



Streamer Attractiveness, Information Quality, Cognitive Assimilation of Live Streaming Impulsive Buying: Millennial and Z Moderation

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Abstract

This research aims to study the influence of streamer attractiveness, information quality, and cognitive assimilation on impulse purchases in live streaming shopping differences between millennials and generation z as moderating variables. This research uses the SOR (Stimulus-Organism-Response) theory. This research was conducted around the island of Indonesia in 2025, the sample used was 250 respondents. The sampling technique used purposive sampling method. The data analysis technique in this study uses Partial Least Squares Structural Equation Modeling (SEM-PLS) using the help of WarpPLS software version 7.0. The results of this study indicate that streamer attractiveness, and information quality have a positive and significant effect on cognitive assimilation, cognitive assimilation has a positive and significant effect on impulse buying. Cognitive assimilation mediates the relationship between streamer attractiveness and information quality on impulse buying. Between millennial generation - generation z there is no difference in impulse buying.

Keywords: streamer attractiveness, information quality, cognitive assimilation, impulsive buying

Introduction

The emergence of live streaming demonstrates the growing use of digital devices, particularly in the business sector. Live streaming has transformed consumer shopping behavior through interactions between consumers and businesses (Cambra-Fierro et al., 2021). As many as 17.5% of consumers shifted to online shopping over offline shopping. This increase is significant, rising from 11% to 25% in 2021 (Zakawali, 2022). Indonesia is the country with the highest e-commerce usage in the world, with a value of 88.1% (Lidwina, 2021). The popularity of live streaming shopping has surged globally, especially after the COVID-19 pandemic (Wu et al., 2021), with an estimated value of USD 665.3 billion by 2027 with a compound annual growth rate (CAGR) of 29.9% from 2023 to 2027 (Statista, 2023). In Indonesia, live streaming shopping is growing rapidly, driven by high internet and social media user penetration of 79.5% (APJII, 2024).

Live streaming shopping is a new shopping channel based on social e-commerce and leverages live streaming features to create an interactive, informative, and immersive online shopping experience. This technology is revolutionizing existing e-commerce business models. Live streaming shopping has transformed consumer shopping habits and become an option for capitalizing on the “see-now-buy-now” impulse (Lo et al., 2022). Beyond serving as a bridge between streamers and consumers, this technology is a crucial tool for the retail industry and a driving force behind the surge in e-commerce sales (Ma, 2021). Consequently, this new

shopping method is gaining popularity among retailers and consumers worldwide (Zhang et al., 2023).

The convenience and interactivity offered by live streaming shopping have attracted many consumers and businesses, making it a rapidly growing market. Jiang & Cai (2021) stated that consumers often engage in impulsive buying behavior during live streams. One factor influencing consumers to make impulsive purchases during live streaming shopping is cognitive assimilation. Cognitive assimilation is defined as how a person mentally processes information previously obtained from a stimulus, involving a person's emotional and physiological state in response to the stimulus, thus driving them to impulsive buying activities (Li et al., 2022). Therefore, when they watch streamers' shows they find interesting, actively interact with other consumers while they watch, and enjoy acquiring information during the process (Jiang et al., 2010).

Streamer attractiveness is an important characteristic of live streamers, as they can capture attention, build relationships with consumers, and provide cognitive and emotional value to consumers (Guo et al., 2022). An attractive and credible streamer can build consumer trust, thus encouraging them to make impulse purchases. Streamer attractiveness plays a crucial role in stimulating consumers to engage in purchasing behavior (Cai et al., 2018). Therefore, streamers with attractive appearances and whose external environmental stimuli match consumers' preferences will result in more positive response behaviors, such as impulse purchases (Chen & Liao, 2022).

Information quality is crucial for determining whether consumer needs have been met (Kim & Stoel, 2004). When consumers receive high-quality information, they are more likely to form positive mindsets about products, which in turn can lead to better purchasing decisions, as high-quality information can reduce consumer uncertainty (Milan et al., 2015). The abundance of readily accessible information is considered to facilitate consumers' search for various types of information, which can ultimately lead to online impulsive purchases (Lee, 2015). Research conducted by (Xu et al., 2020) shows that information quality has a positive influence on impulsive buying behavior.

There are differences in impulse buying during live shopping between millennials and Generation Z. This is evidenced by research conducted by Thangavel et al. (2021). Although there are slight similarities in characteristics between millennials and Generation Z, these two generations exhibit different consumer behaviors when it comes to impulsive online shopping. Furthermore, research conducted by Djafarova & Bowes (2021) showed that 32% of Generation X, 34% of Millennials, and 41% of Generation Z consumers make impulsive purchases. The purpose of this study is to create a research model by examining the factors that influence impulsive purchases on live streaming shopping in Indonesia through the Stimuli-Organism-Response (SOR) framework model by investigating streamer appeal and information quality through cognitive assimilation as a mediator moderated by differences between Millennials and Generation Z in influencing impulsive purchases on live streaming shopping. Researchers argue that it is important to understand the role of streamer appeal, information quality, and how the two digital native generations, namely millennials and generation z, process the information differently, not only to develop effective marketing strategies, but also to be able to contribute in the field of consumer behavior and also in digital marketing technology.

Literature Review and Hypotheses

Stimuli-Organism-Response Theory

The SOR (Stimulus-Organism-Response) framework was initially proposed and applied to environmental psychology research by Mehrabian & Russell (1974) and then developed into the field of consumer behavior. Currently, the S-O-R model has been widely used for various

retail studies in online and offline environments (Donovan, 1994). The SOR framework is used to understand impulsive buying behavior because the advantages of this method are to study consumer behavior more comprehensively by classifying the stages of behavior formation (Peng & Kim, 2014). Research from Kaur et al. (2017) explain that this model helping to understand how customer purchasing behavior is formed and analyzing the effects of internal and external stimuli.

Impulsive Buying

Consumers make impulsive purchases due to emotions, spontaneous behavior, or cognitive deficits (Sharma et al., 2010). Consumers say that attractive things make them act impulsively. Available stimuli and cues accompanied by strong feelings of pleasure and excitement when shopping usually encourage impulsive purchases (Floh & Madlberger, 2013). Impulse buying is an impulse that occurs suddenly with a strong, sudden, and unplanned desire to make a purchase immediately without considering the consequences (Utami, 2018).

The influence of streamer attractiveness on cognitive assimilation and impulsive buying in live streaming shopping

Streamer attractiveness is one factor that can influence cognitive assimilation, as evidenced in research conducted by Xu et al. (2020) which showed that streamer attractiveness has a significant positive influence on cognitive assimilation, and in line with research conducted by Nguyen et al. (2024) which showed that streamer attractiveness influences cognitive assimilation which in turn encourages impulsive purchases. This means that the more attractive the endorser or streamer in demonstrating the product, the more able to change consumer attitudes and beliefs, thereby increasing impulsive purchases. Based on the results of previous research, the formulation of the first hypothesis that can be put forward is:

***H1a:** Streamer attractiveness has a significant positive effect on cognitive assimilation in live streaming shopping.*

***H1b:** Streamer attractiveness has a significant positive effect on impulse buying in live streaming shopping.*

Information quality on cognitive assimilation and impulsive buying in live streaming shopping

Live streaming shopping specifically influences impulse buying patterns because the media and conversations contain a wealth of information that can influence direct social interactions. This is very different from conventional online shopping methods, where information is provided through images, text, and pre-recorded videos (Wongkitrungrueng & Assarut, 2020). Information quality is one factor that can influence consumer cognitive assimilation, as evidenced by research conducted by Wibisono (2024), which shows that information quality has a positive and significant influence on cognitive assimilation, which is in line with research conducted by Chen & Tsai (2019), which shows that information quality can predict online impulsive purchases. Based on the results of previous research, the formulation of the second hypothesis that can be put forward is:

***H2a:** Information quality has a significant positive effect on cognitive assimilation in live streaming shopping.*

***H2b:** Information quality has a significant positive effect on impulsive buying in live streaming shopping.*

The influence of cognitive assimilation on impulsive buying

Consumers' drive for live streaming shopping also demonstrates that cognitive assimilation has a direct impact on impulsive buying behavior, as evidenced by research conducted by Nguyen

et al. (2024), which showed that cognitive assimilation had a significant positive effect on impulsive buying. Furthermore, research conducted by Lina et al. (2022) showed that cognitive and affective attitudes had a significant positive effect on impulsive buying behavior. Therefore, consumers decide to utilize this knowledge, leading to impulsive buying behavior in a live streaming environment. Based on the results of previous research, the formulation of the third hypothesis that can be put forward is:

H3: *Cognitive assimilation has a significant positive effect on impulsive buying of live streaming shopping.*

Moderating effect: Generation Millenials and Generation Z

Research conducted by Gilal et al. (2019) shows that each consumer belonging to a different generational group has different preferences, intentions, and motives. Previous research on the impact of generational groups as a moderating variable shows that each consumer belonging to a different generational group has different preferences and intentions in terms of intention to use e-commerce platforms, purchase intentions, and viewing intentions (Ladhari et al., 2019). This is in line with research conducted by Sarraf (2019) which shows differences between generational groups. Furthermore, research conducted by Herrando et al. (2019) shows that differences between generations have a moderating effect on processing information generated by consumers from websites and information produced by companies. Based on the results of previous research, the formulation of the proposed hypothesis is as follows:

H4: *Generation Z strengthens the positive relationship between cognitive assimilation and impulsive buying in live streaming shopping compared to Millennials.*

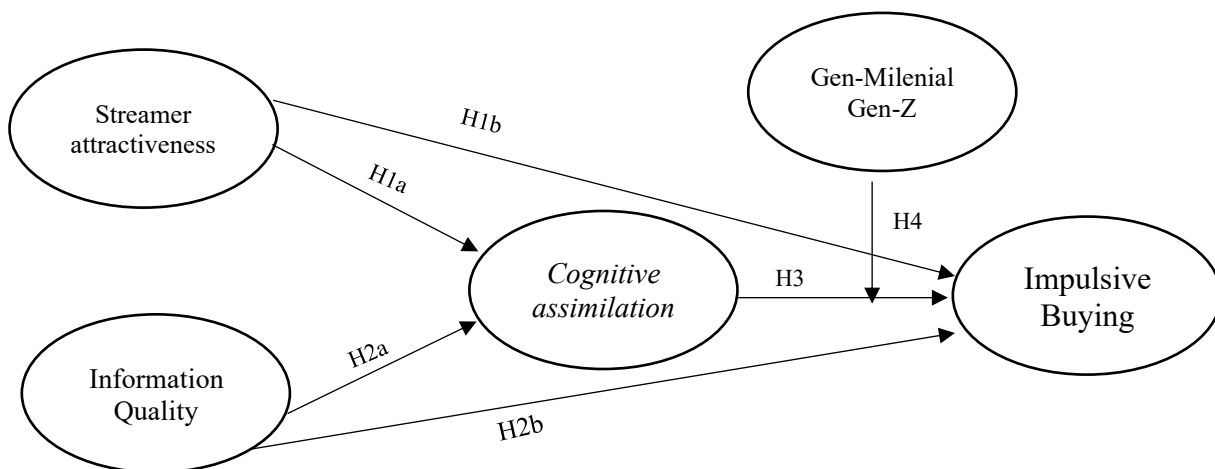


Figure 1. Research Model

Research Method

This research location covers the Indonesian archipelago. The study used 250 respondents. The sampling technique used non-probability sampling with purposive sampling. The sample characteristics used in this study are (1) experience shopping online via live streaming and (2) having purchased via live streaming shopping more than once.

The sampling technique used the inverse square root and gamma-exponential methods, based on parameters with a minimum absolute path coefficient of 0.197, a significance level of 0.05, and a statistical test power of 0.80. The data collection technique used in this study was a questionnaire. The data analysis technique used SEM-PLS analysis with Warp-PLS software version 7.0.

Results and Discussion

Respondent Profiles

Based on Table 1. respondent profiles, data on respondent characteristics based on gender is obtained which shows that the majority of respondents are female, amounting to 185 people and has a percentage of 74%. Based on data on Generation, it can be explained that both generation has the same portion, then data on respondent characteristics based on the Live Streaming application used shows that most respondents based on the application used for live streaming are Shoppe with a total of 190 people and a percentage of 43%. Based on data on respondent characteristics based on region, it can be explained that most of the respondent characteristics based on the domicile of Javanese respondents with a total of 174 people with a percentage value of 70%. Based on data on respondent characteristics based on occupation, it can be explained that most of the respondent characteristics based on type of occupation are respondents who work as Private Employees with a total of 134 people with a percentage value of 54%.

Table 1. Respondent Profiles

Profiles	Respondent Characteristic	Amount	Percentage
Gender	Male	65	26%
	Female	185	74%
Generation	Millenials	125	50%
	Z	125	50%
Livestreaming Apps	Shoppe	190	43%
	Tiktok	187	42%
	Tokopedia	24	5%
	Lazada	30	7%
	Other	15	3%
Regions	Sumatra	15	6%
	Java	174	70%
	Borneo	12	5%
	Sulawesi	11	4%
	Bali	7	3%
	Nusa Tenggara Island	16	6%
	Maluku Island	11	4%
	Papua	4	2%
Occupations	Private Employee	134	54%
	Self-employed/Entrepreneur	31	12%
	University Student	64	26%
	Student	21	8%

Validity and Reliability Result

The results of the convergent validity test in Table 2. showed that the outer loading contained in the brackets of each variable is said to be convergently valid because it shows results ≥ 0.70 and is significant with a p-value of less than 0.001. The AVE value in Table 3. also shows results > 0.50 so that it meets the requirements for convergent validity, meaning that all statements submitted by the researcher can be well understood by respondents.

Based on the Table 4., the results of the Cronbach's alpha and composite reliability tests show that all variables have Cronbach's alpha and composite reliability values > 0.70 , indicating that the respondents' answers for all research variables are reliable. Based on this, it can be concluded that the reliability test results in this study can be declared reliable.

Table 2. Convergent Validity Result

	SA X1	IQ X2	CA M1	IB Y1	P value
X1.1	(0.770)	0.072	0.196	-0.054	<0.001
X1.2	(0.813)	-0.011	-0.063	0.039	<0.001
X1.3	(0.763)	-0.031	-0.203	-0.026	<0.001
X1.4	(0.770)	-0.029	0.071	0.039	<0.001
X2.1	-0.007	(0.715)	0.072	-0.054	<0.001
X2.2	-0.183	(0.762)	-0.140	0.046	<0.001
X2.3	0.111	(0.745)	-0.022	0.060	<0.001
X2.4	0.081	(0.766)	0.094	-0.054	<0.001
M1	0.048	-0.039	(0.743)	-0.023	<0.001
M2	-0.005	0.007	(0.817)	0.035	<0.001
M3	0.031	-0.023	(0.839)	-0.031	<0.001
M4	-0.070	0.051	(0.826)	0.017	<0.001
Y1	0.087	0.126	0.005	(0.735)	<0.001
Y2	-0.090	-0.047	0.266	(0.780)	<0.001
Y3	0.038	-0.109	-0.157	(0.805)	<0.001
Y4	-0.030	0.041	-0.109	(0.776)	<0.001

Table 3. Convergent Validity Based on AVE Result

Variables	Average Variances Extracted	Result
Streamer Attractiveness (X1)	0.607	Valid
Information Quality (X2)	0.558	Valid
Cognitive Assimilation (M1)	0.652	Valid
Impulsive Buying (Y1)	0.600	Valid

Table 4. Reliability Result

Variables	Composite reliability	Cronbach's alpha	Result
Streamer Attractiveness (X1)	0.861	0.784	Reliable
Information Quality (X2)	0.835	0.736	Reliable
Cognitive Assimilation (M1)	0.882	0.821	Reliable
Impulsive Buying (Y1)	0.857	0.777	Reliable

Hypothesis Result and Discussion

The statistical analysis results in Table 5. showed that streamer attractiveness has a positive and significant effect on cognitive assimilation, and streamer attractiveness has an effect on impulsive buying. Therefore, hypotheses H1a and H1b are accepted. The more attractive the streamer in conveying information, the greater the influence on increasing consumers' cognitive assimilation, which can encourage impulsive buying (Nguyen et al., 2024). This finding is consistent with research by Ratulangi et al. (2024) stated that cognitive assimilation is a major and important psychological component in bridging the relationship between external stimuli such as attractiveness and quality of information in making impulsive buying. Furthermore, research by Tang et al. (2024) found that streamer attractiveness also has a significant positive effect on impulsive buying. This finding is also consistent with research by Wang et al. (2023) explained that an attractive streamer, a pleasant personality, and trust in the information conveyed by the streamer in live streaming shopping can encourage consumers to make impulsive buying.

Table 5. Hypothesis Result

Variables	Path Coefficient	P-Value	Result
Indirect			
Streamer Attractiveness → Cognitive Assimilation (H1a)	0,311	<0.001	Supported
Information Quality → Cognitive Assimilation (H2a)	0,468	<0.001	Supported
Cognitive Assimilation → Impulsive Buying (H3)	0,626	<0.001	Supported
Direct			
Streamer Attractiveness → Impulsive Buying (H1b)	0,311	<0.001	Supported
Information Quality → Impulsive Buying (H2b)	0,27	<0.001	Supported

Information quality has a positive and significant effect on cognitive assimilation, and information quality has an effect on impulsive buying. Therefore, H2a and H2b are accepted. The higher the quality of information provided in a live stream, the greater its influence on increasing consumers' cognitive assimilation. Good information quality can shape a more positive perception and understanding of the products and services offered by streamers, making it easier for consumers to assimilate the content into their cognitive schema. Conversely, a lack of quality information can potentially hinder consumers' cognitive processes (Petty & Cacioppo, 1986). The result is supported by previous research by Xu et al. (2020) suggests that information quality plays a crucial role in cognitive processes. Further research by Kimiagari & Asadi (2021) suggests that information quality has a positive and significant effect on cognitive assimilation. This is in line with research by Wibisono et al. (2024), where information quality was found to predict impulsive buying (Chen & Tsai, 2019). Similarly, research by Rizqy & Hidayati (2021) also found that information quality has a significant positive effect on impulsive buying.

Cognitive assimilation has a positive and significant effect on impulsive buying. Therefore, H3 is accepted. The higher the level of cognitive assimilation experienced by consumers, the greater the likelihood of impulsive buying. This result supported by previous research by Hussain et al. (2024) explained that when consumers are able to assimilate information well, they will feel confident about a product or service. This consumer confidence can reduce resistance to purchasing decisions, thereby encouraging impulsive buying behavior. Cognitive assimilation refers to the process by which consumers integrate new information with existing thought patterns, thereby influencing consumers' impulsive buying behavior. Another research stated that cognitive assimilation is not only about understanding information but also about processing it, which can strengthen consumers' impulses (Xu et al., 2020). This research aligns with research by Xu et al. (2019), which found that cognitive assimilation has a positive and significant effect on impulsive buying.

Based on Figure 2, the moderating role between Millennials and Generation Z has a positive and significant effect on the relationship between cognitive assimilation and impulsive buying. Thus, H4 is accepted. The higher the cognitive assimilation between Millennials and Generation Z, the stronger the relationship between these generations in making impulsive purchases in live streaming shopping. The moderating role between Millennials and Generation Z is an element that can strengthen the relationship between cognitive assimilation and impulsive buying in live streaming shopping. Because these two generations process information on websites 5x faster than the previous generation (Bilgihan et al. 2016). This study is in line with research conducted by Febriansyah et al. (2024) which stated that there is no significant difference between millennials and generation z so that both generations can strengthen the relationship between cognitive assimilation and impulsive buying.

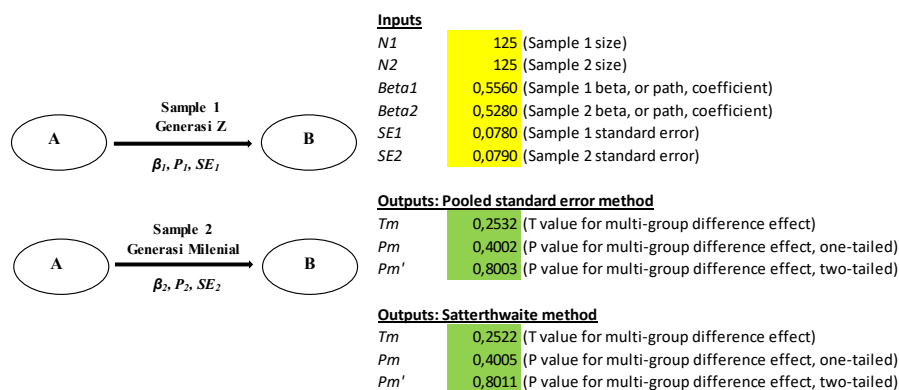


Figure 2. Moderation Effect

Conclusion

This study aims to create a research model by examining the factors that influence impulsive purchases in live streaming shopping in Indonesia through the Stimuli-Organism-Response (SOR) framework model by investigating streamer appeal and information quality through cognitive assimilation as a mediator moderated by differences between Millennials and Generation Z in influencing impulsive purchases in live streaming shopping. Based on the research results and discussions that have been described, it can be concluded that streamer appeal and information quality have a positive and significant effect on impulsive purchases. Streamer appeal and information quality have a positive and significant effect on impulsive purchases through cognitive assimilation, cognitive assimilation has a positive and significant effect on impulsive purchases. Cognitive assimilation mediates the relationship between streamer appeal and information quality on impulsive purchases. Between Millennials and Generation Z shows no difference or comparison of impulsive buying behavior. The limitations of this study use a cross-sectional or short-term method, so it cannot show a causal relationship. This study only uses Millennials and Generation Z, so generalization between generations is still limited. The study uses a sample of certain regions and platforms. So the researcher suggests further research using longitudinal methods, using moderation between Generation X and Generation Alpha or Generation Z and Generation X so that it can be generalized, and further research to expand the scope of the platform and test across cultures.

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