Journal of Applied Engineering and Technological Science Vol 5(1) 2023: 88-100



# THE IMPULSE BUYING OF GEN Z WHEN USING E-WALLET IN INDONESIA

Lim Sanny<sup>1\*</sup>, Gilang Rafi Chandra<sup>2</sup>, Kitsy Chelles<sup>3</sup>, Laurent Angelica Santoso<sup>4</sup> Management Department, BINUS Business School, Master Program, Bina Nusantara University, Jakarta, Indonesia<sup>1,2,3,4</sup> Isanny@binus.edu

Received : 07 July 2023, Revised: 27 September 2023, Accepted : 07 October 2023 \**Corresponding Author* 

## ABSTRACT

This research aims to analyze the impulse buying of Gen Z when using e-wallets in Indonesia. This type of research is quantitative research using the Partial Least Squares Structural Equation Modeling (SEM) framework. The sampling technique involved convenience sampling with a total of 393 Gen Z e-wallet users in Indonesia who had been surveyed online. Theoretical implications in this study are implementing the S-O-R framework on e-wallet enriches. This research provides a new perspective using Generation Z as a research subject. The results found in this study revealed that the model could explain 60.2% of variance satisfaction and 5.9% of impulse buying. In addition, the factors that encourage satisfaction include perceived interactivity, perceived risk, and subjective norms that significantly affect satisfaction with a small effect. Perceived usefulness is the most significant factor with a substantial impact that positively influences satisfaction. This satisfaction is proven to control impulse buying positively, but it can only be explained in a small part. The research's practical implication is that these results can provide input for e-wallet development companies to satisfy Gen Z using e-wallets in impulse buying. **Keywords:** E-wallet, Generation Z, Impulse Buying, S-O-R

## 1. Introduction

In Asia, Indonesia is ranked third in the percentage of internet users. This shows that internet use in Indonesia is increasing dramatically every year, and more people are using it in their daily activities (Husrizal, 2022). It cannot be separated from Generation Z as a generation that grows up with the development of technology and the internet (Bhalla, Tiwari, & Chowdhary, 2021; Gentina, 2020; Hinduan, Anggraeni, & Agia, 2020). Due to the rapid expansion of the internet, mobile payment systems are now widely available (Teng Tenk, Chin Yew, & Teck Heang, 2020). In this situation, e-wallets and other forms of mobile payment acceptance increase the digital economy in both developed and developing nations (Abdul-Halim, Vafaei-Zadeh, Hanifah, Teoh, & Nawaser, 2022).

Using e-wallets makes financial transactions easier as it only uses a smartphone and can give people the advantage of technological sophistication (Ariffin, Abd Rahman, Muhammad, & Zhang, 2021). Using digital wallets can also help financial reports, even for personal use. Every transaction will be recorded clearly in the transaction history. These data can be used as information in making confidential financial reports. The main advantages of using an electronic wallet include reduced risk when dealing with cash, decreased fraud, quicker payments, as well as time and energy savings (Shaw & Kesharwani, 2019). Thus, the profitable benefits increase the number of e-wallet users (Yang, Al Mamun, Mohiuddin, Nawi, & Zainol, 2021). Based on data from (IPrice, 2020), 26% of 1,000 respondents said they used e-wallets as a payment method when shopping online. The percentage of e-wallet payment methods had increased in 2021 to 43%. E-wallets can be a helpful tool for the greater good of global financial inclusion (Bommer, Rana, & Milevoj, 2022).

Based on a KIC (Words Data Insight Center) survey, most Generation Z prefers to use electronic wallets compared to bank automatic teller machines (ATM) cards (Katadata, 2022). Previous studies have found that using electronic wallets can increase customer satisfaction (Phuong, Le, Nguyen, Van Camp, & Raes, 2020), which can increase sales due to instant purchases (Do, Shih, & Ha, 2020; Wu, Chiu, & Chen, 2020; Zhang, Leng, & Liu, 2023). Gen Z is more persuasive in purchasing (Lee, Gan, & Liew, 2023). The research by Ku & Chen (2020)

mentioned that the characteristics of impulsive buying imply individuals who usually interact with the online environment.

Several studies have shown that the use of e-wallets or digital payments has a positive effect on impulse buying. According to (Adella Halim et al., 2020), which is also supported by other studies with the same opinion, customers' propensity to engage in impulse buying will be served by the proliferation of digital payment methods, such as debit cards, credit cards, and e-wallets with the possibility of QR codes and more e-wallets (Kang & Choi, 2019).

One of the most reliable and significant variables driving impulse buying is customer satisfaction, which has been acknowledged in the literature recently (Wu et al., 2020). The (S-O-R) model in psychology illustrates how diverse components of the environment might become a stimulus (S) that changes a person's personality emotional state (O), resulting in a reaction (R) (Djafarova & Bowes, 2021). Because it is assumed reactive, the (SOR) model is the most appropriate for researching impulse buying (Zheng, Men, Yang, & Gong, 2019). The Stimulus-Organism-Response theory model was used in this study to achieve the research objectives. Its research result showed that consumer impulse buying behavior positively correlates with satisfaction. This indicates that consumers who make unplanned purchases using e-wallets will positively influence their satisfaction with using e-wallet (Yong Lee, Lay Gan, & Wei Liew, 2021).

Researchers found that 41% of the newest generation, especially Generation Z, are impulse buying, while 34% of Millennials and 32% of Generation X are also impulsive shoppers (Djafarova & Bowes, 2021). Because cashless payments are less of a hassle, the consumers are less able to resist impulse buying. However, impulsive buying causes a loss of emotional control caused by the desire to get something fast and potential negative consequences, leading to compulsive behavior that can progress to a chronic level (Rodrigues, Lopes, & Varela, 2021). However, several studies have contradictory conclusions. According to (Fauziyah, Bakar, & Hamid, 2022), using the electronic wallet payment method does not affect consumers' tendency to make impulse buying. The result showed that the factors that influence the use of e-wallets are because mobile self-efficacy significantly influences perceived enjoyment (Esawe, 2022). Other research also states that fun, incentive, convenience, and habit positively affect users' continued usage intention on e-wallets. However, the analysis revealed that subjective norm was insignificant in determining users' continuous usage intention (Yapp, 2022). Research by (Lee, Gan, & Liew, 2022) shows that customer satisfaction with using electronic wallets does not affect the tendency to make impulse buying. From the results of several studies, there needs to be more consistency in the research results between researchers. The difference between this research and other research is that this research utilized several elements, such as perceived interactivity, subjective norms, usefulness, and perceived risk of impulsive shopping through e-wallet enjoyment using a model approach (S-O/-R) to research impulse buying. However, the research regarding the behavior of Gen Z in Indonesia regarding the use of e-wallets and their tendency to make impulse buying still needs to be completed. This research provides a new perspective using Generation Z as a research subject.

For this reason, it is necessary to conduct more profound research on the behavior of Gen Z in Indonesia, particularly in using e-wallets. This study represents one of the first attempts to improve e-wallets by empirically analyzing Gen Z behavior in using them. Based on these descriptions, this research aims to analyze the impulse buying of Gen'Z in Indonesia when using e-wallets.

#### 2. Literature Review

# Stimulus-Organism-Response (S-O-R) Model

S-O-R is one of the best models for analyzing consumer behavior. It allows the researchers to assess and consider several specific application variables and determine how they affect the general emotional state of app users and their response to different stimuli (Chopdar & Balakrishnan, 2020). The S-O-R model is one of the best-validated frameworks for investigating consumer behavior as it provides researchers with a framework to understand and bring different specific predictors and assess their effect on consumers' emotional states and responses (Chopdar & Balakrishnan, 2020). The researchers have used the stimulus-organism-response paradigm to

study consumer behavior (Do et al., 2020). People's stimulation causes them to make impulse buying (Do et al., 2020). In this sitation, "organism" refers to consumers' cognitive and emotional reactions, which include their cognitive and emotional processes (Do et al., 2020). The final part of the S-O-R theory is reactions, which can be defined as the impulse to leave or enter a given environment. These kinds of acts are typically classified as either "approach" or "avoidance" behaviors (Bigne, Chatzipanagiotou, & Ruiz, 2020).

The relationship between stimulus, organism, and response is one of the main problems of the current investigation. So in this study, perceived interactivity, perceived risk, subjective norms, and perceived usefulness are the four independent variables that make up the stimulus (S). In addition, there is a mediating factor in the form of organisms (O) which consists of satisfaction, and the dependent variable as a reaction is impulse buying (R). This study shows that reported satisfaction, a temporary emotional state, will influence impulse buying in this way. This study evaluates reported satisfaction to determine how much a person values using an e-wallet. This study looks at how impulse buying is influenced by subjective satisfaction. There are research results the Stimulus-Organism-Response (S-O-R) Model to examine the impact of users' E-wallet usage behavior on impulse buying noted the results show that the perceived enjoyment of using an E-wallet positively affects users' impulse buying behavior. Subjective norms and visual appeal positively influence perceived enjoyment. This study found that consumers' impulsive buying behavior positively impacted satisfaction, indicating that consumers making unplanned purchases using E-wallet would positively influence their satisfaction towards E-wallet (Yong Lee et al., 2021).

#### **Perceived Interactivity**

Perceived interactivity is "the user's ability to change the shape and content of mediated environments in real time" (Do et al., 2020). The researchers found that perceived interactivity (responsiveness of the E-wallet system) is a crucial concern in e-wallet adoption to the extent that payment processing time may be reduced to improve overall checkout counter efficiency. The literature also shows that interactivity positively affects satisfaction (Lee et al., 2022). This occurs because while using electronic wallets, users' viewpoints may be more concerned with addressing their information demands, such as responsiveness, accessibility, and convenience, which increase their pleasure with the program. According to Lee et al. (2022), this study uses perceived interactivity as a stimulus to test customer satisfaction in using e-wallets. Therefore, this study proposes the hypothesis that:

H1: Perceived interactivity positively influences satisfaction when using an e-wallet.

## **Perceived Risk**

Perceived risk is consumer expectations that have a negative impact as a result of online transactions (Wu et al., 2020). Application users are very concerned about the risks posed by the security of applications used for financial transactions in the online retail sector (Hsiao, 2021; Nizam, Hwang, & Valaei, 2019). Researchers have examined how a person's perception related to the risk impacts whether they use their mobile wallet to make cashless payments (F. Chen & Jiang, 2022; Rahman, Ismail, Bahri, & Rahman, 2022). Although mobile payments are popular and practical (Nizam et al., 2019; Yan, Tan, Loh, Hew, & Ooi, 2021), security and privacy concerns result from such transactions (Aji, Berakon, & Md Husin, 2020; Kasirye & Masum, 2021). Literature also shows that perceived risk positively affects satisfaction (Lee et al., 2022). From the standpoint of digital wallet service providers, the most difficult thing to overcome is a need for more trust, particularly the issue of perceived danger (Riska, Kholid, & Salsabilla, 2023). Therefore, this study proposes the hypothesis that:

H2: Perceived risk has a positive influence on satisfaction when using an e-wallet.

#### **Subjective Norms**

Subjective norms are defined as "social pressure felt by individuals from the surrounding environment regarding the behavior of whether to perform or not perform, and the two main sources of pressure are interpersonal influence and media influence" (Liu, Shao, Tang, & Fan, 2019). The literature also shows that subjective norms positively affect satisfaction (Lee et al.,

2023). According to Lee et al. (2023), this shows the important role of family, friends, colleagues, and co-workers, who influence the use and satisfaction of e-wallets. Research by Lee et al. (2023) shows that interpersonal and media positively influence the satisfaction felt by e-wallet users. Research by Liu et al. (2019) also found a positive relationship between subjective norms and satisfaction. Therefore, this study proposes the hypothesis that:

H3: Subjective norms have a positive influence on satisfaction when using an e-wallet.

# **Perceived Usefulness**

According to Davis (1985), perceived usefulness relates to how much a person believes they can use a system to improve their performance at work. Most people think that their decision to continue an activity on evaluating how the activity will improve their performance (Zhou et al., 2021). The tendency of customers to utilize services and the desire to recommend them to others is often used to determine and evaluate their satisfaction and loyalty (Hasan, Al-Dmour, & Al-Dmour, 2020). Literature also shows that perceived usefulness positively affects satisfaction, where increasing perceived usefulness has a major effect on the satisfaction of m-payment (Goel, Garg, Sharma, & Rana, 2022). Therefore, this study proposes the hypothesis that:

H4: Perceived usefulness norms have a positive influence on satisfaction when using an e-wallet.

# Satisfaction

Satisfaction is a psychological or emotional state that occurs when expectations and information system performance are compared (Van Zyl & Rothmann, 2019). Satisfaction is used to measure satisfaction because it shows how well expectations have been met and how well they interact with specific information systems (Hussein, Mohamed, & Kais, 2021). Users who enjoy using the mobile payment system will continue to be interested in and often use it (S. C. Chen, Chung, & Tsai, 2019). Based on the findings of previous literature and previous systems or decisions to use it, people's overall cognitive satisfaction can determine their level of satisfaction (Shamsudin, Azuwan, Nayan, Esa, & Kadir, 2020). However, recent research has found that satisfaction has a negative effect on impulse buying. The assumption is that using e-wallets for pleasure will not force people to make impulse buying (Lee et al., 2022). Therefore, this study proposes the hypothesis that:

H5: Satisfaction has a positive influence on impulse buying when using an e-wallet.

# **Impulse Buying**

Impulse buying refers to unplanned purchases or decisions made on the spot (Piron & Antonio, 1965). Impulse buying produces a sudden, often strong, and persistent desire to act without thinking (Lee et al., 2022). Impulse buying refers to the situation when a person wants to purchase without thinking first about it. Consumers often choose goods without giving them much thought as they want them in that time. With online buying, customers can buy whenever they want, which encourages impulse buying more than any other method. Consumers may overspend because they feel pressured to use their money when making online payments or transactions. In addition, cashless payments influence the tendency of consumers to make impulse nuying. Digital wallets have had a profound effect on the shopping habits of Indonesian consumers (Handayani & Rahyuda, 2020). With the previous in mind, this study looks at the habits of people who use electronic wallets and asks if the popularity of mobile payment methods can encourage consumers to make impulsive buying.

# **Research Model Framework**

This research focuses on deepening understanding of impulse buying made by Gen Z in Indonesia when using e-wallets due to a significant increase in e-wallet use in Indonesia. The S-O-R framework was implemented in this study to answer the research objectives, where perceived interactivity, perceived risk, subjective norms, and perceived usefulness were taken as the "stimulus." The research model framework, which is limited in this study, is presented as follows:



## 3. Research Methods

## **Sample Participants and Procedures**

The data were sourced from a single online poll in Indonesia in December 2022. The Google Forms-created online poll was distributed via Instagram, Line, and WhatsApp applications. Generation Z, who used e-wallets as a means of payment, was the criterion of the respondents who filled out the questionnaires. This study used convenience sampling with a minimum number of samples for this study is 120, which is obtained based on the ratio between the variable and the sample of 1:20 (Joseph F Hair, Babin, Anderson, & Black, 2019). The criteria for e-wallet users Generation Z Indonesia (all born in 1997 - 2012, domiciled on all islands in Indonesia) are male and female participants. These criteria were selected because Generation Z is the largest generation in Indonesia (based on the 2020 population census). Gen Z is the first generation born into a digital native world, making them have good digital financial literacy. The researchers collected 404 responses. After filtering the data, eleven responses could not be used because they did not meet the criteria, so the number of responses used was 393, with a composition of 60.31% female respondents and 39.69% male respondents spread across Indonesia.

#### Measurement

In order to maintain content validity, researchers utilized previous research as a reference for making questionnaires. The back-translation method by Behr (2017) translated the questionnaire to ensure that the English and Indonesian versions of the same statement were consistent. The questionnaire consists of 25 items. Four items were adapted for each perceived interactivity, perceived risk, subjective norms, and satisfaction (Lee et al., 2022). Items for perceived usefulness (4 items) were adapted from (Winarno, Mas'ud, & Palupi, 2021). Moreover, items for impulse buying (5 items) were adapted from (Lee et al., 2022). Each item is measured using a 5-point Likert scale, where a score of one indicates "strongly disagree" and a score of five indicates "strongly agree" (Jebb, Ng, & Tay, 2021; Mumu, Tanujaya, Charitas, & Prahmana, 2022). The questionnaire has three sections: the first determines whether the responder's criteria are met or not; the second gathers respondent demographic information; and the third represents all variables.

#### Methodology

This study employed the partial least squares structural equation modeling (PLS-SEM) technique using SMART PLS 4.0.

Demographic Ch	naracteristic	Frequency	Percentage					
Gender	Female	237	60.31					
	Male	156	39.69					
Domicile	Jabodetabek	219	55.73					

Tabel	1-	Respond	lent F	Profile (	n = 39	93).

	Jawa	102	25.95
	Sumatera	36	9.16
	Kalimantan	17	4.33
	Bali and Nusa Tenggara	10	2.54
	Sulawesi	6	1.53
	Maluku and Papua	3	0.76
	1 to 5 times	109	27.74
	6 to 10 times	52	13.23
Frequency of E-wallet Usage in a Month	11 to 15 times	23	5.85
	16 to 20 times	104	26.46
	More than 20 times	105	26.72
	ShopeePay	199	26.86
	GoPay	188	25.37
	Dana	155	20.92
Type of E-wellet use	OVO	152	20.51
Type of E-wallet use	LinkAja	32	4.32
	iSaku	8	1.08
	Sakuku	6	0.81
	Doku	1	0.13

Many social science academics have adopted PLS-SEM (Hair et al., 2019), and it has also been widely employed in quantitative studies of Fintech (Abbasi, Sandran, Ganesan, & Iranmanesh, 2022; Esawe, 2022;Lee et al., 2022). PLS-SEM allows for testing complicated models, collecting informative data, and using unlimited samples. In addition, PLS-SEM reliably estimates how much a given set of constructs explains a dependent variable (J F Hair, Risher, Sarstedt, & Ringle, 2018). This study examines the behavior of Indonesian Gen Z in using ewallets and how these factors influence impulse buying. Hence, PLS-SEM was considered appropriate for this study. PLS-SEM divides the analysis into two stages: measuring the validity and reliability of the outer model (measurement model) and the strength of the correlation between constructs and the inner model (structural model).

# 4. Results and Discussions

#### Result

The measurement model was carried out in four stages (Joseph F. Hair, Risher, Sarstedt, & Ringle, 2019); including indicator loading as the first stage with a minimum value of 0.30. This is followed by assessing internal consistency reliability with computing composite reliability and Cronbach's alpha (Gefen, Straub, & Boudreau, 2000). Composite reliability and Cronbach's alpha have a minimum value of 0.70. The composite reliability score between 0.761 and 0.901 and the Cronbach's Alpha value between 0.741 and 0.901 are shown in Table 2, which shows adequate construct reliability. In the third stage, to ensure the convergent validity of each construct, the researchers calculated the average variance extracted (AVE) for all items. At least a value of 0.50 or above is required for AVE to be considered acceptable. Table 2 shows that all items have a loading factor between 0.582 and 0.918 and an AVE value between 0.515 and 0.771, which meets the requirements of convergent validity. All measurement items have met the criteria of construct validity and reliability.

Table 2 - Result of the Descriptive Statistics, Validity, and Reliability Test (n = 393).

Variable	Descriptive Statistic		Convergent Validity	Reliability	
(Item)	Mean STDI	STDEV	Factor Loading AVE	Composite	Cronbach's
(Itelli)		SIDEV	Pactor Loading AVE	Reliability	Alpha
Perceived Interactivity			0.558	0.761	0.741

PI1	0.803	0.034	0.807			
PI2	0.783	0.031	0.785			
PI3	0.726	0.045	0.731			
PI4	0.654	0.045	0.656			
Perceived Risk				0.757	0.898	0.893
PR1	0.833	0.031	0.835			
PR2	0.918	0.010	0.918			
PR3	0.879	0.018	0.879			
PR4	0.844	0.028	0.846			
Subjective Norms				0.656	0.863	0.832
SN1	0.799	0.031	0.802			
SN2	0.781	0.038	0.784			
SN3	0.836	0.024	0.838			
SN4	0.816	0.028	0.816			
Perceived Usefulness				0.719	0.876	0.870
PU1	0.822	0.038	0.825			
PU2	0.902	0.018	0.904			
PU3	0.839	0.034	0.842			
PU4	0.819	0.022	0.819			
Satisfaction				0.771	0.901	0.901
S1	0.893	0.016	0.894			
S2	0.859	0.020	0.860			
<b>S</b> 3	0.887	0.017	0.888			
S4	0.868	0.023	0.869			
Impulse Buying				0.515	0.825	0.782
IB1	0.565	0.096	0.582			
IB2	0.750	0.064	0.765			
IB3	0.835	0.041	0.844			
IB4	0.695	0.069	0.695			
IB5	0.661	0.078	0.673			

In the final stage, the HTMT ratio was used to test discriminant validity, and the results are shown in Table 3. All HTMT values show acceptable results of less than 0.85, meaning all constructs meet the discriminant validity test.

Table 3 - HTMT Result ( $n = 393$ ).									
	Impulse Buying	Perceived Interactivity	Perceived Risk	Perceived Usefulness	Satisfaction	Subjective Norms			
Impulse Buying									
Perceived Interactivity	0.235								
Perceived Risk	0.265	0.160							
Perceived Usefulness	0.175	0.742	0.208						
Satisfaction	0.250	0.740	0.281	0.812					
Subjective Norms	0.413	0.374	0.079	0.321	0.367				

## **The Structural Model**

Evaluation of collinearity concerns, statistical significance and relevance of the path coefficient, coefficient of determination R-squares, as well as effect size of f-squares, are all part of the structural model assessment methods.



Fig. 2. Research Framework's Structural Analysis Results

The R-squares (coefficient of determination) were calculated to measure the degree to which the dependent variables predicted the study's outcome. Hair et al. (2019) examine R-squares and find that values of 0.75, 0.50, and 0.25 are considered substantial, moderate, and weak, respectively. R-squares values of 0.90 or above often indicate overfitting. In this study, 60.2% of the variance in Satisfaction (H1, H2, H3, and H4) can be attributed to the four hypotheses of perceived interactivity, perceived risk, subjective norms, and perceived usefulness, which means it is included in moderate. Meanwhile, 5.9% of the Satisfaction variable explains the Impulse Buying variable, which is very weak.

The researchers investigated how deleting a specific predictor construct affects the R-squares value of an endogenous construct used to calculate f-squares. Joseph F. Hair et al. (2019) use Cohen's rule of thumb, with f-squares values greater than 0.02, 0.15, and 0.35 indicating modest, medium, and significant impacts, respectively. Based on Table 4, Perceived Usefulness significantly and substantially influences Satisfaction (F2 = 0.395). Meanwhile, the rest of the path: PI to Satisfaction (F2 = 0.103), PR to Satisfaction (F2 = 0.038), SN to Satisfaction (F2 = 0.028), and satisfaction to Impulse Buying (F2 = 0.064) show a slight influence on substance.

Path	Path Coefficient	S.E.	<i>t</i> -value	<i>p</i> -value	Confidence Interval	$F^2$	Decision
Perceived H1 Interactivity → Satisfaction	0.259	0.057	4.571	0.000	(0.171, 0.355)	0.103	Supported
H2 $\frac{\text{Perceived Risk} \rightarrow}{\text{Satisfaction}}$	-0.126	0.032	3.977	0.000	(-0.179, 0.075)	0.038	Supported
H3 Subjective Norms $\rightarrow$ Satisfaction	0.112	0.032	3.477	0.000	(0.058, 0.164)	0.028	Supported
Perceived H4 Usefulness → Satisfaction	0.512	0.062	8.427	0.000	(0.411, 0.615)	0.395	Supported
H5 Satisfaction $\rightarrow$ Impulse Buying	0.245	0.039	6.323	0.000	(0.173, 0.300)	0.064	Supported

The results of the data analysis that has been carried out show that all hypotheses are accepted. H1 (perceived interactivity to satisfaction) and H2 (perceived risk to satisfaction) were supported, and it was shown that perceived interactivity had a significant correlation with satisfaction ( $\beta = 0.259$ , p-value = 0.000) and perceived risk also had a significant correlation with satisfaction ( $\beta = -0.126$ , p-value = 0.000). Based on the path coefficient in Table 4, it can be seen that the correlation between H1 variables goes in the same direction. If Perceived Interactivity increases positively, then satisfaction will also increase positively. Conversely, the correlation

between variables in H2 shows a different thing. If perceived risk increases, satisfaction will decrease, indicating a non-unidirectional correlation. Similar to H3 (Subjective Norms to Satisfaction) and H4 (Perceived Usefulness to Satisfaction), each of which has a significant and positive correlation to satisfaction ( $\beta = 0.112$ , p-value = 0.000) and ( $\beta = 0.512$ , p-value = 0.000). Satisfaction significantly affects Impulse Buying ( $\beta = 0.245$ , p-value = 0.000), which supports H5 (satisfaction with impulse buying). It can also be seen that the correlation between variables in H3, H4, and H5 is unidirectional; if the independent variable increases, it will also happen with the dependent variable. Meanwhile, the highest correlation value is shown by H4 (perceived usefulness to satisfaction), which means that the user's perceived usefulness strongly influences e-wallet usage satisfaction.

## Discussion

Overall, this research contributes to increasing knowledge about the factors influencing impulse buying and e-wallet usage among Indonesian Gen Z consumers through understanding S-O-R theory. The structural model shows that all hypotheses (H1 – H5) are related to a direct relationship (Figure 2), and this study supports all hypotheses (Table 4). All predictive factors, including Perceived Interactivity, Perceived Risk, Subjective Norms, and Perceived Usefulness, significantly influence consumer satisfaction with e-wallet users. In addition, it is also proven that satisfaction has a positive influence on Impulsive Buying.

Perceived interactivity, perceived risk, subjective norm, and perceived usefulness are the four independent variables as a stimulus (S). These four variables are proven to be factors that have an influence on satisfaction acting as an organism (O) as a form of a process encouraging e-wallet users to take impulsive buying actions or the results of reactions from the previous method, whereas in the S-O-R framework, impulse buying acts as a response (R). In this study, 60.31% were female respondents, and this shows that Gen Z women in Indonesia who use e-wallets make impulse buying as a form of their response to using e-wallets. This impulsive purchase results from the satisfaction felt when using the e-wallet. In contrast, four factors influence satisfaction: perceived interactivity, perceived risk, subjective norms, and perceived benefits. In previous research, it was found that women who use e-wallets tend to be influenced by their surroundings compared to male users; on the other hand, it is also stated that age does not influence the acceptance of using e-wallets in Indonesia (Saputri & Pratama, 2021).

The research results show that Perceived usefulness positively influences satisfaction in using e-wallets and has the strongest influence compared to other predictor variables. Previous research has also shown that Perceived usefulness positively influences Satisfaction (Chiu, Lin, Sun, & Hsu, 2009; Sreelakshmi & Sangeetha, 2020; (Goel et al., 2022) strongest in influencing Satisfaction (Winarno et al., 2021).

Furthermore, in this study, it was found that Perceived Interactivity and Subjective Norms had a positive influence on satisfaction. This is supported by previous research, which found that Perceived Interactivity increases satisfaction (Lee et al., 2023; Zanuar Rifai & Meiliana, 2020; Cheng, Q., Liang, M., Li, Y., He, L., Guo, J., Fei, D., Zhang, 2020). Users' satisfaction with an e-wallet application is likely to increase if its developers prioritize the users' needs for responsiveness, accessibility, and convenience while providing information to them (Lee et al., 2023). In addition, previous research also shows that Subjective Norms significantly influence satisfaction (Lee et al., 2023) according to what was found in this study. Perceived social pressure from the surrounding environment influences individual behavior in using e-wallets (Lee et al., 2023).

Perceived risk affects satisfaction, where in this study, it is proven that the higher the level of risk, the lower the satisfaction in using e-wallets. This is in line with previous studies showing that customers may be wary of using digital wallets due to concerns about identity or data theft (Leong, Hew, Ooi, & Wei, 2020). Risk also strongly predicts Malaysian consumers' aversion to mobile wallets (Leong et al., 2020). The biggest obstacle facing digital wallet service providers is getting people to trust them. This is especially right when it comes to the issue of perceived risk (Malik & Annuar, 2021).

Finally, this study establishes a link between satisfaction and impulse purchasing. Previous research shows that customer satisfaction is one of the most consistent and significant elements

driving spontaneous purchases (Wu et al., 2020). According to Global Web Indonesia (GWI), quoted from the Data Indonesia website, generation Z in Indonesia make impulse buying because they benefit from attractive offers and an easy and fast checkout process (Rizaty, 2022), which in this case, encourages satisfaction for generation Z in Indonesia to make impulse buying. However, it can be seen that satisfaction can only explain 5.9% of impulse buying, which means that other variables can explain bigger and clearer impulse buying. Other research shows that satisfaction with using e-wallets does not affect people's tendencies to make impulse buying (Lee et al., 2023).

#### 5. Conclusion

This study examines the factors contributing to impulsive buying on e-wallets. The results show that each variable affects the dependent variable. It can be seen from the model that could expound 60.2% of variance satisfaction and 5.9% of impulse buying. In addition, the factors that encourage satisfaction include perceived interactivity, perceived risk, and subjective norms that significantly affect satisfaction with a small effect. Perceived usefulness is the most significant factor with a substantial impact that positively influences satisfaction. Satisfaction is positively proven to control impulse buying, but it can only be explained in a small part. This research implications for e-wallet service providers and companies doing business in Indonesia aims to devise and find the right strategy for Gen Z's satisfaction in using e-wallets that encourage impulse buying. In addition, implementing the S-O-R framework on e-wallet or fintech topics enriches the literature references for the readers.

#### References

- Abbasi, G. A., Sandran, T., Ganesan, Y., & Iranmanesh, M. (2022). Go cashless! Determinants of continuance intention to use E-wallet apps: A hybrid approach using PLS-SEM and fsQCA. *Technology in Society*, 68. https://doi.org/10.1016/j.techsoc.2022.101937
- Abdul-Halim, N. A., Vafaei-Zadeh, A., Hanifah, H., Teoh, A. P., & Nawaser, K. (2022). Understanding the determinants of e-wallet continuance usage intention in Malaysia. *Quality and Quantity*, 56(5), 3413–3439. https://doi.org/10.1007/s11135-021-01276-7
- Adella Halim, D., Kurniawan, A., Agung, F. H., Angelina, S., Jodhinata, C., Winata, S., ... Agatha, C. M. (2020). Understanding of Young People About COVID-19 During Early Outbreak in Indonesia. *Asia-Pacific Journal of Public Health*, 32(6–7), 363–365. https://doi.org/10.1177/1010539520940933
- Aji, H. M., Berakon, I., & Md Husin, M. (2020). COVID-19 and e-wallet usage intention: A multigroup analysis between Indonesia and Malaysia. *Cogent Business and Management*, 7(1). https://doi.org/10.1080/23311975.2020.1804181
- Ariffin, S. K., Abd Rahman, M. F. R., Muhammad, A. M., & Zhang, Q. (2021). Understanding the consumer's intention to use the e-wallet services. *Spanish Journal of Marketing - ESIC*, 25(3). https://doi.org/10.1108/SJME-07-2021-0138
- Behr, D. (2017). Assessing the use of back translation: the shortcomings of back translation as a quality testing method. *International Journal of Social Research Methodology*, 20(6), 573– 584. https://doi.org/10.1080/13645579.2016.1252188
- Bhalla, R., Tiwari, P., & Chowdhary, N. (2021). Digital natives leading the world: Paragons and values of Generation Z. In *Generation Z Marketing and Management in Tourism and Hospitality: The Future of the Industry*. https://doi.org/10.1007/978-3-030-70695-1\_1
- Bigne, E., Chatzipanagiotou, K., & Ruiz, C. (2020). Pictorial content, sequence of conflicting online reviews and consumer decision-making: The stimulus-organism-response model revisited. *Journal of Business Research*, 115, 403–416. https://doi.org/10.1016/j.jbusres.2019.11.031
- Bommer, W. H., Rana, S., & Milevoj, E. (2022). A meta-analysis of eWallet adoption using the UTAUT model. *International Journal of Bank Marketing*, 40(4), 791–819. https://doi.org/10.1108/IJBM-06-2021-0258
- Chen, F., & Jiang, G. (2022). The Roles of FinTech with Perceived Mediators in Consumer Financial Satisfaction with Cashless Payments. *Mathematics*, 10(19). https://doi.org/10.3390/math10193531
- Chen, S. C., Chung, K. C., & Tsai, M. Y. (2019). How to achieve sustainable development of

mobile payment through customer satisfaction SOR model. *Sustainability (Switzerland)*, 11(22). https://doi.org/10.3390/su11226314

- Cheng, Q., Liang, M., Li, Y., He, L., Guo, J., Fei, D., Zhang, Z. (2020). Correspondence Mental health care for medical staff in China during the COVID-19. *Lancet*, 7(4), 15–26.
- Chiu, C. M., Lin, H. Y., Sun, S. Y., & Hsu, M. H. (2009). Understanding customers' loyalty intentions towards online shopping: Integrating technology acceptance model and fairness theory. *Behavior and Information Technology*, 28(4), 347–360. https://doi.org/10.1080/01449290801892492
- Chopdar, P. K., & Balakrishnan, J. (2020). Consumers' response towards mobile commerce applications: S-O-R approach. *International Journal of Information Management*, 53. https://doi.org/10.1016/j.ijinfomgt.2020.102106
- Davis, F. D. (1985). A technology acceptance model for empirically testing new end-user information systems: Theory and results. *Management*, *Ph.D.*, 291. https://doi.org/oclc/56932490
- Djafarova, E., & Bowes, T. (2021). 'Instagram made Me buy it': Generation Z impulse purchases in the fashion industry. *Journal of Retailing and Consumer Services*, 59. https://doi.org/10.1016/j.jretconser.2020.102345
- Do, H. N., Shih, W., & Ha, Q. A. (2020). Effects of mobile augmented reality apps on impulse buying behavior: An investigation in the tourism field. *Heliyon*, 6(8). https://doi.org/10.1016/j.heliyon.2020.e04667
- Esawe, A. T. (2022). Understanding mobile e-wallet consumers' intentions and user behavior. *Spanish Journal of Marketing - ESIC*, 26(3), 363–384. https://doi.org/10.1108/SJME-05-2022-0105
- Fauziyah, N., Bakar, R. M., & Hamid, A. N. (2022). Perbedaan Impulsive Buying Pada Konsumen Dewasa Awal Ditinjau Dari Jenis Metode Pembayaran Non Tunai. *PESHUM : Jurnal Pendidikan, Sosial Dan Humaniora*, 1(5), 479–487.
- Gefen, D., Straub, D., & Boudreau, M.-C. (2000). Structural Equation Modeling and Regression: Guidelines for Research Practice. *Communications of the Association for Information Systems*, 4. https://doi.org/10.17705/1cais.00407
- Gentina, E. (2020). Generation Z in Asia: A Research Agenda. In *The New Generation Z in Asia:* Dynamics, Differences, Digitalization. https://doi.org/10.1108/978-1-80043-220-820201002
- Goel, P., Garg, A., Sharma, A., & Rana, N. P. (2022). I won't touch money because it is dirty: examining customer's loyalty toward M-payment. *International Journal of Bank Marketing*, 40(5), 992–1016. https://doi.org/10.1108/IJBM-06-2021-0272
- Hair, J F, Risher, J. J., Sarstedt, M., & Ringle, C. M. (2018). The Results of PLS-SEM Article information. *European Business Review*, *31*(1), 2–24.
- Hair, Joseph F, Babin, B. J., Anderson, R. E., & Black, W. C. (2019). Multivariate data analysis / Joseph F. Hair, Jr. ... [et al.]. In *Multivariate data analysis*.
- Hair, Joseph F, Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*.
- Handayani, N. S., & Rahyuda, K. (2020). Website Quality Affects Online Impulse Buying Behavior (OIBB): Moderating Effects of Sales Promotion and Digital Wallet Use (A Study on Tokopedia E-Commerce). *International Journal of Economics and Management Studies*, 7(12), 16–24. https://doi.org/10.14445/23939125/ijems-v7i12p103
- Hasan, H., Al-Dmour, H. H., & Al-Dmour, R. H. (2020). The effect of ewom on e-loyalty: The mediating role of e-satisfaction. *International Journal of Customer Relationship Marketing* and Management, 11(3). https://doi.org/10.4018/IJCRMM.2020070105
- Hinduan, Z. R., Anggraeni, A., & Agia, M. I. (2020). Generation Z in Indonesia: The Self-Driven Digital. In *The New Generation Z in Asia: Dynamics, Differences, Digitalization*. https://doi.org/10.1108/978-1-80043-220-820201012
- Hsiao, M. H. (2021). Influence of interpersonal competence on behavioral intention in social commerce through customer-perceived value. *Journal of Marketing Analytics*, 9(1), 44– 55. https://doi.org/10.1057/s41270-020-00093-5
- Husrizal, D. (2022). Research in Business & Social Science Understanding the technology

acceptance model in the QRIS usage: Evidence from SMEs in Indonesia. *Research in Business & Social Science*, 11(6), 12–19.

- Hussein, R. S., Mohamed, H., & Kais, A. (2021). Antecedents of level of social media use: exploring the mediating effect of usefulness, attitude and satisfaction. *Journal of Marketing Communications*. https://doi.org/10.1080/13527266.2021.1936125
- IPrice, J. (2020). Metode pembayaran pilihan Indonesia untuk belanja online.
- Jebb, A. T., Ng, V., & Tay, L. (2021). A Review of Key Likert Scale Development Advances: 1995–2019. *Frontiers in Psychology*, Vol. 12. https://doi.org/10.3389/fpsyg.2021.637547
- Kang, S., & Choi, H. (2019). Motive and attitude to use QR code as an advertising and publicity media: An empirical study. *Journal of System and Management Sciences*, 9(4). https://doi.org/10.33168/jsms.2019.0408
- Kasirye, F., & Masum, S. M. H. (2021). The Effects of e-Wallet among Various Types of Users in Malaysia: A Comparative Study. Asian Journal of Research in Business and Management, 3(2), 26–41.
- Katadata. (2022). Survei KIC: Gen Z Lebih Pilih Pakai e-Wallet Dibanding ATM Bank. *Katadata.Co.Id.*
- Ku, E. C. S., & Chen, C. Der. (2020). Flying on the clouds: how mobile applications enhance impulsive buying of low cost carriers. *Service Business*, 14(1), 23–45. https://doi.org/10.1007/s11628-019-00407-3
- Lee, Y. Y., Gan, C. L., & Liew, T. W. (2022). The Impacts of Mobile Wallet App Characteristics on Online Impulse Buying: A Moderated Mediation Model. *Human Behavior and Emerging Technologies*, 2022. https://doi.org/10.1155/2022/2767735
- Lee, Y. Y., Gan, C. L., & Liew, T. W. (2023). Do E-wallets trigger impulse purchases? An analysis of Malaysian Gen-Y and Gen-Z consumers. *Journal of Marketing Analytics*, 11(2), 244–261. https://doi.org/10.1057/s41270-022-00164-9
- Leong, L. Y., Hew, T. S., Ooi, K. B., & Wei, J. (2020). Predicting mobile wallet resistance: A two-staged structural equation modeling-artificial neural network approach. *International Journal of Information Management*, 51. https://doi.org/10.1016/j.ijinfomgt.2019.102047
- Liu, Q., Shao, Z., Tang, J., & Fan, W. (2019). Examining the influential factors for continued social media use: A comparison of social networking and microblogging. *Industrial Management and Data Systems*, 119(5), 1104–1127. https://doi.org/10.1108/IMDS-05-2018-0221
- Malik, A. N. A., & Annuar, S. N. S. (2021). The Effect of Perceived Usefulness, Perceived Ease of Use, Reward, and Perceived Risk toward E-Wallet Usage Intention. In *Eurasian Studies in Business and Economics* (Vol. 17). https://doi.org/10.1007/978-3-030-65147-3\_8
- Mumu, J., Tanujaya, B., Charitas, R., & Prahmana, I. (2022). Likert Scale in Social Sciences Research: Problems and Difficulties. FWU Journal of Social Sciences, 16(4). https://doi.org/10.51709/19951272/Winter2022/7
- Nizam, F., Hwang, H. J., & Valaei, N. (2019). Measuring the effectiveness of E-wallet in Malaysia. *Studies in Computational Intelligence*, 786, 59–69. https://doi.org/10.1007/978-3-319-96803-2\_5
- Phuong, N. N. M., Le, T. T., Nguyen, M. V. T., Van Camp, J., & Raes, K. (2020). Antioxidant Activity of Rambutan (Nephelium lappaceum L.) Peel Extract in Soybean Oil during Storage and Deep Frying. *European Journal of Lipid Science and Technology*, 122(2). https://doi.org/10.1002/ejlt.201900214
- Piron, F., & Antonio, S. (1965). Defining Impulse Purchasing. Advances in Consumer Research, 18(1951), 509–514.
- Rahman, M., Ismail, I., Bahri, S., & Rahman, M. K. (2022). An Empirical Analysis of Cashless Payment Systems for Business Transactions. *Journal of Open Innovation: Technology, Market, and Complexity*, 8(4). https://doi.org/10.3390/joitmc8040213
- Riska, L. M., Kholid, M. N., & Salsabilla, S. (2023). Perceived Covid-19 Risk and E-Wallet Adoption: An Empirical Evidence MSEs of Indonesia. In *Studies in Systems, Decision and Control* (Vol. 216). https://doi.org/10.1007/978-3-031-10212-7\_79
- Rizaty, M. A. (2022). This is the Biggest Reason for Someone to Shop Impulsively.
- Rodrigues, R. I., Lopes, P., & Varela, M. (2021). Factors Affecting Impulse Buying Behavior of

Consumers. Frontiers in Psychology, 12. https://doi.org/10.3389/fpsyg.2021.697080

- Saputri, A. D., & Pratama, A. R. (2021). Classifying Users of Indonesia'S Topfive E-Wallet Services With Mca. *Jurnal Sosioteknologi*, 20(2), 138–148. https://doi.org/10.5614/sostek.itbj.2021.2.1
- Shamsudin, M. F., Azuwan, H. A., Nayan, S. M., Esa, S. A., & Kadir, B. (2020). Evaluating factors that lead to customer satisfaction in e-wallet services. *Journal of Critical Reviews*, 7(19). https://doi.org/10.31838/jcr.07.19.79
- Shaw, B., & Kesharwani, A. (2019). Moderating Effect of Smartphone Addiction on Mobile Wallet Payment Adoption. *Journal of Internet Commerce*, 18(3), 291–309. https://doi.org/10.1080/15332861.2019.1620045
- Sreelakshmi, C., & Sangeetha, K. (2020). Continuance adoption of mobile-based payments in Covid-19 context: an integrated framework of health belief model and expectation confirmation model. *International Journal of Pervasive Computing and Communications*, 16(4), 351–369.
- Teng Tenk, T., Chin Yew, H., & Teck Heang, L. (2020). E-Wallet Adoption: a Case in Malaysia. International Journal of Research in Commerce and Management Studies, 2(02).
- Van Zyl, L. E., & Rothmann, S. (2019). Positive Psychological Intervention Design and Protocols for Multi-Cultural Contexts. In *Positive Psychological Intervention Design and Protocols* for Multi-Cultural Contexts. https://doi.org/10.1007/978-3-030-20020-6
- Winarno, W. A., Mas'ud, I., & Palupi, T. W. (2021). Perceived Enjoyment, Application Selfefficacy, and Subjective Norms as Determinants of Behavior Intention in Using OVO Applications. *Journal of Asian Finance, Economics and Business*, 8(2), 1189–1200. https://doi.org/10.13106/jafeb.2021.vol8.no2.1189
- Wu, I. L., Chiu, M. L., & Chen, K. W. (2020). Defining the determinants of online impulse buying through a shopping process of integrating perceived risk, expectation-confirmation model, and flow theory issues. *International Journal of Information Management*, 52. https://doi.org/10.1016/j.ijinfomgt.2020.102099
- Yan, L. Y., Tan, G. W. H., Loh, X. M., Hew, J. J., & Ooi, K. B. (2021). QR code and mobile payment: The disruptive forces in retail. *Journal of Retailing and Consumer Services*, 58. https://doi.org/10.1016/j.jretconser.2020.102300
- Yang, M., Al Mamun, A., Mohiuddin, M., Nawi, N. C., & Zainol, N. R. (2021). Cashless transactions: A study on intention and adoption of e-wallets. *Sustainability (Switzerland)*, 13(2). https://doi.org/10.3390/su13020831
- Yapp, E. H. T. (2022). Continuous Usage Intention of E-Wallet during the Covid-19 Pandemic : A Malaysian Case. *GBMR Global Business and Management Research: An International Journal*, 14(3).
- Yong Lee, Y., Lay Gan, C., & Wei Liew, T. (2021). Impulse Buying's Antecedents and Consequences: Malaysian E-wallet Users Perceptions. ACM International Conference Proceeding Series. https://doi.org/10.1145/3507485.3507493
- Zanuar Rifai, & Meiliana, D. (2020). Pendampingan Dan Penerapan Strategi Digital Marketing Bagi Umkm Terdampak Pandemi Covid-19. *BERNAS: Jurnal Pengabdian Kepada Masyarakat*, 1(4), 604–609. https://doi.org/10.31949/jb.v1i4.540
- Zhang, W., Leng, X., & Liu, S. (2023). Research on mobile impulse purchase intention in the perspective of system users during COVID-19. *Personal and Ubiquitous Computing*, 27(3), 665–673. https://doi.org/10.1007/s00779-020-01460-w
- Zheng, X., Men, J., Yang, F., & Gong, X. (2019). Understanding impulse buying in mobile commerce: An investigation into hedonic and utilitarian browsing. *International Journal* of Information Management, 48, 151–160. https://doi.org/10.1016/j.ijinfomgt.2019.02.010
- Zhou, Q., Lim, F. J., Yu, H., Xu, G., Ren, X., Liu, D., ... Xu, H. (2021). A study on factors affecting service quality and loyalty intention in mobile banking. *Journal of Retailing and Consumer Services*, 60. https://doi.org/10.1016/j.jretconser.2020.102424