital role in building customer confidence and boosting digital market sales.

5. CONCLUSION

5.1. Theoretical Contribution

By combining TPB, herding behavior, and signaling theory to investigate impulsive buying behavior in s-commerce, this study offers important theoretical insights. First, it broadens the TPB by adding herding behavior (through subjective norms and FoMO) and signaling theory (via PBC and Internet trust) into the paradigm. Although other studies have mainly concentrated on the fundamental TPB ideas, this study shows the need to complement the model with more ideas to grasp the complexity of consumer behavior in digital settings. The results show that subjective standards not only affect impulsive purchases directly but also motivate herding activity, hence stressing the interdependence of social and psychological elements in s-commerce. Likewise, the inclusion of signaling theory clarifies how signals that promote trust, such as product evaluations and ratings, moderate the link between PBC and impulsive purchases. These findings provide a more complete theoretical framework for understanding consumer behavior in the digital era.

Through empirical validation, this study enhances the literature on herding behavior by demonstrating its mediating function between FoMO and impulsive purchases. Although other studies have shown that FoMO is a significant motivator of impulsive purchasing, the present study offers a

better understanding of the processes by which FoMO affects behavior. This study provides new theoretical insights into the decision-making processes of Generation Z in s-commerce by demonstrating that herding behavior is a channel for converting FoMO into impulsive purchases. Furthermore, this study underlines the double function of online trust as a mediator and a direct cause of impulsive purchases, hence adding to the increasing body of research on trust in social commerce and e-commerce settings.

5.2. Managerial Implications

The results of this study have significant practical implications for s-commerce platforms, advertisers, and legislators. First, leveraging FoMO-driven interface design significantly stimulates impulsive purchasing. Given the strong influence of FoMO on impulsive buying behavior, platforms should incorporate urgency-inducing features that create time pressure and perceived scarcity in consumers. These include countdown timers for flash sales, limited stock alerts, “only a few items left” notifications, and real-time purchase updates showing how many users are currently buying a product. Live-stream shopping features with time-limited discounts and exclusive offers can intensify urgency and trigger immediate purchasing decisions among Generation Z users.

Second, activating social proof and herding mechanisms is essential. As subjective norms and imitative behavior significantly influence impulsive purchases, platforms should emphasize visible indicators of collective consumer behavior. Practical strategies include displaying “trending among users” or “popular with Gen Z” badges, showing real-time purchase counts, highlighting influencer purchases, and integrating user-generated content, such as reviews, unboxing videos, and testimonials, directly into product pages. Community-based ranking systems and live viewer counts during live commerce sessions can further reinforce social validation and encourage imitation.

Third, strengthening trust-signaling mechanisms can enhance perceived behavioral control and purchase confidence among consumers. Online trust plays a crucial role in mediating impulsive buying behavior. Therefore, platforms should implement strong trust-building features, such as verified seller badges, secure payment icons, transparent return and refund policies, and authenticity verification for customer reviews. AI-driven fraud detection

indicators and “trusted seller” certification systems can further reduce perceived risk and strengthen consumer confidence in making rapid purchase decisions.

Fourth, gamification and reward-based engagement can amplify the impulsive buying tendencies of consumers. Social commerce platforms may integrate gamified elements, such as loyalty badges, limited-time reward points, and tiered membership systems that provide exclusive deals for active buyers. Flash reward systems that offer additional discounts for immediate purchases can further reinforce impulsive decision-making.

Finally, ethical considerations should be incorporated into FOMO-based marketing strategies. Although urgency-driven tactics can increase sales, excessive psychological pressure may negatively affect consumer well-being. Platforms and marketers should balance persuasive design with responsible marketing practices by ensuring transparency, avoiding misleading signals of scarcity, and promoting informed purchasing decisions. Such balanced strategies can enhance long-term customer trust and sustainable engagement with the brand.

5.3. Limitations and Further Research

Although this study offers an insightful analysis of Generation Z’s impulsive buying behavior in social commerce, it has several drawbacks. First, the cross-sectional design of the study rules out causal conclusions. Future studies should use longitudinal designs to investigate how impulsive purchasing behavior changes over time. Second, the research concentrated only on Generation Z, hence restricting the generalizability of the results to other demographic groups. Future studies should examine whether the suggested paradigm applies to other groups, such as Baby Boomers or Millennials. Third, the research depended on self-reported data, which might be vulnerable to a social desirability bias. Using other data-gathering techniques, such as behavioral tests or clickstream analysis, could improve the strength of future results. Finally, the research was conducted in one cultural setting, which might restrict its relevance to other areas. Cross-cultural research might provide a more thorough understanding of how cultural variations impact impulsive purchase behavior in s-commerce.

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APPENDIX

APPENDIX A. Measurement scales, sources, and adaptations

All items were measured using a five-point Likert scale (1 = strongly disagree, 5 = strongly agree)

1. Online Trust (OT) (Adapted from Khoa and Thanh [40], Jadil, et al. [41])

OT1. I believe that this social commerce platform is trustworthy.

OT2. I feel confident about the reliability of the information provided on this platform.

OT3. This platform demonstrates integrity in its transactions with users.

2. Imitating Others (IO) (Mohd-Any, et al. [42])

IO1. I tend to buy products that many other users buy.

IO2. I usually follow trends when I see others purchase products online.

IO3. I often imitate the purchasing behaviors of people I follow on social media.

3. Fear of Missing Out (FoMO) (Adapted from Nurmalasari, et al. [14])

FOMO1. I feel worried when I see others buying products that I do not have.

FOMO2. I feel pressured to buy products quickly when they become popular online.

FOMO3. I feel anxious when I might miss limited-time online deals.

FOMO4. I feel the need to purchase items immediately when others are buying them.

4. Perceived Behavioral Control (PBC) (Adapted from Ajzen [6])

PBC1. I feel confident in my ability to make purchases on social commerce platforms.

PBC2. I can easily find the information needed to make purchase decisions online.

PBC3. I have sufficient control over my online purchase decisions.

5. Subjective Norms (SN) (Adapted from Ajzen [6])

SN1. People important to me think I should buy products from social commerce platforms.

SN2. My friends influence my purchasing decisions in social commerce.

SN3. I feel social pressure to buy products that others recommend online.

6. Impulsive Purchase (IP) (Adapted from Nurmalasari, et al. [14])

IP1. I often buy products on social commerce platforms without any planning.

IP2. I make spontaneous purchases when I see attractive offers online.

IP3. I tend to buy products immediately when I see good reviews or recommendations.