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Time pressure drives impulsive buying behavior through hedonic motivation and utilitarian motivation: An e-commerce perspective

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ABSTRACT

People's consumption habits and other aspects of daily life have changed due to the internet's quick development. The corona virus disease 2019 pandemic accelerated the adoption of digital platforms, especially e-commerce, but recently, performance has declined on some major platforms, such as Tokopedia. To maintain competitiveness, innovative marketing strategies such as live streaming features through time pressure encourage impulsive buying behavior. This research examines how time pressure affects impulsive buying behavior, considering hedonic and utilitarian motivations as factors that mediate this relationship. The study was motivated by conflicting results from earlier research about how time pressure influences impulsive buying behavior, along with the rising popularity of online shopping via live streams among Generation Z. A quantitative approach was employed using a structured online questionnaire distributed to 170 respondents in Malang, Indonesia, who had purchased fashion products via live streaming in the past three months. Data were analyzed using Structural Equation Modelling with Smart Partial Least Square to evaluate relationships among variables. The findings showed that time pressure significantly and positively influences impulsive buying behavior and hedonic and utilitarian motivation. Both hedonic and utilitarian motivations were also found to positively affect impulsive buying behavior and significantly mediate the relationship between time pressure and impulsive buying behavior. These findings highlight that emotional and rational motivations are crucial in shaping impulsive buying behavior under time pressure in the live streaming environment. The research contributes to understanding consumer behavior in digital commerce and provides practical implications for e-commerce marketers seeking to optimize live-streaming strategies to stimulate impulse buying.

1. Introduction

The growth of technology in the Internet field is increasingly rapid, encouraging cultural changes in daily life. English is the most reliable language for communication and business (Aza & Areni, 2019). The number of Internet users in Indonesia in 2021 reached 210.03 million, indicating a penetration rate of 77.02% of the population. Furthermore, in 2022, this number increased to 215.63 million users, which implies an annual growth of 2.4% (Witarso, 2023). The increase in the number of Internet users during the corona virus disease 2019 (COVID-19) pandemic significantly changed consumption patterns. Social restriction policies forced many people to turn to online platforms to fulfil their daily needs (Bradbury-Jones & Isham, 2020). This pattern was also observed in Indonesia. According to market research data, the total number of e-commerce users in Indonesia was 178 million.

94 million in 2022, representing an increase of 12. This represents a 79% increase compared to the previous year. The growth rate is expected to persist, with estimates indicating that the total will reach 221. 05 million users by 2025. However, in 2023, e-commerce decreased, including the Tokopedia platform, which, according to Databoks that in 2023, had a decrease in gross transaction value (GTV) of 8.2% compared to the previous year. The GoTo company provides online transportation services called Gojek and changed its name to GoTo after the merger of Tokopedia, one of the largest online marketplaces in Indonesia, in 2021. Tokopedia is a consumer-to-consumer marketplace. The GoTo company offers e-commerce services through Tokopedia claiming to have reached 99% of cities throughout Indonesia, with 865 million registered products, and approximately 12 million registered sellers (Barus & Barus, 2023). Tokopedia in the e-commerce field earned 132.47 trillion in 2022 and decreased 2023 to 121.48 trillion. This decrease in assets is due to a reduction in incentives that reduces the number of transactions from non-profitable consumers. Although specific data on the number of orders have not been published, the decline in GTV generally reflects a decrease in the number of orders or the average value per order of the orders. This decline also aligns with online shoppers' concerns that declining household consumption may affect shopping orders. When leading e-commerce platforms experience a downturn, this often correlates with increased pressure on smaller businesses in the same market to adapt and, therefore, scale up (Tudor, 2022).

To overcome this, sellers must evoke consumer emotions to be more motivated to buy a product or service without thinking too long (Bahrainizad & Rajabi, 2018). This is in line with the concept of impulsive buying, which is a natural urge in consumers but is often hidden (latent), so it needs to be stimulated through the right marketing strategy (Bahrainizad & Rajabi, 2018). Using the live streaming feature is one strategy that can encourage consumers to buy products. In a live-streaming room, the host creates an immersive experience for consumers and stimulates impulsive buying (Chen et al., 2020). Live streaming only takes a few moments for consumers to be attracted by live promotions introduced by streamers (Chen et al., 2020). This strengthens the most effective strategy for encouraging impulsive buying in e-commerce: the use of live-streaming.

Factors that can encourage impulsive buying on live streaming include time pressure, which can encourage consumers to make purchases or decisions quickly (Zhao et al., 2019). consumers driven by time pressure during live streaming will rush and only focus on what products they will buy and where they get them (Chang et al., 2014). Time pressure can trigger consumers to ignore thorough evaluation and make decisions quickly (Bahrainizad & Rajabi, 2018). Time pressure can influence impulsive buying by creating a sense of urgency for consumers to purchase immediately without prior planning (Suwito & Susilowati, 2025).

This is supported by several studies by Hu and Qin (2014) and Zhao et al. (2019) which found evidence of a strong and significant correlation between time pressure and impulsive buying. If consumers feel pressed for time, they tend to make shopping decisions quickly and

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lack consideration (Chocarro et al., 2013). However, contrary research was found, likely by Khorrami et al. (2015) which discovered that impulsive buying behavior was not much impacted by time constraints. Inconsistencies in the results caused a research gap, which was the reason for further research related to time pressure on impulsive buying. Researcher include mediating variables to fill in the research gap because they can help explain how and why an impact arises by revealing the causal process between the independent and dependent variables (Baron & Kenny, 1986).

The mediating variables were hedonic and utilitarian motivations. This is because, based on previous research by Liu et al. (2024) impulsive buying on live streaming is often influenced by two main factors: hedonic motivation and utilitarian motivation. Hedonic motivation is a shopping activity to get pleasure and feel that shopping is interesting when buying a product; there is a strong motivation from within the consumer (Chandra et al., 2023). According to Kumar and Kashyap (2018), utilitarian motivation is shopping rationally and focusing on practical or functional product benefits and efficiency.

According to research, using live streaming features can significantly increase purchases, so online live streaming becomes a marketing strategy for fostering an interactive shopping experience (Guo et al., 2021). The fashion industry is the most popular industry in live-streaming e-commerce. In 2022, the fashion e-commerce segment generated revenues of around $759.5 billion, making it one of the most significant e-commerce segments globally (Tabari et al., 2024). The trend of online fashion shopping is becoming prominent, especially among younger demographics, who prefer the convenience of e-commerce over traditional retail (Nizam & Ahsan, 2023). The fashion industry has become an important sector for Generation Z consumers and is characterized by high engagement and purchase behavior on e-commerce platforms. Generation Z has different shopping habits that support online purchases, especially fashion (Fairistha et al., 2023). Based on the explanation above, this study chose the fashion industry with the Generation Z population in Malang City. This study seeks to understand how time pressure in the context of live streaming triggers consumers' emotional and rational motivations that drive unplanned purchases, particularly in Generation Z consumers in Malang City who actively purchase fashion products through live streaming.

2. Literature Review and Hypothesis Development

2.1. Literature Review

2.1.1. Self-Determinant Theory

Six mini-theories are included in Self-Determinant Theory (SDT), which uses incentives to explain behavioral choices (Cassia & Magno, 2024). The two theories that are the subject of this study are the Cognitive Evaluation Theory (CET) and the Organismic Integration Theory (OIT) which contend that both intrinsic and extrinsic motivation shape human behavior (Cassia & Magno, 2024). Behavior that is carried out voluntarily, and that one finds delightful and fulfilling is known as intrinsic motivation (Deci & Ryan, 2000). Conversely, an activity performed for a goal distinct from the behavior is known as extrinsic motivation (Ryan & Deci, 2019).

2.1.2. Time Pressure

By definition, time pressure is the limited time available to make a purchase decision, which arises because of the time limit of a promotion or offer during a live broadcast. This time pressure creates a sense of urgency and concern about missing out on buying products at special prices or promotions before time runs out (Sun et al., 2023). Time pressure is the perceived lack of time that a person feels when having to make decisions or complete tasks within a limited time (Basso et al., 2019). This condition is often considered a stress factor that affects the quality of decision making

because it limits information processing capacity and forces rapid decision making without much consideration (Moon & Lee, 2013).

2.1.3. Hedonic Motivation

Hedonic motivation is defined as shopping motivation in obtaining pleasure and feeling that shopping is interesting (Chandra et al., 2023). When making a product purchase, there is strong motivation from within the consumer because they are motivated by hedonic desires that derive satisfaction from immediate pleasure (Chandra et al., 2023). Hedonic motivation refers to the drive to consume products or services for pleasure, enjoyment, fantasy, and emotional satisfaction rather than for practical or functional purposes (Santo & Marques, 2022). It involves seeking happiness, entertainment, and sensory stimulation during the consumption or shopping experience (Gawior et al., 2022). This motivation arouses experiential and emotional responses, making shopping an enjoyable and engaging activity rather than a mere task (Arnold & Reynolds, 2003).

2.1.4. Utilitarian Motivation

Utilitarian motivation refers to shopping motivation related to rationality, decision-making effectiveness, and goal orientation. It encourages individuals to fulfil their basic needs and motivates their readiness to act (Ryan & Deci, 2019). Utilitarians in shopping will consider function more than satisfaction (Solomon, 1994). Consumers will seek clear information about safety and service, time savings, and convenience, so utilitarian motivation becomes a shopping factor focusing on practical and rational benefits (Kumar & Kashyap, 2018). Utilitarian motivation refers to goal-oriented, functional behavior where consumers focus on practical, economic, and rational benefits during the shopping experience (Zheng et al., 2019). It emphasizes task completion, efficiency, and obtaining extrinsic rewards such as convenience, product assortment, and information quality (Chang et al., 2023). Consumers driven by utilitarian motivation view shopping as a mission to fulfill specific needs rather than for enjoyment (Traymbak et al., 2022).

2.1.5. Impulsive Buying Behavior

By definition, impulsive buying behavior is consumer behavior that does not plan and occurs suddenly in making quick decisions, but they have the belief that the transactions made are every day and irrational actions (Hu & Qin, 2014; Zheng et al., 2019). This behavior is influenced by emotions, feelings, and attitudes that arise after seeing a product or being exposed to attractive promotional messages (Sondakh et al., 2023). Impulsive buying often occurs spontaneously and quickly, with consumers tending to ignore rational evaluation and prioritization of long-term needs (Halim et al., 2022).

2.2. Hypothesis Development

2.2.1. The Positive Effect of Time Pressure on Impulsive Buying Behavior

Time pressure significantly affects impulsive buying behavior because consumers tend to ignore thorough evaluations and make decisions quickly, thus encouraging impulsive buying (Bahrainizad & Rajabi, 2018). Time pressure can change consumer behavior by accelerating product selection and information processing. Consumers under time pressure focus on specific brands and product attributes that accelerate decision-making and minimize time spent (Shih et al., 2019). Time pressure can increase impulsive buying because consumers feel that limited time forces them to make faster

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decisions, thus encouraging impulse purchases (Liang & Yu, 2024). According to Deci and Ryan (2000) concept of SDT, this theory explains and suggests participation in pertinent activities (Kathuria & Bakshi, 2024). According to this theory, motivation that comes from outside the individual (extrinsic motivation) is a potential predictor in influencing consumer behavior (Gilal et al., 2019). **H_1: Time Pressure Has a Positive Effect on Impulsive Buying Behavior.**

2.2.2. The Positive Effect of Time Pressure on Hedonic Motivation

Time pressure significantly affects hedonic motivation because time constraints affect how consumers interact with products and their shopping experiences. In time-pressured situations, consumers tend to fulfil emotional needs instantly, thus increasing hedonic motivation through satisfaction from quick and unplanned (Liang & Yu, 2024). Time pressure often leads to stress, which correlates with a higher tendency towards hedonics, as individuals seek to reduce their stress through pleasurable experiences and choose based on emotional appeal (Huang et al., 2024). **H_2: Time Pressure Has a Positive Effect on Hedonic Motivation.**

2.2.3. The Positive Effect of Time Pressure on Utilitarian Motivation

Time pressure significantly influences utilitarian motivation due to consumers' desire to achieve efficiency and practical benefits in the buying process. As a result, they tend to change the way they shop and make decisions that can affect the level of utilitarianism in their shopping experience (Basso et al., 2019). Time-pressed consumers are more inclined to choose utilitarian motivation over hedonistic motivation, such as efficiency and time savings, which is more experience-oriented (Kongarchapatara & Shannon, 2016). **H_3: Time Pressure Has a Positive Effect on Utilitarian Motivation.**

2.2.4. The Positive Effect of Hedonic Motivation on Impulsive Buying Behavior

Hedonic motivation significantly influences impulsive buying because consumers often get pleasure from shopping experiences, which in turn can strengthen the tendency to make impulsive buying (Mishra, 2021). Enjoyment and emotional satisfaction obtained from shopping experiences significantly increase impulsive buying behavior (Yulianto et al., 2021). **H_4: Hedonic Motivation Has a Positive Effect on Impulsive Buying Behavior.**

2.2.5. The Positive Effect of Utilitarian Motivation on Impulsive Buying Behavior

Utilitarian motivation significantly influences impulsive buying behavior because consumers prioritize functionality and practicality in their purchasing decisions. Utilitarian motivation encourages consumers to shop for a product because of its functional benefits (Liu et al., 2020). The ease and speed of purchase can drive unplanned shopping decisions, especially when consumers are presented with attractive offers or content that suits their practical needs (Kumar & Kashyap, 2018). **H_5: Utilitarian Motivation Has a Positive Effect on Impulsive Buying Behavior.**

2.2.6. The Effect of Time pressure on Impulsive Buying Behavior through Hedonic Motivation

Hedonic motivation has a role as a mediator in the relationship between time pressure and impulse buying behavior. Consumers who are under time pressure on live streaming tend to seek instant gratification and pleasure in shopping, so they are more easily encouraged to buy impulsively (Chandra et al., 2023). According to the theory of Baron and Kenny, a variable can mediate if the independent variable influences the

dependent variable, and the mediating variable influences both the independent and dependent variables. Based on this theory, time pressure on hedonic is supported by Kathuria and Bakshi (2024), on hedonic to impulsive buying supported by Santo and Marques (2022). **H_6: Hedonic Motivation Mediate the Effect of Time Pressure on Impulsive Buying Behavior.**

2.2.7. The Effect of Time pressure on Impulsive Buying Behavior through Utilitarian Motivation

Utilitarian motivation has a role as a mediator in the relationship between time pressure and impulsive buying behavior because when faced with time pressure, consumers tend to be more oriented towards efficiency and practicality in shopping so that they are more easily encouraged to buy impulsively (Bahrainizad & Rajabi, 2018). According to the theory of Baron and Kenny, a variable can mediate if the independent variable influences the dependent variable, and the mediating variable influences both the independent and dependent variables. In time pressure research on utilitarian is supported by Basso et al. (2019), then utilitarian on impulsive buying is supported by Halim et al. (2022). **H_7: Utilitarian Motivation Mediate the Effect of Time Pressure on Impulsive Buying Behavior.**

2.3. Research Framework

The research framework for this study is described in Figure 1. The effect of time constraints on impulsive purchasing behavior mediated by hedonic and utilitarian incentive is investigated in this study.

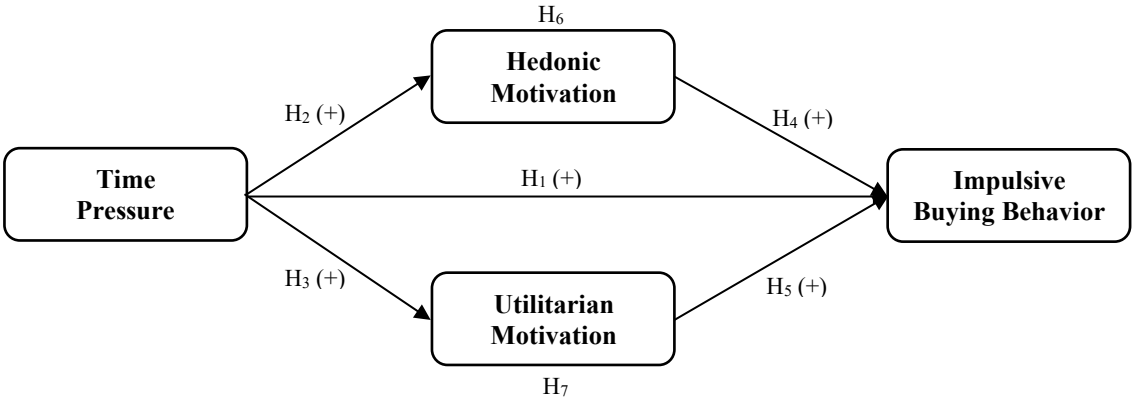

Figure 1. Research Framework

3. Research Method

3.1. Population and Sampling Method

This research uses quantitative methods with questionnaire techniques distributed online to Generation Z in Malang, who purchased fashion products through e-commerce live streaming. Using a non-probability sample method and a purposive sampling methodology with two criteria: Respondents are generation Z in Malang and have checked out fashion products when viewing live streaming on e-commerce, 170 respondents were chosen based on predetermined criteria.

3.2. Data Collecting Method

Data was obtained from a structured questionnaire to measure time pressure variables, hedonic motivation, utilitarian motivation, and impulse buying behavior. Time pressure uses five items from Sun et al. (2023), hedonic motivation uses four items from

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Horváth and Adıgüzel (2018), utilitarian motivation uses three items from Kumar and Kashyap (2018), and impulsive buying behavior uses four items from Bahrainizad and Rajabi (2018) with a Likert scale and demographic questions to describe the respondent's profile.

3.3. Data Analysis Method

Testing the research model using structural equation modeling with partial least squares (SEM-PLS). The reason for using SEM-PLS is because it is suitable for use in exploratory research or theory development, then can be used on a relatively small sample size, and is superior in handling complex models with many latent constructs and indicators, and can test direct and indirect effect (mediation). Data analysis was performed using the SEM-PLS technique with the assistance of Smart Partial Least Square software to examine the inferential relationships between the variables in the research model.

4. Result and Discussion

4.1. Characteristics of Respondent

Based on Table 1, there were 99 women, around 58%. Meanwhile, the remaining 71 people are men, or around 42%. In terms of age category, the respondents are divided into several groups: 83 people aged 18-22 years old, which accounted for 50.6% of the total respondents; 63 people aged 23-28 years old, or 37.1%; and 21 people aged 13-17 years old, which accounted for 12.4%. In addition, respondents are also segmented based on Generation Z's digital consumption patterns, where 64 people (38.7%) do online shopping a few times a week. In comparison, 52 people (30.6%) do it a few times a month.

Table 1. Respondents Profile

Classification	Description	Frequency	
		Total	Percentage
Gender	Man	71	41.8 %
	Women	99	58.2 %
Age	13-17	21	12.4 %
	18-22	86	50.6 %
	23-28	63	37.1 %
Consumption Patterns	Everyday	20	11.8 %
	A few times a week	64	37.6 %
	A few times a month	52	30.6 %
	Rarely	34	20 %

According to the findings from a study conducted with 170 respondents, there were 99 women, which amounted to around 58%. Meanwhile, the remaining 71 people are men, or around 42%. In terms of age category, the respondents are divided into several groups: 83 people aged 18-22 years old, which accounted for 50.6% of the total respondents; 63 people aged 23-28 years old, or 37.1%; and 21 people aged 13-17 years old, which accounted for 12.4%. In addition, respondents are also segmented based on Generation Z's digital consumption patterns, where 64 people (38.7%) do online shopping several times a week, while 52 people (30.6%) do it several times a month.

4.2. Validity Test

Validity testing was conducted by examining the external load coefficient of each item against other variables. This test used a factor load parameter > 0.7. The results shown in Table 2 indicate that the factor load values for each variable item are greater than 0.7.

Table 2. Validity Test Result

Item Indicator	Hedonic Motivation (HM)	Impulsive Buying Behavior (IBB)	Time Pressure (TP)	Utilitarian Motivation (UM)
HM1	0.879			
HM2	0.906			
HM3	0.892			
HM4	0.898			
UM1				0.913
UM2				0.928
UM3				0.876
TP1			0.864	
TP2			0.860	
TP3			0.873	
TP4			0.851	
TP5			0.846	
IBB1		0.895		
IBB2		0.919		
IBB3		0.908		
IBB4		0.918		

Figure 2 shows the outer model of Smart PLS. The figure shows the outer loading values of each indicator item that was declared valid in this study. Time pressure (TP) uses five items, hedonic motivation (HM) uses four items, utilitarian motivation (UM) uses three items, and impulsive buying behavior (IBB) uses four items.

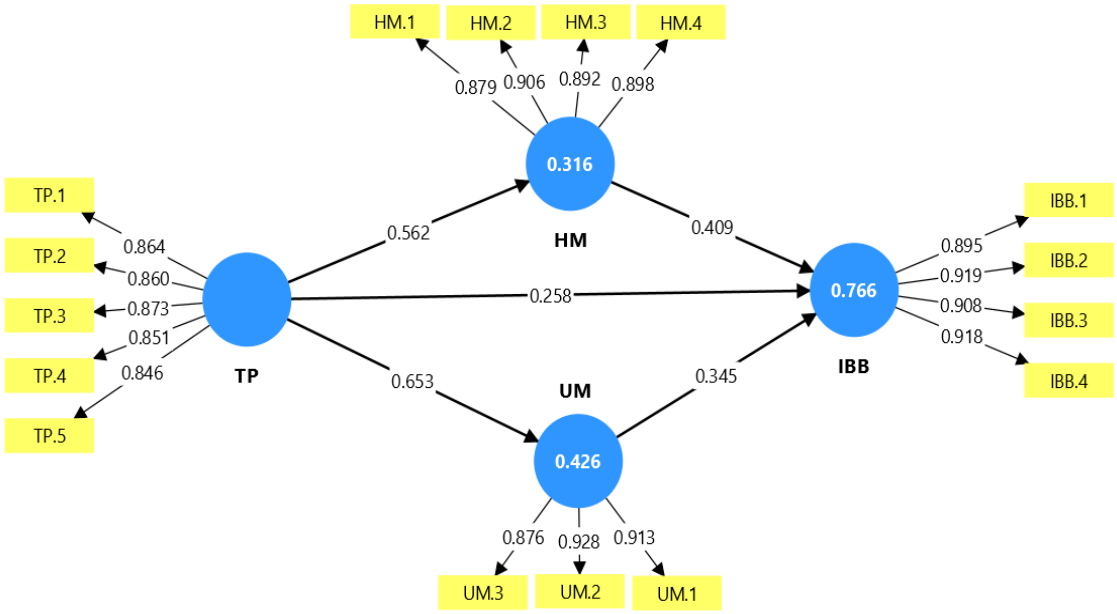

Figure 2. Outer Model

4.3. Reliability Test

Composite reliability coefficients and Cronbach's alpha were used in reliability testing to assess the internal consistency of variables. A threshold value of more than 0.7 was considered acceptable for assessing composite reliability coefficients and Cronbach's alpha for a variable. The reliability test results can be seen in Table 3.

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Table 3. Reliability Test

Variable	Cronbach's Alpha	Composite Reliability
Time Pressure	0.911	0.914
Hedonic Motivation	0.916	0.922
Utilitarian Motivation	0.891	0.898
Impulsive Buying Behavior	0.931	0.931

4.4. Hypothesis Test

Hypothesis testing is used to analyze the relationship between variables in a research model. A hypothesis can be accepted or supported when the p-value is less than 0.05. Table 4 shows the results of hypothesis testing using Smart PLS. Time pressure was proven to have a positive effect on impulsive buying behavior. Time pressure was proven to have a positive effect on hedonic motivation. Time pressure was found to have a positive effect on utilitarian motivation. Hedonic motivation was found to have a positive effect on impulsive buying behavior. Utilitarian motivation was found to have a positive effect on impulsive buying behavior. Hedonic motivation and utilitarian motivation were found to mediate the relationship between time pressure and impulsive buying behavior.

Table 4. Results of Hypothesis Testing

Hypothesis	Original Sample	Sample Mean	Standard Deviation	T-Statistic	P-Value
Time Pressure → Impulsive Buying Behavior	0.258	0.257	0.053	21.217	0.000
Time Pressure → Hedonic Motivation	0.562	0.563	0.051	10.973	0.000
Time Pressure → Utilitarian Motivation	0.653	0.653	0.041	15.936	0.000
Hedonic motivation → Impulsive Buying Behavior	0.409	0.410	0.050	8.130	0.000
Utilitarian Motivation → Impulsive Buying Behavior	0.345	0.345	0.061	5.628	0.000
Time Pressure → Hedonic Motivation → Impulsive Buying Behavior	0.230	0.231	0.038	6.015	0.000
Time Pressure → Utilitarian Motivation → Impulsive Buying Behavior	0.225	0.225	0.044	5.063	0.000

4.5. Discussion

4.5.1. The Effect of Time Pressure on Impulsive Buying Behavior

According to the findings of this study, time pressure positively affects impulse buying behavior. These results are consistent with previous research (Hu & Qin, 2014; Shih et al., 2019; Zhao et al., 2019). These results indicate that the higher the time pressure, the more impulsive buying behavior will increase. With time pressure in live streaming, consumers will feel pressured and immediately make purchasing decisions which are characterized by urgency (Zhao et al., 2019). Time pressure affects consumers when they are under pressure and increases the likelihood of quick purchases (Shih et al., 2019). Time pressure can increase impulsive buying because consumers feel that limited time forces them to make faster decisions, thus encouraging impulse purchases (Liang & Yu, 2024). In addition, time pressure can trigger emotions such as urgency and anxiety that drive purchase decisions based on intuition, thereby increasing impulsive buying (Huang & Suo, 2021). Time pressure has a significant effect on impulse buying

behavior because consumers tend to ignore thorough evaluation and make decisions quickly. Thus, encouraging impulse buying (Bahrainizad & Rajabi, 2018). In line with the concept of SDT developed by Deci and Ryan (2000), this theory explains and recommends involvement in relevant activities (Kathuria & Bakshi, 2024) According to this theory, motivation that comes from outside the individual (extrinsic motivation) is a potential predictor in influencing consumer behavior (Gilal et al., 2019).

4.5.2. The Effect of Time Pressure on Hedonic Motivation

According to the study's findings, time pressure positively affects hedonic motivation. These results are consistent with previous research (Kongarchapatara & Shannon, 2016; Kathuria & Bakshi, 2024). When there is time pressure it often triggers stress which correlates with a higher tendency towards hedonic motivation as they seek to reduce stress through pleasurable experiences (Huang et al., 2024). Consumers under time pressure may be more interested in pleasurable shopping experiences, even if it means ignoring some practical considerations (Bailey & Ivory, 2018). These results indicate that the higher the time pressure, the more hedonic motivation increases. Time pressure will provide a challenging experience for consumers and strengthen the sense of satisfaction when successfully getting results. In line with Deci and Ryan (2000) concept of SDT, there is a perspective that explains how external factors can encourage consumers to trigger internal motivation (Kathuria & Bakshi, 2024). Time pressure as an external factor will pressure consumers, who tend to instantly fulfil their emotional needs by increasing hedonic motivation through purchase satisfaction (Liang & Yu, 2024).

4.5.3. The Effect of Time Pressure on Utilitarian Motivation

The findings of the study show that time pressure has a positive effect on utilitarian motivation. These results are consistent with previous research (Kongarchapatara & Shannon, 2016; Basso et al., 2019). These results indicate that the higher the time pressure, the more utilitarian motivation increases (Kongarchapatara & Shannon, 2016) Under time pressure, consumers tend to use heuristics by focusing on the most important product attributes, making it easier for them to select alternatives quickly without delaying the decision (Basso et al., 2019). In addition, time pressure increases utilitarian motivation, making consumers value product function and usability more than other less relevant aspects especially noticeable when consumers are faced with many choices, where time pressure helps reduce confusion and speed up utilitarian motivation (Basso et al., 2019). One viewpoint that describes how outside influences might motivate consumers to motivate themselves is Deci and Ryan (2000) notion of SDT (Kathuria & Bakshi, 2024). Time pressure will pressure consumers to increase efficient decision-making by focusing on relevant information and reducing the weight of irrelevant cues that lead to utilitarian motivation (Basso et al., 2019).

4.5.4. The Effect of Hedonic Motivation on Impulsive Buying Behavior

According to the study's findings, hedonic motivation positively affects impulsive buying behavior. These results are consistent with previous research (Chatterjee et al., 2024; Huang et al., 2024). These results indicate that the higher the hedonic motivation, the more impulsive the buying behavior increases (Chatterjee et al., 2024). Hedonic motivation strongly influences impulsive buying because it involves emotional responses such as pleasure, enjoyment, and excitement that drive consumers to make quick or impulsive buying. Hedonic shopping provides enjoyment, comfort, and exploration, which increase the likelihood of impulse buying by stimulating positive emotions and the

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desire for immediate gratification (Zheng et al., 2019). Consumers seeking hedonic value tend to ignore consequences and act on sudden powerful impulses, making impulsive buying behavior hedonically complex and emotionally driven (Mamuaya & Pandowo, 2018). According to Deci and Ryan (2000) concept of SDT, sustainable behavior is significantly impacted by intrinsic motivation (Kathuria & Bakshi, 2024).

4.5.5. The effect of Utilitarian Motivation on Impulsive Buying Behavior

According to the study's findings, utilitarian motivation positively affects impulsive buying behavior. These results are consistent with previous research (Kumar & Kashyap, 2018; Halim et al., 2022). These results indicate that the higher the utilitarian motivation. the more impulsive buying behavior increases. Utilitarian motivation influences impulsive buying by encouraging consumers to make quick decisions based on practical benefits such as product functionality, cost savings, and convenience (Fu & Hsu, 2023). Consumers with high utilitarian values tend to analyze product features efficiently and are more likely to make impulse purchases when they perceive clear functional advantages or time-limited offers (Widyastuti, 2023). This rational evaluation process can trigger impulsive buying as consumers see immediate value or problem-solving benefits in the product (Liu et al., 2024). In line with Deci and Ryan (2000) concept of SDT, intrinsic motivation has a significant influence on maintainable behavior (Kathuria & Bakshi, 2024).

4.5.6. Hedonic Motivation as a Mediating Effect of Time Pressure to Impulsive Buying Behavior

According to the study, hedonic motivation can mediate time pressure on impulsive buying behavior. This finding aligns with Baron and Kenny (1986) theory that mediating variables are formed if the independent variable affects the dependent variable and mediation influences both. In this study, the relationship between time pressure and hedonic motivation is supported by previous studies (Kongarchapatara & Shannon, 2016; Kathuria & Bakshi, 2024), while the effect of hedonic motivation on impulsive buying is supported by previous studies (Chatterjee et al., 2024; Huang et al., 2024). In line with Deci and Ryan (2000) concept of SDT, intrinsic motivation functions as a mediator by bridging the influence of external incentives on consumer behavior (Kathuria & Bakshi, 2024). The SDT perspective in marketing explains how external motivation, namely time pressure, affects internal (hedonic motivation) and ultimately affects impulsive buying behavior.

4.5.7. Utilitarian Motivation as a Mediating Effect of Time Pressure to Impulsive Buying Behavior

According to the study's findings, utilitarian motivation can mediate time pressure on impulsive buying behavior. This finding aligns with Baron and Kenny (1986) theory that mediating variables are formed if the independent variable affects the dependent variable and mediation influences both. In this study, the relationship between time pressure and utilitarian motivation is supported by the studies (Kongarchapatara & Shannon, 2016; Basso et al., 2019), while the effect of utilitarian motivation on impulsive buying behavior is strengthened by Kumar and Kashyap (2018). In line with Deci and Ryan (2000) concept of SDT, intrinsic motivation functions as a mediator by bridging the influence of external incentives on consumer behavior (Kathuria & Bakshi, 2024). The SDT perspective in marketing explains how external motivation, namely time pressure, affects internal (utilitarian) motivation and ultimately impulsive buying behavior.

5. Conclusion

This study concludes that time pressure significantly and positively influences impulse buying behavior directly and indirectly through hedonic and utilitarian motivations as mediating variables. These findings suggest that, in live-streaming e-commerce, particularly in the fashion industry. Generation Z consumers engage in impulsive buying under time pressure. These decisions were driven by emotional gratification (hedonic motivation) and practical considerations (utilitarian motivation). This two-path mediation indicates that live-streaming promotions effectively stimulate impulse purchases by creating a sense of urgency and providing pleasant and efficient shopping experiences. However, this study has several limitations. First, the sample was limited to Generation Z in Malang, which may restrict the generalizability of the findings to other regions or age groups. Second, this study focuses solely on fashion products. which may not represent consumer behavior in other categories. Finally, using a cross-sectional survey design limits the ability to capture changes in behavior over time. Future research should expand its demographic scope to include different generations and geographic areas. Additionally, longitudinal studies can observe how consumer motivation and impulsive buying tendencies evolve. Exploring other variables, such as personality traits, product types, and cultural influences may also provide deeper insights into the mechanisms behind impulsive buying in digital environments.

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