

# Moderating Effects of Scarcity on Consumer Traits and Motives towards Impulsive Buying Behaviour during Covid-19 Pandemic among Indonesian Millennials

Eunike Gabriella\*, Patrick Juan Theodorus, Dominicus Darren, and Evi Rinawati Simanjuntak

Business Management Program, Management Department, BINUS Business School, Bina Nusantara University, Jakarta, Indonesia  
Email: gabriellaeunike@binus.ac.id (E.G.)

\*Corresponding author

Manuscript received May 12, 2023; revised June 28, 2023; accepted August 19, 2023; published January 10, 2024

**Abstract**—Research about impulsive buying behaviour has identified several determinant factors along the consumer journey, including psychological factors such as consumers' traits and shopping motives. This study investigates the moderating impact of the scarcity created in flash-sale events on the linkage between consumers' traits (sensation-seeking and self-identity) and shopping motives (hedonic and utilitarian). We collect 230 usable data using purposive sampling on e-marketplace consumers in Indonesia. We tested the hypothesis using Partial Least Square-Structural Equation Modeling (PLS-SEM). Direct effects of shopping motives and consumer traits toward impulse buying behaviour are evident in the result. Findings suggest scarcity moderates the linkage between utilitarian motive and sensation-seeking trait toward impulse buying behaviour, showing an enhancement effect. However, we find no support for moderating effect of scarcity on hedonic motive and self-identity trait. The uniqueness of the scarcity effect in creating impulse buying behaviour in the e-marketplace, can be used to develop strategies to increase sales in the e-marketplace.

**Keywords**—e-marketplace, impulsive buying behaviour, scarcity effect, shopping motives, consumer traits

## I. INTRODUCTION

The globalization shifts that emphasize Internet use have occurred with the rapid expansion of information technology infrastructure. The information provided by the Internet is extensively broad, including online transactions. So, it is unsurprising why many companies simultaneously change their way to earn profit or expand the market online. Then, an idea called e-marketplace appeared to provide a selling and purchasing platform for several businesses. Millennials dominating the use of e-commerce by 47% compared to other generation range according to report from (Kredivo and Katadata, 2021). The millennial generation is the generation that highly adopts the Internet for online shopping needs or, in this case, e-marketplace (Islahuddin and Syaifudin, 2021); they range from 25 to 41 years old. The first generation that grew up in the digital age is millennials, familiar with communication, media, and digital technology (Kaifi *et al.*, 2012). A survey at superstores in India by (Datta and Sharma, 2017) found that branded clothing was placed first in the product category for Generation Y, with 21.8% looking at the significant discrepancy between what they want to buy and what they are buying. Diana (2017) also found that millennials have characteristics that are easily attracted to attractive packaging and regular monthly discounts in e-marketplace. Influencers on social media and ongoing trends also pressure this generation to make unplanned purchases.

A few factors in this research might impact consumer decisions when they have the urgency to do impulsive spending. Ozen and Engizek (2014) define hedonic shopping motive as the experience consumers feel when shopping, such as feelings of pleasure, to encourage them to make purchases. According to survey of Prawira and Sihombing (2021), scarcity has significantly moderated hedonic shopping values toward impulsive buying behavior. To our knowledge, very few studies identify scarcity as a moderator on the impulsive buying behavior and its relationship with variables of each trait and motive from psychological factors, as in meta-analytic analysis from Hofstede Insights (2022), notably on an online platform. Hence, this research seeks to fill the gap by studying the impacts of scarcity with hedonic shopping motive, utilitarian shopping motive, sensation-seeking, and self-identity toward impulsive buying behavior. Moreover, it gives strategic inputs to companies by investigating factors that might impact impulsive buying behaviour supported by scarcity in the future e-marketplace.

## II. LITERATURE REVIEW

### A. Hedonic Shopping Motives

Consumers may believe that buying stuff has some effects on them. They could be providing emotional gratification, compensation, rewards, or minimizing their negative feelings (Iyer *et al.*, 2019). Hedonic shopping is a behaviour in which someone emphasizes the pleasure and enjoyment resulting from the shopping experience (Mirzaei *et al.*, 2018). Generally, utilitarian and hedonic were two dimensions of consumer motivation (Gupta, 2013). Essential internal factors of impulsive buying behaviour are consumer motive, such as hedonic or utilitarian motive. It reflects goal-directed arousal, causing certain consuming beliefs. Someone who has various attractive offers can influence their hedonic shopping value. Online shoppers' hedonic values could be obtained through arousal, playfulness, and positive online shop interaction (Bridges and Florshein, 2008).

### B. Utilitarian Shopping Motives

Utilitarian motive refers to a person's desire to explore the reasons for obtaining a high-quality product that is also efficient in time and energy. Usually, utilitarian products are not related to conditions. If a person's shopping activity is related to purchasing products efficiently to achieve the goal of minimal irritation, it can be considered utilitarian shopping (Mirzaei *et al.*, 2018). Utilitarian motive primarily applies to certain online buying goals and tasks, such as purchase

consideration. Online shoppers plan their purchases by gathering information on the attributes and price of the product/brand (Kau *et al.*, 2004). Utilitarian motive occurs when individuals are motivated to own stuff. It generally arises from a reaction to offers that succeed in attracting someone. The offers could be in the form of discounts, easy exchange of goods, refund policies, and the availability of many products; Necessity was the basis of utilitarian motive (Lee and Kacen, 2008). Utilitarian motive people could find more or plenty of information according to their necessity, which could lead to judgment and conclusion to have an item or stuff.

### *C. Sensation Seeking*

Sensation seeking may be a biopsychosocial dimension of identity-related to other externalizing personality characteristics (Mann *et al.*, 2018). Findings agree that sensation seekers usually need diverse, unique, and complex experiences (Park and Stangl, 2020). Sensation seeking is part of a personality attribute that indicates how far an individual prefers to pursue new experiences in life (Kiatkawsin *et al.*, 2021). So, from that statement, it could be concluded that individuals looking for sensation have a more prominent inclination against happiness, but they lack control (Jalees *et al.*, 2016; Bearden *et al.*, 2012). According to the description above, it can conclude that sensation-seeking can lead to psychology from their characteristics; they tend to spend money only for their happiness to reach attention or pleasure and lack control.

### *D. Self-Identity*

According to the study of Sun and Wu (2011), identity is a self-opinion that an individual creates and desires to maintain. A set of traits, characteristics, relationships, roles, and social organization membership defines self-identity (Oyserman *et al.*, 2012). Flotskaya *et al.*, (2019) mention that self-identification could be described as an aggregate of a person's traits such as identification, integrity, and precise shape development. It develops due to edition and reorientation in a continuously converting environment. Those statements are all about individual integrity that could make possible differences.

### *E. Scarcity*

Rice and Keller (2009) define scarcity as limited time and quantity, determining the number of stocks and periods where products can be purchased. In other studies, scarcity taglines put psychological pressure on consumers to impulsively boost the urgency to buy (Akram *et al.*, 2018). The impact of necessity that rises due to scarcity indirectly supports impulsive buying behaviour (Guo *et al.*, 2017). Product availability or scarcity was also one of the critical predictors of impulsive online buying as part of website attributes (Liu *et al.*, 2013). Furthermore, considering the low level of product stocks might trigger customer impulsivity, limiting their sales, and too many stores will not boost customers to buy (Chong *et al.*, 2017).

### *F. Impulsive Buying Behavior*

“An impulsive buying behaviour occurs immediately on the spot, by exposure to a stimulus” (Piron, 1991). According to the study of Ali and Zubairi (2020), purchasing items

without a prior plan or impulse is considered impulsive if not limited to a particular good or business setting. People who have a massive tendency to buy impulsively will purchase because that gives them happiness (Chong *et al.*, 2017). Garrett *et al.* (2014) mention that from the customer perspective, they did not realize the increment of impulsive spending as a disadvantage of the ease of mobile payment.

### *G. Hypothesis Development*

Hedonic shopping motive defines as an immoderate activity of shopping. People with hedonic shopping intentions tend to spend a significant of time perusing online stores, resulting in unplanned purchases. The motivation of an individual's shopping intentions may vary. One of them is hedonic shopping intentions. Supporting the research, Park and Dhandra (2017) demonstrate that hedonic web browsing characteristics positively influence impulsive purchase behaviour. These two findings portray a favourable and substantial influence on hedonic buying motive of stimulus purchases. Hedonic motive is a consumer motivator closely associated with impulsive buying and represents goal-directed arousal, leading to certain consumption beliefs (Iyer *et al.*, 2019). Research conducted by Sun and Wu (2011) shows that impulsive buying behaviour positively influences internet addiction, the need for agitation or motive, and the need for material resources. Customers who have a personality obsessed with hedonic traits can positively influence impulsive buying behaviour.

H1: Hedonic shopping motive positively impact impulsive buying behavior

Customer value has two dimensions, namely utilitarian and hedonic. Apart from hedonic factors there are also utilitarian shopping motivation factors which have a role in influencing impulsive buying behavior when consumers can be rational in shopping activities (Wen-Kuo *et al.*, 2020). The worth of a certain shopping job is referred to as utilitarian value, and it accurately represents product acquisition. According to the study of Floch and Madlberger (2013), utilitarian motive can trigger impulsive buying. The higher the consumer's specific context, the more products they will buy impulsively. Furthermore, customers' utilitarian and hedonic motives are strongly associated with satisfaction and impulsive online purchasing behaviour (Wu *et al.*, 2011). When too much information is accessible, buyers will probably think that the purchasing platforms are practical, which flexibility will raise the utilitarian motivation of making impulsive purchases along with mobility (Cecianti and Hati, 2021). Personalized advertisements that succeed to attract needs even though someone doesn't need it, could lead to impulsive buying, this due to someone feeling that product was useful and helpful will affect identity as a person (Sharma *et al.*, 2014). The study of Mann *et al.* (2018) showed that COVID-19 affected the utilitarian motivational behavior of consumers because they made impulsive purchases and failed to consider the economic and extrinsic advantages of businesses. However, several studies show utilitarian motive does not positively affect impulsive buying behaviour. According to the study of Mann *et al.* (2018), utilitarian browsing negatively affects purchase impulsiveness, but hedonic browsing is favourably related. This is because utilitarian values are rational shopping behaviour and do not involve emotions in

purchasing decisions.

H2: Utilitarian shopping motive positively impact impulsive buying behaviour

Sensation-seeking, variety-seeking, novelty-seeking, and similar dispositions are arguably separate from other qualities, such as impulsivity, and have been linked to impulsive purchasing behaviour (Punj, 2017; Sharma *et al.*, 2014). Baumeister (2002) and Lee (2003) define sensation seeking as a person's experience that creates thrilling and exciting feelings, which proved that a higher level of excitement in commercial environments enhances the loss of self-control. Therefore, loss of self-control driven by sensation seeking can also refer as impulsive buying behaviour.

H3: Sensation seeking positively impacts impulsive buying behavior

Himawari *et al.* (2018) mention that self-identity becomes a motive of someone purchasing a decision to make an image upon self in the minds of others to establish a specific goal identity of themselves. People that place a high value on materialistic things are supposed to acquire a wide range of items to boost and express their prestige, rank, and influence in society. These assets cause the person delighted and impulsive purchases often serve as a reflection of someone's identity (self-identity) (Dittmar *et al.*, 1995; Pradhan, Israel Jena, 2018; Sun and Wu, 2011). The feeling of being cool increases hedonic value, in which individuality, self-identity and personality become part of it, as a result creates perception that the product is cool (Oyserman *et al.*, 2012) and there is a possibility of impulsiveness. Self-identity is one cultural element that moderates customers' impulsive shopping decisions (Kaifi *et al.*, 2012). Previous researchers have used the relation between self-identity and impulsive buying behaviour extensively. Phau and Lo (2004) used it to create a new marketing strategy using the self-concept characteristics of fashion innovators who generally exhibit impulsive behavior. While Sharma *et al.* (2012) focus on men's products that intrigue impulsive buying purchases in a male-dominated society in India. This is also in line with the research of Dittmar *et al.* (1995) who stated that impulse purchases are more likely to be goods that present a preferred or ideal self and therefore must be influenced by social categories such as gender.

H4: Self-identity positively impacts impulsive buying behaviour

According to the survey of Prawira and Sihombing (2021), scarcity has significantly moderated hedonic shopping values towards impulsive buying behaviour, except for social and idea shopping. These are due to e-commerce that acts by itself on the seller. As stated by Iyer *et al.* (2019), hedonic and utilitarian motives towards impulsive buying behaviour will be stronger when the product is not widely available or not widely distributed. So does sensation-seeking. Even though sensation seeking is vital when a product is available in their research, it is not proven to become weak when it is scarce. Gupta (2013) mentions that consumers who want to define their self-identity, where they want to differentiate from others, will race themselves to retrieve scarce goods. So, it pushes them to get the goods as soon as possible. Cui *et al.* (2019) mention that customers, especially in the online store, would be driven to purchase the item when the product

availability information is applied. They were afraid they would not get certain promotion benefits; therefore, they rushed to deal with it. Nevertheless, scarcity did not always positively impact customer shopping intention. Looking at the study from Biraglia *et al.* (2021), the downsides of scarcity can create customer anger and switch intentions to other brands. Therefore, this research wants to see whether scarcity can encourage customers to do impulse buying or not.

H5: The relationship between hedonic shopping motive and impulsive buying behaviour will be stronger when scarcity presents

H6: The relationship between utilitarian shopping motive and impulsive buying behaviour will be stronger when scarcity presents

H7: The relationship between sensation seeking and impulsive buying behaviour will be weaker when scarcity presents

H8: The relationship between self-identity and impulsive buying behaviour will be stronger when scarcity presents

### III. RESEARCH METHODS

#### A. Measurement

Rise and Kelller (2009), this research uses a quantitative approach by collecting primary data using a survey method. The questionnaire distributes through Google Form to people who use the Indonesian e-marketplace to make purchases. The questionnaire develops in English, yet the author also provided them in Bahasa Indonesia. The measurement of response is ranged from 1 ("Strongly Disagree") to 5 ("Strongly Agree") using the Likert scale. The questionnaire consists of three sections. The first section filters whether the respondents have used one Indonesian e-marketplace and experienced impulsive buying. The second seeks to collect the respondent profile. The third section aims to assess the factors that impact impulsive purchasing behaviour.

There were six variables involved in this study. Hedonic shopping motive adopts Park *et al.* (2012) and Horváth, and Adıgüzel (2018). Utilitarian shopping motive adopts Wu *et al.* (2011) and Park *et al.* (2012). Sensation seeking was adopted from Aluja *et al.* (2010), Mann *et al.* (2018), and Fernández-Artamendi *et al.* (2016). Self-Identity adopts Dittmar *et al.* (2007). Scarcity adopts Prawira and Sihombing (2021) and Wu *et al.* (2011). Last, Impulsive Buying behaviour adopts Park *et al.* (2012) and Pradhan (2016).

#### B. Data Collection

The primary data retrieve from the Indonesian e-marketplace active users who shop more than once a month from 24 to 40 years old as respondents through the questionnaire for non-probability sampling. They experience impulse buying on Indonesian e-marketplaces such as Shopee, Tokopedia, Bukalapak, Lazada, and Blibli. The questionnaire consists of 30 questions and a target of 200 respondents. The suggestion for a valid observation is between 160 and 300 and is suited for multivariate statistical analysis techniques, such as PLS-SEM (Memon *et al.*, 2020). Then data retrieved will get tested using Partial Least Square-Structural Equation Modeling (PLS-SEM). PLS-SEM examines the data on the relationship between the variables in this model.

#### IV. RESULT AND DISCUSSION

##### A. Result

A pre-test was done by collecting 30 respondents, ensuring the measurement's validity and reliability. Then once all the measures were validated, online questionnaires were distributed among targeted respondents. The results were then examined using PLS-SEM, which showed that 230 of the 284 respondents provided valid responses. The percentage between women and men was 55.5% and 44.5%, respectively. Based on the criteria that we have set, namely the millennial generation with an age range of 24–40 years, the responders aged 24 to 28 account for 56.5% of the total, with 47.8% living in Tangerang and 55.6% of respondents are in private employment, with monthly spending about almost equal to a range of fewer than 1 million rupiahs to more than 5 million rupiahs. The majority of e-marketplaces used is Shopee with a percentage of 76.8%, and 43% of them impulsively buy on that marketplace one to two times a month. Basic statistical tests, namely the validity and reliability tests, have been carried out first. Outer loadings between variables must be more than 0.5 to be considered significant or valid (Hair *et al.*, 1998). This result shows that all outer loading values are more than 0.7. Before evaluating the hypothesis, data quality is assessed by reliability and validity tests. Cronbach's alpha value should be equal to or greater than 0.7 to be regarded acceptable. Each variable is valid and reliable with Cronbach's Alpha value starting from 0.697. Validity testing includes the AVE and outer loading value. The Average Variance Extracted (AVE) value must be equal to or above 0.5 to consider whether the data is good or can also test out the convergent validity. Furthermore, from this survey, all the variables have AVE values ranging from 0.586 to 1, which means the data is sufficient. With an  $R^2$  value of 0.571, hedonic shopping motive, utilitarian shopping motive, sensation seeking, self-identity, and scarcity, can be explained by 57.1% of impulsive buying behaviour. Other variables outside this research explained the rest (Investopedia, 2022). Then, using the Fornell-Larcker criterion, we examined discriminant validity. Discriminant validity is evident when the concept's square root of AVE is more significant than its correlations with other variables in the model (Fornell and Larcker, 1981). Overall, the result from this research shows that discriminant validity is acceptable for this measuring approach and supports the variables. Following the validity and reliability test, the hypothesis is tested. Hypothesis testing seeks to identify whether a sample of data investigated is related to one another and if the data has a positive or negative influence on the dependent variable. PLS-SEM testing uses Bootstrapping, where the P-value must be less than 0.05 for a hypothesis to be accepted. Meanwhile, in this survey, all variables have a P-value lower than 0.05, except hedonic shopping motive moderating by scarcity against impulsive buying (H5) and self-identity moderating by scarcity against impulsive buying (H8) was rejected due to its values more than 0.05. The analysis found that hedonic shopping motive and self-identity moderated by scarcity have a negative effect and are not significant toward impulsive buying behaviour. However, they have a positive and significant correlation with their direct effects. Meanwhile, utilitarian shopping motive, with

or without scarcity, has no positive yet considerable effect on impulse buying behaviour. Lastly, impulse buying behaviour was the only variable that positively and significantly correlated with sensation-seeking, whether it was a direct effect or moderated effect with scarcity.

##### B. Discussion

This study aimed to examine the moderating effects of scarcity on consumer traits and motives towards impulsive buying behaviour during the covid-19 pandemic. The data testing results show that six hypotheses have a significant effect out of the eight hypotheses. Besides the unique context in this research that examines the model (research conducted among e-marketplace users), some previous studies aligned with this research results. The results demonstrated that the first hypothesis's hedonic shopping motive affects impulsive buying. These results are aligned with prior studies indicating the link between hedonic shopping and impulsive purchasing behaviour (Gültekin and Hacettepe, 2012; Park and Dhandra, 2017). The results showed that utilitarian shopping motive in the second hypothesis significantly affected impulse buying. Contrary to Lee *et al.* (2003), utilitarian shoppers are rational when buying something and do not involve their feelings in their decisions.

The results showed that the sensation seeking in the third hypothesis substantially impacted impulse buying. Previous studies convey the relationship between sensation seeking and impulsive buying behaviour (Chen, 2013; Lee and Kacen, 2008; Mirzaei *et al.*, 2018; Shepperd *et al.*, 2011). From our analysis, the sensation coming from impulsive buying activities is what the sensation seekers are looking for. The results showed that self-identity in the fourth hypothesis significantly affected impulse buying. The correlation between self-identity and impulsive purchase behaviour is shown in previous research (Chen, 2013; Lee and Kacen, 2008; Mirzaei *et al.*, 2018). These results might be related to customers from the e-marketplace in Indonesia tend to differentiate themselves or have pride in themselves when they could be impulsive when they shop.

The fifth hypothesis shows no moderating effect from scarcity towards hedonic shopping motive to impulsive buying behaviour. Contrary to the initial hypothesis, this was consistent with analysis results from Bearden *et al.* (2012), where scarcity, in this case, limited time, positively impacted impulsive buying behaviour regardless of the effect of hedonic shopping motive a moderating variable. Utilitarian shopping motivation on the sixth hypothesis shows a moderating effect from scarcity toward impulsive buying behaviour. Aligned with the meta-analytic review by Rehman *et al.* (2021), there is a link between utilitarian motive and impulsive purchasing behaviour. The result of this research reflects on this pandemic condition. Therefore, there is a long queue line in the grocery store where utilitarian usually only buy when needed instead of stocking them. On the other hand, sensation-seeking on the seventh hypothesis positively impacted impulsive buying behaviour moderated by scarcity (distribution intensity).

Similarly, the eighth hypothesis shows that scarcity does not moderate self-identity with the fifth hypothesis results. Though scarcity was proven to boost self-identity in the other research, Indonesia had a high long-term orientation score on

Hofstede. They can adapt to situations to save and thrift (Hofstede Insights, 2022). Thus, from our analysis, although hedonic and self-identity shoppers lead to impulsive shopping behaviour, when there is resource scarcity, it will not increase their urgency to shop impulsively. Our result has portrayed that not every personal trait and motive related to impulsive buying behaviour results when scarcity happens.

#### V. CONCLUSION, LIMITATION, AND RECOMMENDATION

Out of 36 measurements, four independent variables, one moderating variable, and one dependent variable identified six variables that positively impact impulsive buying behaviour. Moreover, only two variables are not supported. The result from this research provides insights for studies of factors that impact impulsive buying behaviour based on the trait and motives of the buyer, together with the moderating impact of external factors such as scarcity. Scarcity moderates the strength of the relationship between personal factors to impulsive buying behaviour, however not all of those factors. Scarcity does not moderate the impact of hedonic shopping motive toward impulse buying. The individual that shows strong self-identity will still show impulsive buying behaviour with or without scarcity. Among all the factors, sensation-seeking was found to be the most significant factor of traits and motives of a customer to do impulsive purchases. Companies could try to create promotions such as flash sales or limiting times and a certain quantity of selected stores. It might create a shopping sensation that triggers a sensation-seeking to make unplanned purchases.

However, there are limitations to the study. The sample size can increase, possibly gaining higher percentages of e-marketplace users. As of 2020, there are 129 million users in Indonesia (Prawira and Sihombing, 2021). Second, the consumer qualities and reasons, scarcity, and impulsive purchasing behaviours of men and women were not analyzed. In comparison, men and women may react differently to shortages when shopping impulsively.

Meanwhile, the new consumption rate may exceed 30% as internet shopping expands outside Jakarta, providing better options and costs (Das *et al.*, 2018). Therefore, populations outside Jakarta can be researched to determine if cultural differences affect impulsive shopping characteristics. Nevertheless, hedonic shopping motive and self-identity were not moderated by scarcity when they do impulsive shopping. This result can further investigate why hedonic shopping motive and self-identity are not moderated by scarcity when impulsive shopping. External factors such as marketing stimuli and payment method can also enrich these studies with elements besides physiological. Third, future studies can also use the same traits and motives with compulsive buying behaviour as their dependent variables. It is not only an impulsive behaviour but reaches up to a buying disorder.

#### CONFLICT OF INTEREST

The authors declare no conflict of interest.

#### AUTHOR CONTRIBUTIONS

Eunike Gabriela, Patrick Juan Theodorus and Dominicus

Darren was responsible for making the research, wrote all the paper and blast survey questionnaire which we divided it based on respective roles; For analyzed the data, Eunike Gabriela and Patrick Juan Theodorus was the main role to this paper; lastly Evi Rina Simanjuntak act as our mentor and helped with the progress of this paper. All authors had approved the final version.

#### REFERENCES

- Akram, U., Hui, P., Kaleem Khan, M., Tanveer, Y., Mehmood, K., & Ahmad, W. 2018. How website quality affects online impulse buying: Moderating effects of sales promotion and credit card use. *Asia Pacific Journal of Marketing and Logistics*, 30(1): 235–256.
- Ali, M. A.-B., & Zubairi, S. A. 2020. Impact of demographic factors on impulse buying behaviour: A study of consumer behaviour in supermarkets of Karachi. *European Journal of Business and Management Research*, 5(3): 1–7.
- Aluja, A., Kuhlman, M., & Zuckerman, M. 2010. Development of the Zuckerman–Kuhlman–Aluja Personality Questionnaire (ZKA–PQ): A factor/facet version of the Zuckerman–Kuhlman Personality Questionnaire (ZKPQ). *Journal of Personality Assessment*, 92(5): 416–431.
- Baumeister, R. F. 2002. Yielding to temptation: Self-control failure, impulsive purchasing, and consumer behaviour. *Journal of Consumer Research*, 4(28): 670–676.
- Bearden, W. O., Netemeyer, R. G., & Haws, K. L. 2012. *Handbook of marketing scales: Multitrait measures or marketing and customer behaviour research* (3rd. ed.). SAGE, California, CA.
- Biraglia, A., Usrey, B., & Ulqinaku, A. 2021. The downside of scarcity: Scarcity appeals can trigger consumer anger and brand switching intentions. *Psychology and Marketing*, 38(8): 1314–1322.
- Bridges, E., & Florsheim, R. 2008. Hedonic and utilitarian shopping goals: The online experience. *Journal of Business Research*, 61(4): 309–314.
- Cecianti, V. P., & Hati, H. 2021. Factor affecting online impulsive buying on social commerce in Indonesia: The moderation role of perceived financial risk. In *Contemporary research on business and management*: 237–240.
- Chen, M. W. 2013. *To buy or not to buy? A behavioural approach to examine consumer impulse buying choice in various situations*. PhD Thesis, Durham University.
- Chung, N., Song, H. G., & Lee, H. 2017. Consumers impulsive buying behaviour of restaurant products in social commerce. *International Journal of Contemporary Hospitality Management*, 29(2): 709–731.
- Cui, R., Zhang, D. J., & Bassamboo, A. 2019. Learning from Inventory availability information: Evidence from field experiments on Amazon. *Management Science*, 65(3): 1216–1235.
- Datta, D., & Sharma, B. 2017. Impulse purchase behaviour among the millennials at Agartala, Tripura, India. *International Journal of Marketing and Financial Management*, 5(5): 01–17.
- Das, K., Tamhane, T., Vatterott, B., Wibowo, P., & Wintels, S. 2018. The digital archipelago: How online commerce is driving Indonesia's economic development. McKinsey Report.
- Diana, A. L. 2021. Impulsive behavior in Indonesian millennial generations in online in market place. Available: [https://www.kompasiana.com/avivahdiana/60c74f45d541df2ab33bb794/perilaku-impulsif-pada-generasi-millennial-indonesia-dalam-berbelanja-online-di-market-place?page=1&page\\_images=1](https://www.kompasiana.com/avivahdiana/60c74f45d541df2ab33bb794/perilaku-impulsif-pada-generasi-millennial-indonesia-dalam-berbelanja-online-di-market-place?page=1&page_images=1) (in Indonesian)
- Dittmar, H., Long, K., & Bond, R. 2007. When a better self is only a button click away: Associations between materialistic values, emotional and identity-related buying motives, and compulsive buying tendency online. *Journal of Social and Clinical Psychology*, 3(26): 334–361.
- Dittmar, H., Beattie, J., & Friese, S. 1995. Gender identity and material symbols: Objects and decision considerations in impulse purchases. *Journal of Economic Psychology*, 16: 491–511.
- Dittmar, H., Beattie, J., & Friese, S. 1995. Gender identity and material symbols: Objects and considerations in impulse purchases. *Journal of*

- Economic Psychology*, 16(3): 491–511.
- Fernández-Artamendi, S., Martínez-Loredo, V., Fernández-Hermida, J. R., & Carballo-Crespo, J. L. 2016. The Impulsive Sensation Seeking (ImpSS): Psychometric properties and predictive validity regarding substance use with Spanish adolescents. *Personality and Individual Differences*, 90(1): 163–168.
- Floh, A., & Madlberger, M. 2013. The role of atmospheric cues in online impulse-buying behaviour. *Electronic Commerce Research and Applications*, 12(6), 425–439.
- Flotskaya, N., Bulanova, S., Ponomareva, M., Flotskiy, N., and Konopleva, T. 2019. Self-identity development among indigenous adolescents from the far north of Russia. *Behavioural Sciences*, 9(10): 106.
- Fornell, C., & Larcker, D. F. 1981. Structural equation models with unobservable variables and measurement error: Algebra and statistics. *Journal of Marketing Research*, 18(3): 382–388.
- Garrett, J. L., Rodermund, R., Anderson, N., Berkowitz, S., & Robb, C. A. 2014. Adoption of mobile payment technology by consumers. *Family and Consumer Sciences Research Journal*, 42(4): 358–368.
- Gültekin, B., & Hacettepe, L. Ö. 2012. The influence of hedonic motives and browsing on impulse buying. *Journal of Economics and Behavioural Studies*, 4(3): 180–189.
- Guo, J., Xin, L., & Wu, Y. 2017. Arousal or not? The effects of scarcity messages on online impulsive purchase. *HCI in Business, Government, and Organizations*, 10294: 29–40.
- Gupta, S. 2013. *The psychological effects of perceived scarcity on consumers' buying behaviour*. PhD thesis, University of Nebraska.
- Ha, Y. 2020. The effects of shoppers' motivation on self-service technology use intention: Moderating effects of the presence of employees. *The Journal of Asian Finance, Economics and Business*, 7(9): 489–497.
- Hair, J. F. J., Anderson, R. E., Tatham, R. L., and Black, W. C. 1998. *Multivariate data analysis* (5th. ed.). New Jersey, NJ.
- Himawari, R. C., Prayoga, T., Fajrianti, S. P., and Abraham, J. 2018. Online impulse buying: The role of self-construction and online shop aesthetics. *International Journal on Advanced Science, Engineering, and Information Technology*, 8(5): 1926–1933.
- Horváth, C., & Adigüzel, F. 2018. Shopping enjoyment to the extreme: Hedonic shopping motivations and compulsive buying in developed and emerging markets. *Journal of Business Research*, 86, 300–310.
- Hofstede Insights. 2022. Available: <https://www.hofstede-insights.com/country/indonesia/>
- Investopedia.com. 2022. R-Squared vs. Adjusted R-Squared: What's the Difference? Available: <https://www.investopedia.com/ask/answers/012615/whats-difference-between-rsquared-and-adjusted-rsquared.asp#:~:text=Adjusted%20R%20squared%20is%20a,model%20by%20less%20than%20expected>
- Islahuddin, & Syaifudin, N. 2020. Indonesia's largest e-commerce market from millennial. Available: <https://lokadata.id/artikel/pasar-e-commerce-terbesar-indonesia-dari-milenial> (in Indonesian)
- Iyer, G. R., Blut, M., Xiao, S. H., & Grewal, D. 2019. Impulse buying: A meta-analytic review. *Journal of the Academy of Marketing Science*, 48(2), 384–404.
- Jalees, T., Kazmi, S. H., & Zaman, S. I. 2016. The effect of visual merchandising, sensation-seeking, and collectivism on impulsive buying behaviour. *Journal of Systems Science and Information*, 4(4), 321–333.
- Joo, P. E., Young K. E., & Cardona F. J. 2006. A structural model of fashion-oriented impulse buying behavior. *Journal of Fashion Marketing and Management: An International Journal*, 10(4), 433–446.
- Kacen, J. J., & Lee, J. A. 2002. The influence of culture on consumer impulsive buying behavior. *Journal of Consumer Psychology*, 12(2), 163–176.
- Kaifi, B. A., Nafei, W. A., Khanfar, N. M., & Kaifi, M. M. 2012. A multi-generational workforce: Managing and understanding millennials. *International Journal of Business and Management*, 7(24), 88–93.
- Kau, A. K., Tang, Y. E., & Ghose, S. 2003. Typology of online shoppers. *Journal of Consumer Marketing*, 20(2), 139–156.
- Kiatkawsin, K., Bui, N. A., Hrankai, R., & Jeong, K. 2021. The moderating roles of sensation seeking and worry among nature-based adventure tourists. *International Journal of Environmental Research and Public Health*, 18(4): 1–18.
- Kredivo and Katadata. Insight Center. 2021. Indonesian e-commerce consumer behavior. Available: <https://finacel.co/wp-content/uploads/2021/06/2021-Indonesian-e-Commerce-Consumer-Behavior-Report-compressed.pdf>
- Lee, J. A., & Kacen, J. J. 2008. Cultural influences on consumer satisfaction with impulse and planned purchase decisions. *Journal of Business Research*, 61(3): 265–272.
- Lee, N. 2017. Consumers impulsive buying behaviour of restaurant products in social commerce. *International Journal of Contemporary Hospitality Management*, 29(2): 709–731.
- Lee, H. B., & Lee, H. W. 2003. The impacts of browsing on buying impulsiveness in Internet shopping malls. *Korean Management Review*, 32(5): 1235–1263.
- Liu, Y., Li, H., & Hu, F. 2013. Website attributes in urging online impulse purchase: An empirical investigation on consumer perceptions. *Decision Support Systems*, 55(3): 829–837.
- Mann, F. D., Paul, L. S., Tackett, J. L., Tucker-Drob, E. M., & Harden, K. P. 2018. Personality risk for antisocial behaviour: Testing the intersections between callous-unemotional traits, sensation seeking, and impulse control in adolescence. *Development and Psychopathology*, 30(1): 267–282.
- Meeus, W., Vollebergh, W., Branje, S., Crocetti, E., Ormel, J., van de Schoot, R., Crone, E. A., & Becht, A. 2021. On imbalance of impulse control and sensation seeking and adolescent risk: An intra-individual developmental test of the dual systems and maturational imbalance models. *Journal of Youth and Adolescence*, 50(5): 827–840.
- Memon, M. A., Ting, H., Hwa, C. J., Ramayah, T., Chuah, F., & Cham, T. H. 2020. Sample Size for Survey Research: Review and recommendations. *Journal of Applied Structural Equation Modeling*, 4(2): 1–20.
- Mikalef, P., Giannakos, M., & Pateli, A. 2013. Shopping and word of mouth intentions on social media. *Journal of Theoretical and Applied Electronic Commerce Research*, 8: 17–34.
- Mirkovic, B. 2019. *Impulsive buying tendency and sensation seeking*. Thesis, University of Banja Luka.
- Mirzaei, E., Kheyroddin, R., Behzadfar, M., & Mignot, D. 2018. Utilitarian and hedonic walking: Examining the impact of the built environment on walking behavior. *European Transport Research Review*, 10(2): 1–14.
- Musadik, S. H. S. A., & Azni, I. A. G. 2017. The nexus 'Cool' motivation and credit card on impulsive buying behavior: A conceptual study. *International Journal of Islamic Business*, 2(2): 1–17.
- Oyserman, D., Elmore, K., & Smith, G. 2012. Self, self-concept, and identity. *Handbook of self and identity*. The Guilford Press, New York, NY.
- Ozen, H., & Engizek, N. 2014. Shopping online without thinking: Being emotional or rational. *Asia Pacific Journal of Marketing and Logistics*, 26(1): 78–93.
- Park, E. J., Kim, E. Y., Funches, V. M., & Foxx, W. 2012. Apparel product attributes, web browsing, and e-impulse buying on shopping websites. *Journal of Business Research*, 65(11): 1583–1589.
- Park, H. J., & Dhandra, T. K. 2017. Relation between dispositional mindfulness and impulsive buying tendency: Role of trait emotional intelligence. *Personality and Individual Differences*, 105(2107): 208–212.
- Park, S., & Stangl, B. 2020. Augmented reality experiences and sensation seeking. *Tourism Management*, 77, 104023.
- Phau, I., & Lo, C. C. 2004. Profiling fashion innovators: A study of self-concept, impulse buying and internet purchase intent. *Journal of Fashion Marketing and Management*, 8(4): 399–411.
- Piron, F. 1991. Defining impulse purchasing. *ACR North American Advances*, 18: 509–514.
- Pradhan, V. 2016. Study on impulsive buying behaviour among consumers

- in supermarket in Kathmandu valley. *Journal of Business and Social Sciences Research*, 1(2): 215.
- Pradhan, D., Israel D., & Jena, A. K. 2018. Materialism and compulsive buying behaviour: The role of consumer credit card use and impulse buying. *Asia Pacific Journal of Marketing and Logistics*, 30(5): 1239–1258.
- Prawira, N. A., & Sihombing, S. O. 2021. Antecedents of online impulsive buying behavior: An empirical study in Indonesia. *The Journal of Asian Finance, Economics and Business*, 8(2): 533–543.
- Punj, G. 2011. Impulse buying and variety seeking: Similarities and differences. *Journal of Business Research*, 64(7): 745–748.
- Rehman, M., Mahmood, A., Danish, R. Q., & Shahid, M. K. 2021. Examining impact of time pressure and hedonic consumption on impulse buying behaviour: Expectation disconfirmation theory perspective. *Journal of Islamic Countries Society of Statistical Sciences (J-ISOSS)*, 7(2): 163–175.
- Rice, S., & Keller, D. 2009. Automation reliance under time pressure. *International Journal of Cognitive Technology*, 14(1): 36.
- Rika, H. 2021. 88.1% of internet users shopping with e-commerce. Available: <https://www.cnnindonesia.com/ekonomi/20211111123945-78-719672/881-persen-pengguna-internet-belanja-dengan-e-commerce> (in Indonesian)
- Rohm, A. J., & Swaminathan, V. 2004. A typology of online shoppers based on shopping motivations. *Journal of Business Research*, 57(7): 748–757.
- Sharma, P., Sivakumaran, B., & Marshall, R. 2014. Looking beyond impulse buying: A cross-cultural and multi-domain investigation of consumer impulsiveness. *European Journal of Marketing*, 48(5/6): 1159–1179.
- Sharma, M., Sharma, A., & Mittal, V. 2012. Impulsive buying behavior professional students in reference to gender. *Journal of Human Resource Management and Development (JHRMD)*, 2(2): 14–19.
- Shepperd, J. A., Rothman, A. J., & Klein, W. M. P. 2011. Using self- and identity-regulation to promote health: Promises and challenges. *Self and Identity*, 10(3): 407–416.
- Setyani, V., Zhu, Y. Q., Hidayanto, A. N., Sandhyaduhita, P. I., & Hsiao, B. 2019. Exploring the psychological mechanism from personalized advertisement to urge to buy impulsively on social media. *Journal of International Information and Management*, 48: 96–107
- Sun, T., & Wu, G. 2011. Trait predictors of online impulsive buying tendency: A hierarchical approach. *Journal of Marketing Theory and Practice*, 19(3): 337–346.
- Tatzel, M. 2002. Money worlds' and wellbeing: an integration of money dispositions, materialism, and price-related behavior. *Journal of Economic Psychology*, 23(1): 103–126.
- Varadaraj, A., & Charumathi, D. 2019. Impact of hedonic and utilitarian shopping motive on online purchase decision. CSIE Working Papers, 11: 6–16.
- Wen-Kuo, C., Pei-Chu, H., Cheng-Kun, C., & Hua-Sheng, P. 2020. Understanding consumers' post-purchase dissonance by online impulse buying-beauty product. *Proceedings of the 2020 international conference on management of e-commerce and e-government*: 46–51. <https://doi.org/10.1145/3409891.3409910>
- Wu, W.-Y., Lu, H.-Y., Wu, Y.-Y., & Fu, C.-S. 2011. The effects of product scarcity and consumers' need for uniqueness on purchase intention. *International Journal of Consumer Studies*, 36(3): 263–274.

Copyright © 2024 by the authors. This is an open access article distributed under the Creative Commons Attribution License which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited ([CC BY 4.0](https://creativecommons.org/licenses/by/4.0/)).