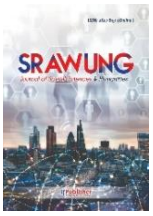

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Gen Z's Impulse Buying Behavior of Shopping through Live-Streaming Social Commerce Platforms:
Investigating the Role of Parasocial Interaction and Social Commerce Emotional Motivation

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ABSTRACT

In social commerce, consumers receive emotional motivation to purchase products because they feel familiar and bonded with the promoter, often losing track of time and self-awareness in a flow state, leading to impulse buying. As Gen Z are often presents more tendency toward impulse shopping behaviors compared to other generations, this study aims to investigate the impulse buying behavior of Generation Z (Gen Z) on live-streaming social commerce platforms, focusing on the roles of Parasocial Interaction (PSI) and Social Commerce Emotional Motivation (SCEM). Using a quantitative approach, data were collected via online surveys from individuals born between 1998 and 2007 who had made at least two unplanned purchases after watching live-streamed shopping events within four weeks. Statistical regression analysis was conducted using IBM SPSS 26.0 to explore the relationships between PSI, SCEM, and impulse buying behavior (IBB). The findings reveal that both PSI and SCEM significantly influence IBB among Gen Z consumers. Strong parasocial relationships with live-stream hosts enhance trust and connection, while emotional engagement through SCEM motivates spontaneous purchases. The study highlights the synergistic effect of PSI and SCEM, suggesting that a combined approach is most effective in driving impulse buys. This study contributes to the understanding of consumer behavior in the context of emerging social commerce trends, providing actionable insights for enhancing marketing strategies targeted at Gen Z.

Keywords: *Gen Z, Impulse Buying Behavior, Parasocial Interaction, Social Commerce Emotional Motivation*

INTRODUCTION

Social commerce, a concept that has evolved from traditional e-commerce, refers specifically to transactions that occur on social media platforms (Y. Y. Lee & Gan, 2020; T. Zhang et al., 2020). With the advent of Web 2.0, social media platforms have expanded their roles beyond mere customer relationship management, facilitating deeper and more meaningful interactions between brands and consumers (C.-C. Chen & Yao, 2018; Mohapatra et al., 2024). This evolution empowers users to participate in a wide array of activities, ranging from making purchases to sharing personal experiences and offering support to fellow shoppers (Mohapatra et al., 2024). As social commerce continues to mature, it not only reshapes the landscape of online shopping but also influences consumer behavior in profound ways (X. Li et al., 2023; You et al., 2023).

An important element of social commerce is the irrational behavior driven by impulsive emotions (Moghddam et al., 2024). Consumers' purchase behavior has been studied and analyzed to gain a better understanding and provide comprehensive insights for establishing a sustainable business model (Guan et al., 2022; Nizam & Lee, 2018). Beyond regular consumer purchase behavior, "impulse purchase," also known as unplanned purchase, has been shown to directly contribute to retailers' profits (Lau et al., 2018; Y. Y. Lee & Gan, 2020; Vohs & Faber, 2007). Impulsive buying is typically viewed negatively, as it is seen as an irrational choice rather than a deliberate purchase (Beatty & Elizabeth Ferrell, 1998; Zafar et al., 2020). Another theoretical perspective that aids in understanding the influence processes in social commerce is the role of situational factors (Parker & Wang, 2016). When customers stumble upon unanticipated products or services on a website, their emotional response can be intensified by the serendipitous nature of the encounter (Moghddam et al., 2024).

Livestreaming marketing is a new immersive social commerce model where sellers showcase their products and services via live videos on streaming platforms (W.-K. Chen et al., 2022; Rosely et al., 2024). This approach usually features a live product demonstration by the seller on a social media or marketing platform, allowing consumers to get instant responses to any questions or concerns they have about the product (W.-K. Chen et al., 2022). This heightened interactivity allows online retailers and brands to tap into consumers' impulsive behaviors, often resulting in emotional purchases rather than purely rational decisions (Rosely et al., 2024). Unlike the traditional method of reading reviews, livestreaming social commerce fosters real-time engagement between consumers and streamers or brands (Ma et al., 2023). This dynamic interaction significantly increases the likelihood of impulse buying, as viewers feel a direct connection to the products and the individuals presenting them (Chung et al., 2017). Research shows that during these shopping experiences, consumers frequently lose track of time and self-awareness, entering a state of flow characterized by enjoyment and deep

concentration, which further fuels spontaneous purchasing behaviors (Hu et al., 2017; L. Li et al., 2024; Z. Zhang & Liu, 2024)

As consumers view product promotion videos on social platforms, they become immersed in the narratives, engage in parasocial interactions, and this engagement often leads to impulse buying (Vazquez et al., 2020). Parasocial interaction is understood as the individual's imagined relationship and/or interaction with a character that they view on digital devices (Shen et al., 2022; Vazquez et al., 2020; Xiang et al., 2016).

Across numerous social commerce platforms, consumers receive cognitive suggestions that they need to purchase the product or brand that they are watching at the immediate moment because they feel familiar and have some sort of bond with the person narrating and promoting the product or brand in question (Vazquez, et al., 2020; Ma & Aw, 2023). On the other hand, emotional motivation in social commerce plays a crucial role in the realm of purchase behavior (Guo et al., 2020; Parker & Wang, 2016). Previous researchers have found that 41% of the newest generation, particularly Generation Z, engage in impulse buying (Sanny et al., 2023). In comparison, 34% of Millennials and 32% of Generation X also exhibit impulsive shopping behaviors (Ignatius & Hechanova, 2014; Sanny et al., 2023). Thus, this research aims to investigate the role of parasocial interactions and social commerce emotional motivation, how each affecting impulse buying behavior among Gen Z, as Gen Z are argued to show more tendency toward impulsive buying behaviors compared to the other two generations.

LITERATURE REVIEW

Impulse Buying Behavior

Customer buying behavior has always intrigued researchers due to its complexity, with the impulse buying process being particularly fascinating because it differs significantly from the general buying process (Kimiagari & Asadi Malafe, 2021; Sun et al., 2023). Previously, researchers have differentiated between impulsive, planned, and unplanned purchases, particularly in retail settings (Husnain & Akhtar, 2016; Kakaria et al., 2023). Planned purchases involve deliberate consideration and preparation, where consumers create a list of desired products before reaching the point of purchase (Kakaria et al., 2023). On the other hand, unplanned purchases occur when consumers encounter a product while shopping and realize they need or desire it at that moment (Kakaria et al., 2023). Impulsive buying is described as a multifaceted process characterized by spontaneity, lack of reflection, immediacy, and impulsiveness, which limits thoughtful and deliberate consideration of consequences (C.-H. Lee & Chen, 2021; Vazquez et al., 2020). Originally, it was defined as unplanned purchases made in response to stimuli, lacking prior intention or thorough reflection on purchasing a specific product or category (L. Li et al., 2024; Vonkeman et al., 2017). Impulse

buying also involves sudden and uninhibited consumer behavior driven by stimuli, without prior planning. Several scholars argue that impulsive purchases occur due to a lack of forethought and deliberate planning in the decision-making process for purchases (Chung et al., 2017; Moghddam et al., 2024; Vonkeman et al., 2017).

The widespread availability of online platforms and the enhanced accessibility to products and services, driven by advancements in information technology, lead consumers to make impulsive purchases, often with less time dedicated to decision-making (Moghddam et al., 2024). Recent studies show that providing product narrative information improves consumer satisfaction and decision-making efficiency in online shopping (Wei et al., 2023). As a result, this is likely to directly enhance consumer satisfaction with the merchant's website and significantly boost the likelihood and scale of impulsive purchases (Wei et al., 2023). On the other hand, browsing can be time-consuming, leading consumers to experience impulsive urges to make purchases (K. Z. K. Zhang et al., 2018). Previous research suggests that compared to shoppers with specific goals, those who browse are more susceptible to environmental influences and thus more likely to make unplanned buying decisions (K. Z. K. Zhang et al., 2018). People engage in browsing not only to gather information but also for enjoyment (K. Z. K. Zhang et al., 2018). Browsers often collect information for the sake of enjoyment rather than with the intention to make future purchases (K. Z. K. Zhang et al., 2018). Additionally, research suggests that consumers can derive gratification from the browsing process itself, separate from the act of making a purchase (K. Z. K. Zhang et al., 2018).

Parasocial Interaction

Parasocial interactions, originally from psychiatry to describe imagined relationships with media figures, have expanded to communication and has now become applicable to be investigated in the realm of social media (Shen et al., 2022; Xiang et al., 2016). Parasocial theory emerged to analyze one-sided relationships between media users and media characters and/or figures, and investigated on how these users respond behaviorally within their imagined relationships as these relationships seemed to lead the users to a sense of familiarity and perceived associations (Xiang et al., 2016; Zafar et al., 2020). These associations enable individuals to feel strong interpersonal connections with their favorite celebrities, often leading them to consider these celebrities as personal friends or akin to other relationships (Zafar et al., 2020). Parasocial interaction differs from parasocial relationship in that it involves a simulated conversational exchange in media like radio, television, and film, where the performer tailors their performance to anticipated viewer responses (Xiang et al., 2016; Zafar et al., 2020; Z. Zhang & Liu, 2024). This simulated conversational exchange is known as parasocial interaction. In the context of pan-entertainment livestreaming, especially when the viewer count

is high, the interaction between a streamer and viewers tends to follow a unidirectional, one-to-many pattern (Z. Zhang & Liu, 2024).

Recent social media research has utilized parasocial interaction to explore user behavior regarding brand attitudes and purchase intentions, particularly in the context of e-commerce livestreaming (Z. Zhang & Liu, 2024). During purchase interactions with sellers on mobile instant messaging, users (buyers) often develop parasocial interactions with them (Y. Y. Lee & Gan, 2020). The social cognitive theory of mass communication suggests that individuals' attitudes and emotional responses are influenced by media portrayals of a symbolic world through the vicarious impact of media characters (Ma et al., 2023). Based on this theory, we propose that consumers often develop a sense of identification that fosters interest in emulating influencers' lifestyles and behaviors, leading to impulsive purchasing tendencies for the products they promote (Ma et al., 2023; Zafar et al., 2020). An emotional bond with social actors—specifically, parasocial relationships with livestream influencers—plays a significant role in driving impulsive buying by reducing risk concerns and enhancing the influencer's persuasive power. Therefore, this study suggested the following hypothesis:

H_1: Parasocial interaction positively influences users' impulse buying behavior on their engagement during livestreaming shopping.

Social Commerce Emotional Motivation

Motivation theory is a key framework for understanding human behavior, systematically explaining the nature and mechanisms behind behavioral motivation (Guo et al., 2020). It defines "motivation" as the internal needs and desires that drive individuals to act in pursuit of their goals (Guo et al., 2020). From a more abstract perspective, the motivators can be seen as either hedonic value (involving sensory experiences, fantasy, or emotions) or utilitarian value (related to practical tasks or functions) (Parker & Wang, 2016). Within consumer behavior context, individuals with high motivation and capability are highly inclined to engage in a behavior with minimal prompting (Fogg, 2009). Conversely, when motivation is low and the task presents challenges, a compelling emotional stimulus becomes essential to spur action (Fogg, 2009). Motivating consumers can be difficult and typically results in short-lived effects, making it advisable to streamline the engagement process to reduce barriers to action (Kang et al., 2021). By simplifying engagement, the likelihood of consumer participation increases (Dodoo & Youn, 2021; Samarah et al., 2022). During periods of heightened motivation, introducing a strong emotional trigger can effectively prompt desired actions, leveraging the consumer's heightened receptivity to make a meaningful impact (Dodoo & Youn, 2021).

The motivation to engage with a brand varies depending on the context (Bian & Yan, 2022). Hollebeek et al. (2014) emphasizes how contextual factors influence

consumer engagement, while Khan (2017) highlight the significant role of emotion in the online experience, emphasizing its importance in driving customer engagement (Hollebeek et al., 2014; Kawaf & Tagg, 2017; Khan, 2017). Haas & Kenning (2014) found a positive correlation between customer affect and shopping enjoyment with the willingness to engage with salespeople in retail settings. Similarly, Molinillo et al. (2020) emphasize the significance of emotionality in promoting engagement behaviors within social commerce environments. In traditional e-commerce, consumer engagement is relatively stable and involves a lengthy decision-making process that includes attention, searching, hedonic browsing, product comparison, and final purchase (Liu et al., 2023). On the other hand, e-commerce live streaming involves more dynamic, real-time decision-making influenced by hosts, live chat comments, and the overall atmosphere of the live stream (Liu et al., 2023).

Social commerce platforms use advanced algorithms to offer personalized and relevant product recommendations, appealing to customers' motivations and promoting impulsive buying (Xu & Cui, 2020). The immediacy and ease of purchasing through integrated shopping features on social media further enhance this impulsivity by reducing the steps between desire and purchase (Amos et al., 2014). To fully comprehend the urge for impulsive buying in social commerce, it's important to examine the motivation of social, technological, and individual factors that collectively foster an environment conducive to impulsive behavior (Tifferet & Vilnai-Yavetz, 2014; Zheng et al., 2023). Moghddam et al. (2024) summarized the concept of overall motivation for engaging in social commerce that will be used in this research, highlighting key factors such as brand intimacy, shopping planning, entertainment, channel advantage, remuneration, and escapism.

H_2: Social Commerce Emotional Motivation positively influences users' impulse buying behavior on their engagement during livestreaming shopping.

Figure 1 represents this study's framework analysis, followed by Table 1 representing the measurement items used in this study.

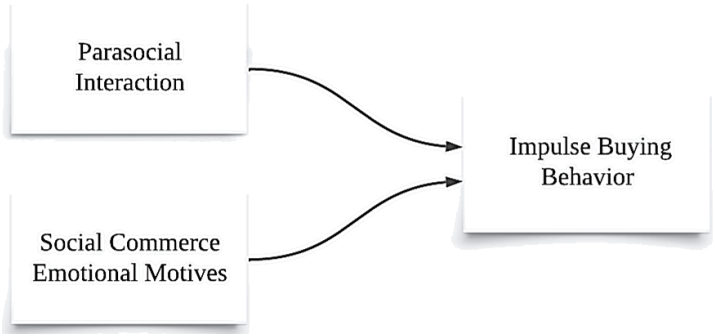

Figure 1. Framework Analysis
Source: Processed Data by Researcher (2024)

Table 1. Measurement Items

No	Variable	Indicator	References
1	Parasocial Interaction	PSI 1. I eagerly participate watching live-streamed content that involves product selling.	Lee & Gan (2020); Vazques, et al. (2020)
2		PSI 2. If I notice a live stream featuring product sales, I would tune in to watch it.	
3		PSI 3. When I watch the person in live-streaming content, I feel like I am part of their community.	
4		PSI 4. I would like to meet the person from the live-streaming content in real life.	
5		PSI 5. If there were an article about the person from live-streaming content in a newspaper or magazine, I would read it.	
6		PSI 6. The person in live-streaming content makes me feel at ease, like being with a friend.	
7		PSI 7. When the person in live-streaming content displays their fashion, it influences my own fashion choices.	
8		PSI 8. I find the person in live-streaming content appealing.	
9		PSI 9. I consider the person in live-streaming content as an old friend.	
10	Social Commerce Engagement Motivation	SCEM 1. I feel a sense of connection with others who have similar opinions about live-streamed content.	Moghddam, et al. (2024).
11		SCEM 2. Choosing the products or services I want to buy from live-streamed content is easy for me.	
12		SCEM 3. I enjoy watching live-streamed content.	
13		SCEM 4. Finding information about live-streamed content on online marketplaces is quicker for me compared to other online media like websites, Facebook, or Twitter.	
14		SCEM 5. I can earn rewards by engaging with live-streamed content.	
15		SCEM 6. Watching live-streamed content allows me to escape from reality.	
16	Impulse Buying Behavior	IBB 1. I often can't resist impulse buying when influenced by live-streaming channels or social media discussions	Li, et al. (2024); Kamiagiri & Malafe (2021).
17		IBB 2. My purchase during the live streaming was spontaneous without taking the time to reconsider my decision	
18		IBB 3. I had no intention of buying certain products until the anchor's recommendations led me to impulsively purchase them	

19		IBB 4. Following the anchor's persuasive presentation, I made an unplanned purchase.	

Source: Processed Data by Researcher (2024)

RESEARCH METHODOLOGY

Research Designs

This study employs a quantitative method to investigate how social commerce engagement motivation and parasocial interaction impact live-stream impulse buying behaviors among Gen Z. In such quantitative research, the researcher tests a theory by developing specific, focused hypotheses and then collects data to either support or refute these hypotheses (Bougie & Sekaran, 2019; Creswell, 2018). The primary data for this study are collected by distributing online Google Form surveys to individuals born between 1998 and 2007, who have made a minimum of 2 unplanned purchases after watching live-streaming online shopping videos within 4 weeks. The study utilizes a total non-probability purposive sampling technique to selectively reach respondents who meet the specified criteria (Bougie & Sekaran, 2019). This study involves processing collected data using a statistical approach to test hypotheses. The questionnaires contain 19 items using a 5-point Likert scale, initially designed and distributed in Indonesian, later translated into English for discussion in the study.

Statistical Data Analysis

The statistical data analysis in this study uses IBM SPSS 26.0, emphasizing the importance of KMO MSA scores and anti-image matrix scores being above 0.500 for validity (Hair et al., 2019). Reliability is ensured with Cronbach's Alpha values of at least 0.60 (Hair et al., 2019). Linear regression is used to assess the goodness of fit, with adjustments made based on normality tests. The coefficient of determination (R^2) is discussed in relation to its role in explaining variance (Gao, 2023; Hair et al., 2019).

Table 2. Validity and Reliability Value Interpretations

KMO-MSA Values	Interpretation
Above 0.90	Marvelous
0.80 to 0.90	Meritorious
0.7 to 0.80	Average
0.60 to 0.70	Mediocre
0.50 to 0.6	Terrible
Below 0.50	Unacceptable
Cronbach's Alpha Reliability	**Interpretation**
Above 0.90	Excellent
0.80 to 0.89	Good
0.70 to 0.79	Acceptable
0.60 to 0.79	Questionable
0.50 to 0.59	Poor
Below 0.50	Unacceptable

Source: Hair et al. (2019)

Table 3. R^2 and PVE

R^2 (95% CI)	PVE (95% CI)	R^2 (95% CI)	PVE (95% CI)
0.99 (0.99 – 0.99)	0.90 (0.89 – 0.91)	0.28 (0.24 – 0.33)	0.15 (0.12 – 0.18)
0.96 (0.96 – 0.97)	0.80 (0.79 – 0.82)	0.26 (0.21 – 0.30)	0.14 (0.11 – 0.17)
0.92 (0.91 – 0.93)	0.71 (0.69 – 0.73)	0.24 (0.19 – 0.28)	0.13 (0.10 – 0.15)
0.86 (0.85 – 0.88)	0.63 (0.61 – 0.65)	0.22 (0.17 – 0.26)	0.12 (0.09 – 0.14)
0.80 (0.78 – 0.82)	0.55 (0.53 – 0.58)	0.20 (0.16 – 0.24)	0.11 (0.08 – 0.13)
0.74 (0.71 – 0.76)	0.49 (0.46 – 0.51)	0.19 (0.14 – 0.23)	0.10 (0.07 – 0.12)
0.67 (0.64 – 0.70)	0.43 (0.40 – 0.46)	0.17 (0.13 – 0.21)	0.09 (0.06 – 0.12)
0.61 (0.57 – 0.65)	0.38 (0.35 – 0.41)	0.16 (0.12 – 0.20)	0.08 (0.06 – 0.11)
0.55 (0.51 – 0.59)	0.33 (0.30 – 0.36)	0.15 (0.11 – 0.19)	0.08 (0.05 – 0.10)
0.50 (0.46 – 0.54)	0.29 (0.26 – 0.32)	0.14 (0.10 – 0.18)	0.07 (0.04 – 0.09)
0.45 (0.41 – 0.50)	0.26 (0.23 – 0.29)	0.13 (0.09 – 0.17)	0.07 (0.04 – 0.09)
0.41 (0.37 – 0.46)	0.23 (0.20 – 0.26)	0.12 (0.09 – 0.16)	0.06 (0.04 – 0.08)
0.37 (0.33 – 0.42)	0.21 (0.18 – 0.24)	0.11 (0.08 – 0.15)	0.06 (0.04 – 0.08)
0.34 (0.29 – 0.38)	0.19 (0.16 – 0.22)	0.10 (0.07 – 0.14)	0.05 (0.03 – 0.07)
0.31 (0.26 – 0.35)	0.17 (0.14 – 0.20)		

Source: Gao (2023)

RESULT AND DISCUSSION

Research Result

Respondent Characteristics

Table 4. Sample Characteristics

Gender		**Born-Year**	
Male	57	1998	10
Female	90	1999	15
		2000	23
Most-Frequently Used App to Watch Live-Stream Shopping		2001	28
Instagram	15	2002	16
Lazada	10	2003	18
Shopee	74	2004	12
TikTok	45	2005	7
Tokopedia	2	2006	14
Bukalapak	1	2007	4

Source: Processed Data by Researcher (2024)

This study initially gathered 184 respondents. However, as many as 37 respondents did not fit one of this study's subject criteria, which was to have made unplanned purchase at least twice in the last 2 weeks prior to filling out this study's survey, hence the total respondent was deducted from 184 to 147. Table 4 presents this study's 147 respondent characteristics, inclusive of 90 female respondents, making up approximately 61% of the sample. Meanwhile, the male respondents totaled 57, representing about 39% of the participants. This gender distribution suggests that live-stream shopping might be more popular among women in this particular sample, potentially reflecting broader market trends where female shoppers are often more engaged in online shopping activities. Considering only Gen Z are included as this study's subject of research, most respondents are in their early 20s. The age distribution of the respondents highlights a predominantly young demographic, with 10 respondents born in 1998, representing 6.8% of the total sample. These individuals are in their mid-20s, likely balancing early career stages with active social and online lives. Following, there were 15 respondents, those born in 1999 make up 10.2% of the participants. They are also in their mid-20s, possibly exhibiting similar online behavior patterns as those born in 1998. As for the 2000, this birth year accounts for 23 respondents, or 15.6% of the sample, and 28 respondents (19%), were born in 2001. This cohort, being around 22 years old, is likely very active online and in live-stream shopping due to their familiarity with digital platforms from a young age. Representing 10.9% of the respondents, the 16 participants born in 2002 are around 21 years old and are likely heavily influenced by social media trends. Subsequently, 18 respondents were found to be born in 2003, making up 12.2% of the sample, and another 12 (8.2%) to be born in 2004.

With 7 respondents, those born in 2005 make up 4.8% of the total, of which would age around 18 years old. Representing 9.5% of the sample, the 14 respondents born in 2006, and finally the youngest group within this age category, with 4 respondents claimed to be born in 2007, which would make them to be around 16 years old. Their engagement in live-stream shopping might still be limited but is indicative of emerging trends among the youngest consumers.

The respondent profile highlights a young, predominantly female demographic actively engaging in live-stream shopping, with a strong preference for Shopee and significant usage of TikTok. Shopee is the most popular app for live-stream shopping, significantly favored by females, indicating strong appeal and engagement within this research. This study covers a total of 74 respondents (50.35% of total participants), with 25 male respondents as well as 49 female respondents who preferred to actively utilize Shopee for their main platform to watch live-streaming content-selling. Similarly, TikTok is also quite popular, with twice as many female users compared to males. This study included 45 (30.6% of total participants) participants who preferred to watch live-streaming content selling on TikTok, covering 15 male respondents and 30 female respondents. Instagram and Lazada also have notable but smaller user bases, while Tokopedia and Bukalapak have minimal presence in this space. 15 more participants claimed to prefer Instagram (10.2%), conclusive of 8 male respondents and 7 female respondents, making this platform almost equally popular among both males and females, showing a balanced gender preference. Lazada presents a slight male preference but an overall smaller user base for live-stream shopping, with 6 male respondents and 4 female respondents within this study's most preferred platform category. Tokopedia has minimal usage and is only used by males in this sample, with only 2 participants within this category and 0 female, suggesting it is less favored for live-stream shopping. Lastly, Bukalapak has the least usage, with only one male respondent, also indicating it is rarely used for live-stream shopping. This data reflects the broader trend of digital engagement among younger consumers, particularly women, who are leveraging visual and interactive platforms for their shopping experiences.

Measurement Validity and Reliability Analysis Results

Table 5. Validity and Reliability Analysis Results

No	Variable	Indicator	Anti-Image	KMO-MSA	Bartlett's Sig.	Cronbach's α
1	Parasocial Interaction	PSI1	0.803	0.792	0.000	0.733
2		PSI2	0.750			
3		PSI3	0.833			
4		PSI4	0.802			
5		PSI5	0.783			
6		PSI6	0.764			
7		PSI7	0.798			
8		PSI8	0.760			
9		PSI9	0.831			
10	Social Commerce Engagement Motivation	SCEM1	0.700	0.716	0.000	0.682
11		SCEM2	0.679			
12		SCEM3	0.700			
13		SCEM4	0.720			
14		SCEM5	0.716			
15		SCEM6	0.771			
16	Impulse Buying Behavior	IBB1	0.811	0.754	0.000	0.749
17		IBB2	0.797			
18		IBB3	0.716			
19		IBB4	0.729			

Source: Processed Data by Researcher using SPSS 26.0

Table 5 presents the results of a validity and reliability analysis for three variables: Parasocial Interaction, Social Commerce Engagement Motivation, and Impulse Buying Behavior. Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO-MSA) indicates the adequacy of the sample size for factor analysis. Values closer to 1.0 are better, with values above 0.500 considered acceptable (Hair et al., 2019). Bartlett's Test of Sphericity analyzes whether the correlation matrix is an

identity matrix, which would indicate that the variables are unrelated (Hair et al., 2019). A significance value (p-value) of less than 0.050 indicates that factor analysis is appropriate (Hair et al., 2019). Cronbach's Alpha measures internal consistency or reliability of the scale, with scores above 0.600 are generally acceptable, indicating good reliability (Hair et al., 2019). Anti-Image Correlation values show the adequacy of individual items, with values above 0.500 are acceptable, and higher values indicating better suitability for factor analysis (Hair et al., 2019).

All three variables present acceptable KMO-MSA results, with each one surpassing 0.700 appropriate threshold. Parasocial Interaction shows 0.792 value of KMO-MSA, Social Commerce Emotional Motivation variable shows 0.716 value of KMO-MSA. and Impulse Buying Behavior variable shows 0.754 value of KMO-MSA. As for Bartlett's Sphericity Analysis, all three variables show 0.000 significance value, meeting the criteria of which significance values should be below 0.050. The internal consistency of the items is generally good, with Cronbach's Alpha values mostly above the 0.700 threshold, except for Social Commerce Engagement Motivation (0.682), which is slightly below but still within an acceptable range. The overall anti-image correlation values range from 0.679 to 0.833, all above the threshold, indicating that all items are suitable for further inferential analysis.

Normality Testing Analysis

The normality test statistics is a measure of the distance between the empirical distribution function of the sample and the cumulative distribution function of the normal distribution (Hair et al., 2019). In the case of which a study consists more than 30 research objects, and less than 500 research objects, the researcher is suggested to employ Kolmogorov-Smirnov index in analyzing the data normal distribution (Hair et al., 2019). Table 6 provides information of this study's data normal distribution analysis.

Table 6. Normality Distribution Testing: Kolmogorov-Smirnov Index

Tests of Normality: Kolmogorov - Smirnov				
Impulse Buying Behavior		***Statistic***	***df***	***Sig.***
Parasocial_Interaction	3.00	0.206	7	0.200*
	3.25	0.141	5	0.200*
	3.50	0.205	12	0.174
	3.75	0.126	19	0.200*
	4.00	0.132	39	0.087
	4.25	0.118	32	0.200*
	4.50	0.160	38	0.016
	4.75	0.187	8	0.200*
	5.00	0.260	2	
Social Commerce Emotional Motivation	3.00	0.275	7	0.117
	3.25	0.237	5	0.200*
	3.50	0.230	12	0.080
	3.75	0.237	19	0.006
	4.00	0.156	39	0.017
	4.25	0.134	32	0.151
	4.50	0.141	38	0.055
	4.75	0.167	8	0.200*
	5.00	0.260	2	

Source: Processed Data by Researcher using SPSS 26.0

Table 6 presents The Kolmogorov-Smirnov test results for the variables "Parasocial Interaction" and "Social Commerce Engagement Motivation" (SCEM). The p-value helps determine whether the sample data significantly deviate from the normal distribution. P value above > 0.05 indicates that the data do not significantly deviate from a normal distribution (i.e., the assumption of normality is not violated). Conversely, p value below 0.05 indicates that the data significantly deviate from a normal distribution (i.e., the assumption of normality is violated). While many data points for both variables do not significantly deviate from a normal distribution, there are specific points where the assumption of normality is violated. Overall, this data should be considered appropriate in employing parametric hypothesis statistical testing.

Inferential Statistics Analysis

Table 7. Linear Regression Coefficient and ANOVA Results

Coefficients						
Dependent Variable: Impulse Buying Behavior				***Std. Coeff.***	***t***	***Sig.***
	(Constant)	-0.113	0.290		-0.389	0.698
Predictor 1	Parasocial_Interaction	0.417	0.098	0.297	4.267	**0.000**
Predictor 2	SCEM	0.648	0.082	0.552	7.916	**0.000**
ANOVA: Impulse Buying Behavior (Dependent)						
Predictors: PSI and SCEM		***Sum Sq.***	***df***	***Mean Sq.***	***F***	***Sig.***
	Regression	28.931	2	14.465	115.019	0.000
	Residual	18.236	145	0.126		
	Total	47.167	147			

Source: Processed Data by Researcher using SPSS 26.0

Table 7 proves that both Parasocial Interaction and SCEM are significant predictors of Impulse Buying Behavior (IBB), with SCEM having a stronger impact as indicated by its higher standardized beta coefficient (0.552 compared to 0.297 for Parasocial Interaction). The F-statistic is highly significant (F = 115.019, p = 0.000), indicating that the overall regression model is a good fit for the data.

Table 8. Coefficient Correlation and Coefficient Determinant Analysis

Model Summary: Impulse Buying Behavior (Dependent)				
Predictor	***R***	***R^2***	***Adjusted R^2***	***Std. Error of Est.***
PSI and SCEM	0.783	0.613	0.608	0.35463
PSI	0.668	0.446	0.443	0.42294
SCEM	0.752	0.565	0.562	0.37495

Source: Processed Data by Researcher using SPSS 26.0

Table 8 presents the combined model (Parasocial Interaction and Social Commerce Emotional Motivation) shows R^2 value of = 0.613, indicating a strong model fit. Referring to Table 3, interpreting R^2 value of 0.61 (or ranged between 0.57-0.65) according Gao (2023) has the true PVE of 0.38 (0r ranged within 0.35-0.41), explaining around 38%. In other words, as much as 38% variance of Impulse Buying Behavior is influenced by the combination of both Parasocial Interaction and Social Commerce Emotional Motivation. Social Commerce Emotional Motivation alone explains 33% (or ranged between 30% - 36%) of the variance in Impulse Buying Behavior (R^2 = 0.565, PVE = 0.33 (or 0.30-0.36)), while Parasocial Interaction alone explains 26% (or ranged between (23% - 29%) in Impulse Buying Behavior (R^2 = 0.446, PVE = 0.26 (0.23-0.29)). Social Commerce Emotional Motivation has a more substantial impact on Impulse Buying Behavior compared to Parasocial Interaction. Efforts to enhance social commerce engagement motivation may yield better results in influencing impulse buying behavior.

Research Discussion

Based on the statistical regression analysis conducted in this study, several key findings emerged regarding the impact of Social Commerce Emotional Motivation (SCEM) and Parasocial Interaction (PSI) on Impulse Buying Behavior (IBB) among Gen Z users of live-streaming social commerce platforms. The regression analysis revealed that SCEM significantly influences IBB. This aligns with the theoretical framework established in the "Theoretical Development" section, which posits that emotional motivation are crucial drivers of impulse buying. The results indicate that when users experience positive emotions, such as excitement, joy, and pleasure while engaging with social commerce platforms, they are more likely to make impulsive purchases. This finding supports the notion that emotional engagement plays a pivotal role in shaping consumer behavior in the context of social commerce.

The analysis also showed that PSI significantly affects IBB. This finding is consistent with the theoretical perspective that suggests strong parasocial relationships with influencers or hosts in live-streaming sessions can enhance viewers' trust and connection, thereby increasing their likelihood of making impulsive purchases. The study's results highlight the importance of perceived intimacy and familiarity with the host, which fosters a sense of connection and encourages spontaneous buying decisions. The interaction between SCEM and PSI was found to have a compounded effect on IBB. This suggests that the combination of emotional engagement and strong parasocial relationships creates a powerful impetus for impulsive buying. When users are emotionally engaged and feel a strong connection with the host, they are more susceptible to making unplanned purchases. This finding underscores the synergistic impact of emotional and relational factors on consumer behavior.

The significant influence of SCEM on IBB corroborates the theory that emotional engagement is a critical driver of consumer behavior in social commerce. This aligns with previous research that emphasizes the role of emotions in online shopping environments and highlights the importance of creating emotionally engaging experiences to stimulate impulse buying. The significant impact of PSI on IBB supports the theoretical perspective that parasocial relationships enhance consumer trust and connection, leading to increased impulsive buying behavior. The interaction effect between SCEM and PSI provides empirical evidence for an integrated model that combines emotional and relational factors to explain impulse buying behavior. This integrated approach aligns with the theoretical development that suggests a holistic understanding of consumer behavior in social commerce requires considering both emotional and relational dynamics. Overall, the discussion of the regression analysis results highlights the critical role of emotional engagement and parasocial relationships in driving impulse buying behavior among Gen Z users of live-streaming social commerce platforms. These findings provide valuable insights for practitioners and researchers aiming to understand and

leverage the drivers of impulse buying in the evolving landscape of social commerce.

CONCLUSION

In conclusion, this study has provided significant insights into the factors influencing impulse buying behavior among Gen Z consumers on live-streaming social commerce platforms. The findings underscore the critical role of Parasocial Interaction (PSI) and Social Commerce Emotional Motivation (SCEM) in driving spontaneous purchasing decisions. Specifically, strong PSI with live-stream hosts fosters a sense of connection and trust, which, coupled with the emotional appeals of SCEM, significantly enhances the likelihood of impulsive buys. These insights are valuable for marketers aiming to optimize their strategies to target Gen Z more effectively, highlighting the need for engaging, emotionally resonant, and trust-building content in live-streaming commerce.

However, this study has several limitations that should be acknowledged. As this research is based on self-reported data collected through online surveys, which may be subject to response biases such as social desirability bias or recall bias. The reliance on a purposive sampling method limits the generalizability of the findings to the broader Gen Z population.

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