Boosting Economic Growth: Strategic Insights On Impulse Buying In Mobile Commerce

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Abstract: Impulse buying in M-commerce in developing nations remains an under-researched area. Using the Stimulus-Organism-Response (S-O-R) framework and PLS-SEM, this research delved into data from 304 Gen Z and Millennial respondents from the Jabodetabek region. The study found that interpersonal influence was not significantly linked to either utilitarian/hedonic browsing or impulsive buying. Visual appeal influenced both browsing types, but not direct impulsive purchases. Portability was associated with both browsing behaviors, with hedonic browsing particularly driving impulse buying. These discoveries highlight impulse purchasing nuances in Indonesia's M-commerce sector. The findings could offer businesses guidance on improving the visual appeal of mobile interfaces. This can be achieved by incorporating high-quality images and making thoughtful choices regarding color combinations within apps. Furthermore, the results underscore the importance of prioritizing the optimization of mobile platforms for user-friendliness and accessibility. Businesses should ensure that their apps and websites are designed to provide seamless navigation experiences across a variety of devices and under diverse connectivity conditions alongside integrating sustainability to appeal to eco conscious consumers.

Keywords: Impulse buying, Mobile commerce, S-O-R framework, Visual appeal, Portability, Economic Growth

I. INTRODUCTION

With smartphone advancements, users can now effortlessly book rides, order meals, and obtain numerous products and services without the hassle of venturing out to find these offerings (Prastiwi & Iswari, 2019). An increasing number of individuals are turning to their mobile devices for shopping (Patel, Das, Chatterjee, & Shukla, 2020). Consequently, the freedom to shop anytime and anywhere has amplified impulse purchasing, leading to heightened mobile shopping and more frequent buying patterns (Chen & Yao, 2018).

Impulse buying refers to the sudden and strong desire to purchase something, often without thorough consideration of the consequences (Lucas & Koff, 2014). It is worth noting that within various product categories, impulsive purchases can account for over 80% of the total transactions (Pappas, Kourouthanassis, Giannakos, & Chrissikopoulos, 2017).

Impulse buying is a universally recognized phenomenon, particularly prevalent in Western countries (Parboteeah, Valacich, & Wells, 2009).

In Indonesia, several e-commerce and m-commerce apps serve as popular online shopping platforms, including Shopee, Lazada, Bukalapak, Blibli, and Tokopedia (Nani & Lina, 2022). Indonesia boasts one of the highest rates of mobile Internet usage globally, with 98.3% of users accessing the Internet via mobile phones (Kemp, 2023). Indonesia holds the global record with 79.1% adoption of mobile e-commerce (Kemp, 2021).

With the growing prevalence of mobile applications specifically designed for use on devices like tablets and smartphones (Lu & Liang, 2017), mobile payment methods, including E-wallets, have played a pivotal role in advancing the digital economy worldwide (Halim, Zadeh, Hanifah, Teoh, & Nawaser, 2022; Zhao, 2020). The surge in mobile phone usage can be attributed primarily to the widespread adoption

of smartphones and the availability of mobile Internet usage (Bhullar & Gill, 2019).

Zheng, Men, Yang, and Gong (2019) asserted that factors such as the visual design of m-commerce apps, interpersonal influence, and portability are believed to impact impulsive buying. Visual appeal should be considered as a crucial factor (Amanah & Harahap, 2020). The visual attractiveness of shopping sites significantly influences customer interest, impacting impulsive buying behavior (Cuong, 2023). Attributes such as visual design and the mobility/portability of m-commerce play a significant role in shaping how customers perceive value, further influencing their impulsive buying behavior (Basit, Khalid & Maroof, 2022).

Interpersonal influence has been explored in previous research, demonstrating its impact on impulsive buying and the desire for variety (Sharma, Sivakumaran, & Marshall, 2010). Emotional factors also contribute to impulsive buying behavior (Zhang, Leng, & Liu, 2020). Hedonic and utilitarian browsing both affect impulsive buying (Novak, Hoffman, & Duhachek, 2003). According to recent findings, over 96% of Indonesian consumers use their smartphones for online shopping (YouGov Surveys, 2023). The increasing use of mobile apps has become a significant driver of revenue growth, particularly among Millennials and Gen Z, who possess substantial spending power (Susanto, Hoque, Nisaa, Islam, & Kamarulzaman, 2023). Younger individuals tend to spend more time browsing and are more likely to make impulsive purchases (Shahpasandi, Zarei, & Nikabadi, 2020).

However, despite the growth of the e-commerce industry leading to more impulse buying, there is limited research on impulsive purchases made through mobile devices (Chen & Yao, 2018). In this study, the Stimulus-Organism-Response (S-O-R) model is applied. The Stimulus-Organism-Response framework is often chosen for studies related to marketing tactics (Luo et al., 2021). Chan, Cheung, and Lee (2017) highlighted that the S-O-R framework is a commonly preferred method to research impulse buying behavior.

Analyzing impulsive buying behavior benefits businesses by enhancing products and services, ultimately increasing customer satisfaction (Alghzawi, Alghizzawi, & Tarabieh, 2020). Modern technology has made mobile commerce applications into sustainable tools for enterprises, enabling them to expand while protecting the community's social, environmental, and traditional values (Samad et al., 2022). Mobile commerce reduces the requirement for physical storefronts, consumer transportation, and staff (Samad et al., 2022). Young people are more interested in sustainability and mobile commerce platforms (Parker & Henninger, 2018). Modern technologies like mobile commerce have reduced transportation-related carbon emissions by 17%, reducing environmental impact (Samad et al., 2022). This study offers insights for businesses and marketers to improve their strategies, attract impulsive buyers, and enhance sales and customer satisfaction fostering economic growth and success. It also emphasizes the importance of targeting younger consumers in the mobile commerce landscape, providing practical insights to navigate online impulsive buying and boost sales and customer engagement.

II. LITERATURE REVIEW

In today's rapidly advancing technological landscape, customers have various avenues for purchasing products, including e-commerce, m-commerce, and traditional brick-and-mortar stores (Liang & Wei, 2004). Within the e-commerce domain, a website's quality plays a pivotal role in shaping users' perceptions and influencing their purchase decisions (Rahman & Hossain, 2023). Impulse buying is a prevalent behavior in shopping, yet its underlying factors are not always thoroughly examined (Rahman & Hossain, 2023). The popularity of online product sales is on the rise, providing an effective means to reach a broader consumer base and meet their evolving expectations (Prasad & Ghosal, 2022). In customer choices, the influence of shopping companions or influencers is noteworthy. These influencers can impact a customer's decisions based on their relationship, gender, or mutual attraction, with more substantial effects observed in close relationships or when the influencer holds high regard (Zia & Shahzad, 2017). Examining the relationship between impulsive buying and mobile apps is particularly intriguing because these apps offer enhanced interactions and convenience (Ittaqullah, Madjid, & Suleman, 2020). Floh and Madlberger (2013) also contended that customers' browsing behavior can significantly influence their tendencies toward impulse buying. Hedonic motivation is associated with experiential customers who prioritize engaging in activities that bring them pleasure or satisfaction directly from the experience itself (Budiman, Wijaya, Sukesi, & Damiasih, 2023). On the other hand, customers derive utilitarian value when they acquire what they need while also enjoying the shopping process, contributing to their overall satisfaction (Gohary & Hanzaee, 2014).

A. STIMULUI ORGANISM RESPONSE (S-O-R) MODEL

Mehrabian and Russell (1974) introduced the Stimulus-Organism-Response Model, often abbreviated as S-O-R, which is commonly used as a theoretical basis for research related to customer behavior (Zhu, Yang, Ou, Liu, & Davison, 2015). In research related to online impulse buying, this framework consistently examines the connections between environmental cues, customer cognitive and emotional organisms, and their resulting behaviors (Kimiagari & Malafe, 2021). Chan et al. (2017) surveyed a decade's worth of research on online impulse-buying behavior, determining that the S-O-R framework was the prevailing theoretical approach. Several studies, such as those by Ahmad, Ali, Malik, Humayun, and Ahmad (2019), Bharathi and Sudha (2017), Graa and Dani (2012), as well as Hashmi, Attiq, and Rasheed (2019) have utilized the S-O-R model to examine customer behaviors and impulse purchases (Karim, Chowdhury, Masud, & Arifuzzaman, 2021). Recently, researchers have begun using the S-O-R framework to understand mobile consumer behavior (Chopdar & Balakrishnan, 2020). The S-O-R model shows that when a stimulus occurs, it can trigger an action, and the individual's inner workings get ready to produce the ultimate response (Huang, 2016). The three variables of S-O-R are elucidated as follows:

Stimulus (S): Providing stimuli (S) triggers a specific response within our internal system, influenced by our feelings or thoughts (Basit et al., 2022). This study identifies factors like portability, visual appeal, and interpersonal influence as triggers influencing cognitive and emotional responses, a perspective reinforced by the findings of Zheng et al. (2019).

Organism(O): The term "organism" encompasses the internal processes that mediate between inputs and customers' final responses, which are shaped by their evaluations and perceptions (Islam, Rahman, & Hollebeek, 2017; Jiang, Shang, & Liu, 2010). In this study, both the utilitarian and hedonic browsing experiences are considered as organisms within the consumers' online interactions.

Response (R): Lastly, the third part, the 'response', indicates how one responds based on their understanding, influenced by distinct situational aspects (Zheng et al., 2019). The response pertains to the results manifested in customers' actions and behaviors (Eroglu, Machleit, & Davis, 2003). In this study, impulsive buying is considered as a Response (R) within the customer's online interactions.

a. INTERPERSONAL INFLUENCE

According to prior research assessments, it is acknowledged that in collectivist cultures, family and friends can significantly influence consumer purchasing patterns (Lee & Kacen, 2008). Indonesia is a nation with a strong emphasis on collectivism (Matsumoto & Juang, 2013). Individuals might use the buying behavior of others as a way to justify their purchases, leading them to feel more liberated and less restrained when making buying decisions (Luo, 2005). This association with impulse buying is logically explained, as it suggests that when individuals align their purchasing choices with social norms or the expectations of others, they are more likely to engage in impulsive buying behavior (Aquino, Natividade, & Lins, 2020; Bearden, Netemeyer, & Teel, 1989). Arnold and Reynolds (2003) suggested that individuals who prioritize hedonic shopping experiences may look for advice and guidance from others during their shopping endeavors. If the behavior is endorsed and adopted by significant individuals in their lives, mobile phone users are more inclined to experiment with online shopping through apps and mobile websites (Ng, 2016).

Research findings support a similar argument that interpersonal influence is strongly associated with impulsive buying behavior (Badgaiyan & Verma, 2015). Zheng et al. (2019) demonstrated that interpersonal influence positively impacts hedonic browsing behavior. Browsing, within an online environment, is the initial stage of information retrieval and decision-making, allowing consumers to access information (Rowley, 2002). This research hypothesizes the following from these findings:

H1: Interpersonal influence significantly impacts utilitarian browsing.

H2: Interpersonal influence significantly impacts hedonic browsing.

H3: Interpersonal influence significantly impacts impulsive buying.

H4: Utilitarian browsing acts as a mediator in the relationship between interpersonal influence and impulsive buying.

H5: Hedonic browsing acts as a mediator in the relationship between interpersonal influence and impulsive buying.

b. VISUAL APPEAL

Every element presents on the mobile web, ranging from the user interface (UI) design to music and animation, holds the potential to offer diverse levels of entertainment and enjoyment to customers (Zhang et al., 2020). Colors, style, and movement collectively contribute to the visual appeal of a website (Basit et al., 2022). As a motivating factor, visual appeal promptly garners customer attention and initiates consumption, resulting in psychological and cognitive shifts (Huang & Suo, 2021). It was determined in a previous study that visual appeals significantly impact impulsive buying behavior in the context of m-commerce (Nazirah, Utami, & Ma'ruf, 2022). Park, Kim, Funches, and Foxx (2012) found a positive correlation between hedonic browsing and impulsive purchasing behavior (Park et al., 2012). Mainly, the visual attractiveness of m-commerce aids customers in efficiently searching, browsing, and assessing the products they desire and require, thereby improving their shopping performance (Yang, Tang, Men, & Zheng, 2021). Enhanced visual design in mobile shopping platforms not only simplifies product information retrieval but also aids in product comparison, emphasizing the importance of visual elements in the user experience (Akram, Ansari, & Yan, 2023).

In this study, 'visual appeal' represents the degree to which customers perceive the website design as attractive and visually satisfying, with an aesthetically pleasing website design forming the basis for cultivating favorable customer experiences (Carlson & O'Cass, 2011). According to Liu, Li, and Hu (2013), visual appeal has the ability to excite users and trigger their emotional responses. Based on the above findings, the study proposes these hypotheses:

H6: Visual appeal significantly impacts utilitarian browsing.

H7: Visual appeal significantly impacts hedonic browsing.

H8: Visual appeal significantly impacts impulsive buying.

H9: Utilitarian browsing acts as a mediator in the relationship between visual appeal and impulsive buying.

H10: Hedonic browsing acts as a mediator in the relationship between visual appeal and impulsive buying.

c. PORTABILITY

Portability refers to "the physical characteristics of mobile devices that enable them to be easily carried for extended periods" (Junglas & Watson, 2006). Users can carry their devices and conduct transactions from any location within the cellular network coverage area (Kim, Mirusmonov, & Lee, 2010). In earlier research, portability was often regarded as the primary benefit of m-commerce because it enables customers to access product information anytime and anywhere (Ashraf, Thongpapanl, Menguc, & Northey, 2017; Hsieh, Lee, &

Tseng, 2021). Portability, in addition, allows customers to instantly find information or make product purchases by overcoming time and space constraints (Overby & Lee, 2006). The more time someone spends browsing and encountering different stimuli, the greater the likelihood of stimulating their hedonic and utilitarian motivations (Zheng et al., 2019). According to research conducted by Shahpasandi et al. (2020), it was found that visual attractiveness and portability significantly impact utilitarian browsing. Based on the above insights, the study draws out the following hypotheses:

H11: Portability significantly impacts utilitarian browsing.

H12: Portability significantly impacts hedonic browsing.

H13: Utilitarian browsing acts as a mediator in the relationship between portability and impulsive buying.

H14: Hedonic browsing acts as a mediator in the relationship between portability and impulsive buying.

d. UTILITARIAN AND HEDONIC BROWSING

Both pleasure-driven (hedonic) and utility-driven (utilitarian) online shopping behaviors influence impulse purchasing (Novak et al., 2003). The utilitarian perspective suggests that customers make choices based on a rational problem-solving approach (Gohary & Hanzaee, 2014). Previous studies have discovered a notable positive connection between impulse buying and utilitarian value (Chauhan, Banerjee, & Mittal, 2020). Hedonic browsing is centered around seeking enjoyment and entertainment while using a website (Park et al., 2012). When customers participate in hedonic browsing, they may be more likely to succumb to impulsive purchases (Floh & Madlberger, 2013). Drawing on these insights, the study offers the following hypotheses:

H15: Utilitarian browsing significantly impacts impulsive buying.

H16: Hedonic browsing significantly impacts impulsive buying.

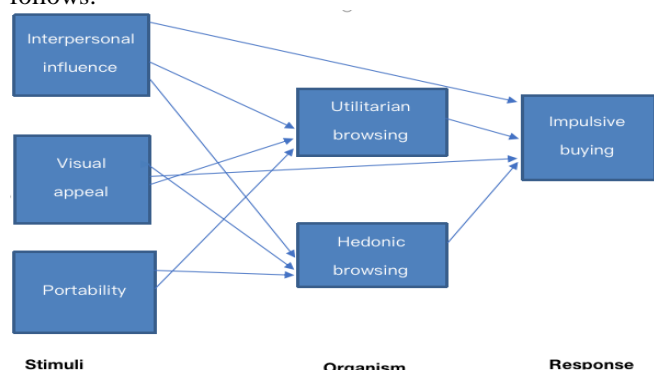Therefore, the theoretical framework of this research is as follows:

Figure 1: Theoretical Framework of the Study

III. RESEARCH METHODOLOGY

This study, using a quantitative approach, employed a descriptive-correlational design to assess impulsive buying among Gen-Z and Millennials in Jakarta, Bogor, Depok, Tangerang, and Bekasi (Jabodetabek). Data was gathered via online surveys from those who have shopped online using mobile devices. Greater Jakarta, often termed Jabodetabek, represents Indonesia's most densely populated metropolitan zone (Firman, 2011). In the last three years, Jabodetabek has emerged as one of the prominent regions in Indonesia with a significant surge in online shoppers (Priceza Indonesia, 2018). A pilot test was conducted before the final survey, confirming the questionnaire's reliability and validity. Both Cronbach's alpha and the composite reliability exceeded 0.7, meeting Nunnally's (1967) and Nunnally and Bernstein's (1994) standards, while the AVE surpassed 0.5 (Hair et al., 2010), indicating reliable and valid data. In PLS modeling, the sample size is chosen based on the largest group of formative constructs or the most factors leading to one construct (Barclay, Higgins, & Thompson, 1995). For the sample size calculation, 29 questions were multiplied by 10, leading to a required 290 participants. Of the 340 individuals approached, 304 provided complete responses, resulting in an 89.41% response rate. To guarantee that the respondents were aligned with the specific criteria of this research, 3 filtering questions were asked. These pivotal questions were: 'Do you use a mobile phone for shopping?', 'Do you currently reside in Jabodetabek?', and 'Are you between the ages of 11 and 42?'. Purposive sampling was employed to ensure the participants' experiences with the phenomenon under investigation.

The questionnaire, adapted from various academic sources, had seven sections. It addressed interpersonal influence (Pedersen, 2005; Hung et al., 2003), visual appeal (Parboteeah et al., 2009; Basit et al., 2022), portability (Kalinic, 2017; Rathore & Panwar, 2015), utilitarian and hedonic browsing (Park et al., 2012), impulsive buying (Parboteeah et al., 2009), and the participants' socio-demographics. The study used Smart PLS-4 software, using path coefficients and a descriptive analysis. The data was analyzed using the structural equation model (SEM) technique. Structural equation modeling (SEM) allows researchers to model and estimate complex relationships between multiple independent and dependent variables simultaneously (Hair et al., 2021). The data was gathered in October 2023, and the questionnaire was presented in English and Indonesian language

IV. RESULTS

A. PROFILE OF THE RESPONDENTS

In terms of gender distribution, females constituted a slightly higher proportion at 55.6% (N=169), whereas males made up 44.4% (N=135). In examining marital status, most of the respondents, 85.2% (N=259), identified themselves as single. When assessing the education level of the respondents, the data revealed that the majority, 55.3% (N=168), held a bachelor's degree. In terms of occupation, most of the respondents were full-time employed, forming the largest group at 44.4% (N=135). Most of the respondents' expenditures (45.4%, N=138) totaled less than 1 million IDR per month. $1= 16,359 Rupiah (IDR)

Categories	Number	Percentage
Gender		
Male	135	44.4%
Female	169	55.6%
Marital Status		
Single	259	85.2%
Married	43	14.1%
Separated/Divorced	2	0.7%
Widow/Widower	-	-
Education Level		
High school or below	73	24%
Diploma or Certificate	18	5.9%
Bachelor's Degree	168	55.3%
Post Graduate degree	45	14.8%
Occupation		
Student	132	43.4%
Housewife	2	0.7%
Part-time Employed	7	2.3%
Full-time Employed	135	44.4%
Self- Employed	27	8.9%
Unemployed	1	0.3%
Retirement	-	-
Monthly Shopping Expenditure		
Below 1 Million IDR	138	45.4%
1Million- 4.99 Million IDR	130	42.8%
5 Million- 9.99 Million IDR	22	7.2%
Above 10 Million IDR	14	4.6%

Table 1: Profile of the Respondents

B. MEASUREMENT MODEL

This research employed a two-phase method (Anderson & Gerbing, 1988). First, the measurement model was checked for its reliability and validity, and if it could predict outcomes accurately, then the structural model was examined to check the relationships between constructs. In the measurement model, item consistency was evaluated via both Cronbach's alpha and Composite Reliability (CR) metrics. In this study, the Cronbach's alpha values ranged from 0.812 to 0.932. Similarly, the CR values were between 0.819 to 0.933. These values notably exceed the recommended benchmark of 0.7 as suggested by Nunnally (1967) and Nunnally and Bernstein (1994), indicating the data's robustness and reliability. In the analysis, the Average Variance Extracted (AVE) values ranged from 0.606 to 0.832, exceeding the 0.5 threshold. This aligns with the standards of Hair et al. (2010). Taking the cross-loadings into consideration, each construct's primary factor loading should exceed its secondary loadings and ideally exceed a threshold of 0.7 (Hair, Hult, Ringle, & Sarstedt, 2013). Table 2 presents the outcomes of the test.

Discriminant validity was assessed based on the criterion outlined by Fornell and Larcker (1981). The guideline stipulates that the square root of the AVE for a particular construct must surpass its correlations with unrelated latent constructs. Following the recommendations set forth by Lohmoller (1989), every item in the model exhibits acceptable outer loadings, and as a result, they are maintained for subsequent evaluations. Table 3 presents the outcomes of the test.

According to Henseler, Ringle, and Sarstedt (2015), discriminant validity is typically assessed using HTMT ratios, with threshold values recommended at 0.85 or 0.90. Considering the HTMT values from the matrix, all of which are within the 0.85 to 0.90 guidelines, the model's discriminant validity is still validated. Table 4 details the outcomes of the tests.

Items		Loading	Cronbach's alpha	CR	AVE
Hedonic browsing	hed1	0.840	0.915	0.920	0.703
	hed2	0.857			
	hed3	0.851			
	hed4	0.832			
	hed5	0.775			
	hed6	0.872			
Impulse buying	Im1	0.899	0.932	0.933	0.832
	Im2	0.905			
	Im3	0.923			
	Im4	0.920			
Interpersonal influence	In1	0.874	0.872	0.879	0.722
	In2	0.854			
	In3	0.864			
	In4	0.805			
Portability	Por1	0.836	0.870	0.879	0.719
	Por2	0.847			
	Por3	0.801			
	Por4	0.905			
Utilitarian browsing	Ut1	0.863	0.812	0.819	0.727
	Ut2	0.886			
	Ut3	0.806			
Visual appeal	Vi1	0.727	0.907	0.908	0.606
	Vi2	0.799			
	Vi3	0.761			
	Vi4	0.813			
	Vi5	0.811			
	Vi6	0.738			
	Vi7	0.791			
	Vi8	0.780			

Table 2: Standardized Factor Loadings, Composite Reliability, and Average Variance Extracted (AVE) of the Measurement Model

	Hedonic browsing	Impulse buying	Interpersonal influence	Portability	Utilitarian browsing	Visual appeal
Hedonic browsing	0.839					
Impulse buying	0.637	0.912				
Interpersonal influence	0.417	0.220	0.850			
Portability	0.454	0.270	0.623	0.848		
Utilitarian browsing	0.505	0.350	0.522	0.677	0.852	
Visual appeal	0.511	0.356	0.533	0.512	0.524	0.778

Table 3: Discriminant Validity- Fornell- Larcker Criterion

	Hedonic browsing	Impulse buying	Interpersonal influence	Portability	Utilitarian browsing	Visual appeal
Hedonic browsing						
Impulse buying	0.691					
Interpersonal influence	0.463	0.246				
Portability	0.499	0.299	0.705			
Utilitarian browisng	0.580	0.401	0.612	0.799		
Visual appeal	0.551	0.382	0.607	0.575	0.610	

Table 4: Discriminant Validity using Heterorait-Monotrait Ratio (HTMT)

C. STRUCTURAL MODEL

The suggested framework was analyzed with Partial Least Squares - Structural Equation Modeling (PLS-SEM). PLS-SEM operates on variance-based structural equation modeling, enabling a thorough examination of theories and concepts (Hair, Ringle, and Sarstedt, 2011). According to Hair et al. (2011), PLS-SEM has the capability to forecast and pinpoint crucial constructs while expanding on prevailing structural theories. Hence, SEM served as the assessment tool in this research. Hair et al. (2011) mentioned that in the application of PLS-SEM, the primary criteria for evaluating the structural model is the R^2 measured alongside the significance of path coefficients. Table 5 reveals that the three variables - interpersonal influence, visual appeal, and portability - account for 31.6% of the variance in hedonic browsing, 41.4% in impulse buying, and 50.5% in utilitarian browsing.

	R-square	R-square adjusted
Hedonic browsing	0.316	0.310
Impulse buying	0.414	0.406
Utilitarian browsing	0.505	0.500

Table 5: R-square

Table 6 depicts the path coefficients along with their corresponding significant levels.

The bootstrap resampling method was chosen to evaluate the significance of the paths. The results in Table 6 show that there is a significant relationship between visual appeal and utilitarian browsing (β = 0.216, t = 3.948, p-value = 0.000), visual appeal and hedonic browsing (β = 0.349, t = 5.076, p-value = 0.000), portability and utilitarian browsing (β = 0.511, t = 8.126, p-value = 0.000), portability and hedonic browsing (β = 0.210, t = 3.036, p-value= 0.002), and hedonic browsing and impulse buying (β = 0.620, t = 10.950, p-value = 0.000). This supports hypotheses 6,7,11,12 and 16.

On the other hand, the relationships between interpersonal influence and utilitarian browsing (β = 0.088, t = 1.316, p-value = 0.188), interpersonal influence and hedonic browsing (β = 0.099, t = 1.292, p-value = 0.197), interpersonal influence and impulse buying (β = -0.103, t = 1.827, p-value = 0.068), visual appeal and impulse buying (β = 0.064, t = 0.945, p-value = 0.345), and utilitarian browsing and impulse buying (β = 0.058, t = 0.827, p-value = 0.408) were not significant. As a result, hypotheses 1, 2, 3, 8, and 15 were rejected.

	β	T-statistic	P-value
H1: Interpersonal influence → Utilitarian browsing	0.088	1.316	0.188
H2: Interpersonal influence → Hedonic browsing	0.099	1.292	0.197
H3: Interpersonal influence → Impulsive buying	-0.103	1.827	0.068
H6: Visual appeal → Utilitarian browsing	0.216	3.948	0.000
H7: Visual appeal → Hedonic browsing	0.349	5.076	0.000
H8: Visual appeal → Impulsive buying	0.064	0.945	0.345
H11: Portability → Utilitarian browsing	0.511	8.126	0.000
H12: Portability → Hedonic browsing	0.210	3.036	0.002
H15: Utilitarian browning → Impulsive buying	0.058	0.827	0.408
H16: Hedonic browning → Impulsive buying	0.620	10.950	0.000

Table 6: Path Coefficient Analysis

Table 7 depicts the specific indirect effects along with their corresponding significance levels. In the exploration of how browsing types mediate the relationship between various factors and impulsive buying, several insights emerged. Hypothesis 4, which states that utilitarian browsing mediates the relationship between interpersonal influence and impulse buying, was rejected (β = 0.005, t = 0.571, p-value = 0.568). Similarly, for the notion that hedonic browsing plays a mediating role in the same relationship, hypothesis 5 was also rejected (β = 0.061, t = 1.254, p-value = 0.210). For the effect of visual appeal on impulse buying, hypothesis 9 which states that utilitarian browsing acts as a mediator was rejected (β = 0.013, t = 0.781, p-value = 0.435). In contrast, hypothesis 10, which suggests that hedonic browsing is a mediator for visual appeal and impulsive buying was accepted (β = 0.216, t = 4.683, p-value = 0.000). When analyzing the portability impact on impulse buying, the mediating role of utilitarian browsing in hypothesis 13 was rejected (β = 0.030, t = 0.834, p-value = 0.404), but the mediating influence of H14 for hedonic browsing was accepted (β = 0.130, t = 2.817, p-value = 0.005). Thus, hedonic browsing consistently emerged as a significant mediator in certain scenarios.

	β	T-statistic	P-value
H4: Interpersonal influence → Utilitarian browsing → Impulsive buying	0.005	0.571	0.568
H5: Interpersonal influence → Hedonic browsing → Impulsive buying	0.061	1.254	0.210
H9: Visual appeal → Utilitarian browsing → Impulsive buying	0.013	0.781	0.435
H10: Visual appeal → Hedonic browsing → Impulsive buying	0.216	4.683	0.000
H13: Portability → Utilitarian browsing → Impulsive buying	0.030	0.834	0.404
H14: Portability → Hedonic browsing → Impulsive buying	0.130	2.817	0.005

Table 7: Specific Indirect Effects

V. DISCUSSION AND CONCLUSION

A. DIRECT RELATIONSHIP

The results indicate that there is not a significant relationship between interpersonal influence and utilitarian browsing (H1). This finding aligns with research by Zheng et al. (2019), which also did not identify a significant link between the two variables. Utilitarian browsing and being goal-oriented might be driven more by individual motivations and preferences than by external influences. Hypothesis 2, which suggests that there is a relationship between interpersonal influence and hedonic browsing, was not supported in this research. This contrasts with the findings of Alversia (2021) and Jasman, Loebis, and Utami (2023), who identified a significant connection in their respective studies. A possible reason might be that online shopping is changing. With many shopping apps suggesting items based on what customers like, people might be shopping based on those suggestions rather than what friends or family members suggest. This illustrates that shopping habits might be more influenced by technology. Hypothesis 3 indicates that there is not a significant relationship between interpersonal influence and impulsive buying. This stands in contrast to the findings by Atulkar and Kesari (2018), where a notable positive correlation between interpersonal influence and impulsive buying was observed.

With more people using online learning platforms, it is possible that shoppers now know more about why they buy things. This knowledge might help delay spur-of-the-moment purchases. Also, given the uncertain state of the world's economy, many consumers might be more careful with their money. Plus, having too many choices in online stores can make it hard to decide, which could reduce quick buying decisions made by others. The research highlights a pronounced and positive association between visual appeal and utilitarian browsing (H6) and also with hedonic browsing (H7). This conclusion is further supported by the findings of Alversia (2021) and Zheng et al. (2019), which suggest that platforms or products with appealing designs often lead to pleasant browsing experiences. The data indicates that visually attractive items tend to captivate users, drawing them to explore more. In the context of utilitarian browsing, visual appeal is not just an added perk. It supports purpose-driven browsing. A design balancing attractiveness with practicality can guide users effectively to complete tasks or locate specific details without extra distractions. Hypothesis 8, which suggests that there is a relationship between visual appeal and impulsive buying, was rejected in this study. This contrasts with Jasman et al. (2023) who found a connection but aligns with Amanah and Harahap (2020) who observed no such relationship. This means that while visual appeal is a factor, it might not be the sole influencer of impulsive buying in mobile shopping. The balance between utilitarian and hedonic browsing plays a key role. While aesthetics attracts some individuals, others prioritize efficiency and clarity. Factors like user reviews, security, and emerging digital features, such as augmented reality, also shape buying choices. The findings from this research affirm both hypotheses H11 and H12, indicating a notable relationship between portability and both

utilitarian and hedonic browsing. This association aligns with observations from previous research by Zheng et al. (2019), Akram, Ansari, and Yan (2023), and Okazaki and Mendez (2013). The relationship between utilitarian browsing and impulsive buying (H15) was not supported by this study's findings. This contrasts with the results from Kimiagari and Malafe (2021). Utilitarian browsing is a researched approach to meet specific needs, focusing on practicality and value, while impulsive buying is emotion driven. This practical mindset could typically reduce unplanned purchases. The relationship between hedonic browsing and impulsive buying (H16) was accepted. This has been corroborated by findings from Budiman et al. (2023) and Zheng et al. (2019). Further exploration into this relationship reveals that individuals engaging in hedonic browsing, which is the act of shopping for pleasure rather than specific needs, might be more susceptible to unplanned or spontaneous purchases.

B. SPECIFIC INDIRECT RELATIOSHIP

Hypothesis 4, which posits that utilitarian browsing mediates the relationship between interpersonal influence and impulsive buying, was rejected in the current study, aligning with the findings of Kimiagari and Malafe (2021). A further validation emerged from Zheng et al. (2019), who observed an insignificant effect of interpersonal influence on utilitarian browsing, suggesting its limited role in driving impulsive purchasing behaviors. Hypothesis 5, which proposes that hedonic browsing mediates the relationship between interpersonal influence and impulsive buying, was not supported by the gathered data. This result stands in contrast to the findings from Nazirah et al. (2022). This could be due to shoppers becoming more research-focused and less swayed by browsing alone. Hypothesis 9, which suggests that utilitarian browsing mediates the relationship between visual appeal and impulsive buying, was rejected. This aligns with the findings of Kimiagari and Malafe (2021). Its rejection highlights that an attractive item does not necessarily prompt an immediate purchase, even when users approach shopping with a specific goal. This underlines the diverse elements influencing online purchase choices. The acceptance of (H10) underlines that hedonic browsing plays a pivotal role in linking visual appeal with impulsive buying tendencies. This mediation is not isolated, as it resonates with a study by Zheng et al. (2019). Such observations indicate that when users enjoy their browsing journey, driven by strong visual aesthetics, they might be more inclined towards spontaneous purchasing.

Hypothesis 13, which puts forward that utilitarian browsing mediates the relationship between portability and impulsive buying, was rejected based on the current data, standing in contrast to the accepted findings of Elgayed and Attia (2023). Users may increasingly favor quality over mere convenience, opting for a thorough evaluation even when using portable devices. In investigating Hypothesis H14, which suggests that hedonic browsing acts as a mediator in the connection between portability and impulsive buying, this study confirms its validity with a strong statistical significance. This substantiation aligns with the findings of Nazirah et al. (2022), further emphasizing the pivotal role of hedonic browsing in influencing impulsive buying behavior

within the context of portable products or platforms. Amidst the rapid expansion of the e-commerce sector, this study addressed a significant research challenge. This research addressed the limited understanding of impulsive buying patterns within m-commerce in developing countries like Indonesia. This research explored the relationship between different browsing behaviors and their ties to impulsive buying within mobile shopping contexts. The findings revealed a notable correlation between hedonic browsing, which centers on shopping for pleasure, and impulsive purchasing. Conversely, utilitarian browsing, focused on goal-driven shopping, showed little connection to spontaneous buying. While interpersonal influence showed no noticeable effect on impulsive buying tendencies, the design aesthetics of mobile shopping platforms were influential, primarily in enhancing browsing experiences. Among the factors considered, portability, a fundamental aspect of mobile shopping, exerted a notable influence on impulsive buying, mainly through its impact on hedonic browsing. In conclusion, this study offers a new understanding about how people shop on mobile applications in Indonesia, especially in how browsing habits can lead to impulsive purchases, adding insights to online shopping behaviors.

C. PRACTICAL IMPLICATIONS

To optimize strategies in Indonesia's m-commerce, businesses should emphasize portability and visual appeal. Ensuring platforms are user-friendly and visually captivating for mobile-reliant Gen-Z and Millennials is crucial. Considering the limited influence of interpersonal factors on impulsive buying, companies should reconsider reliance on influence marketing and focus on improving the mobile shopping experience. To enhance mobile shopping, businesses should leverage the link between portability, hedonic browsing, and impulsive buying, possibly using gamification, tailored suggestions, or interactive features. Businesses can take advantage of these elements to encourage more impulsive purchases by investing in user interface and experience design that prioritize aesthetics and usability on mobile devices. Businesses in Indonesia that are aiming to attract Gen Z and Millennials should prioritize marketing plans that concentrate on designing a hedonic appealing shopping experience. This can involve the use of personalized recommendations, and visually appealing content to encourage impulsive buying.

E-commerce platforms must make sure their websites and apps are mobile-friendly and provide seamless navigation and functionality given the significant relationship between portability and both hedonic and utilitarian browsing. Businesses can improve the visual appeal of product listing and descriptions when marketing to consumers who buy primarily for utility. Information that is easy to understand and visually appeals to an app may encourage more practical browsing and even impulsive purchases of useful goods. Businesses can customize their engagement strategies by comprehending the links between browsing styles and impulsive buying. For example, they can create marketing initiatives and campaigns that cater to users who are browsing hedonically to take advantage of their propensity of impulsive buying. These findings could present opportunities for

businesses to adapt and thrive in the ever-evolving landscape of mobile commerce.

Morerover, as there is an increasing demand for sustainable products among Gen Z and Millennials, companies need to emphasize sustainability in m-commerce. This involves promoting sustainable products through visually appealing presentations and providing accessible information about their positive effects on the environment. Features like highlighting eco- friendly alternatives on rewarding sustainable purchases can align with consumer's sustainability interests which may boost consumer spending and support the economic growth by promoting a culture of sustainable consumption. Since sustainability is highly valued today, adopting these practices can also enhance the company's reputation positively. By aligning their strategies with these research findings, businesses could enhance their online presence and better cater to the evolving preferences of mobile shoppers, ultimately driving growth and success in the competitive m-commerce landscape.

D. THEORETICAL IMPLICATIONS

This research delves into the patterns of impulsive purchasing within Indonesian m-commerce, aligning with the S-O-R model. It serves as a reference for those examining variations in online shopping habits across different cultures, particularly within the evolving m-commerce scene in Indonesia. A pivotal aspect of the study is the differentiation between hedonic and utilitarian browsing, adding depth to the existing discourse on digital consumer behaviors. This difference is poised to be relevant in forthcoming e-commerce and m-commerce inquiries. Emphasizing the emotional facets of online shopping, the study demonstrates a prominent association between hedonic browsing and impulsive purchases. Additionally, there's a marked association between the convenience of mobile devices and utilitarian browsing. This suggests that mobile platforms facilitate not just leisure shopping but also informed buying choices. Challenging prevailing notions, the research suggests that social factors might not have a straightforward influence on impulsive purchases, marking a need for deeper exploration in this domain. In summary, this study enhances the theoretical comprehension of impulsive buying in digital settings, offering a foundation for businesses operating in Indonesia's m-commerce sector.

E. LIMITATIONS AND FUTURE SUGGESTIONS

This study acknowledges certain limitations that should be considered. Firstly, the reliance on purposive sampling implies that the results may not be fully generalizable to the broader population. Future research can employ probability sampling to ensure a more representative population. Secondly, the study predominantly adopted a quantitative methodology, offering valuable insights to variable relationships but potentially missing the nuanced aspects of consumer behavior. Future investigations may benefit from integrating qualitative methods to explore an in-depth understanding of purchase behavior. Lastly, the focus on the Jabodetabek area in this study may limit the broader

applicability of the findings to diverse geographical and cultural contexts. Future research should aim to encompass a wider range of regions and cultural backgrounds to provide a more comprehensive understanding of the factors influencing consumer choices.

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