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# Antecedents of Online Impulse Buying Behavior: An Empirical Study in Indonesia

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## Abstract

This study aims to determine and analyze the effect of social shopping, adventure shopping, value shopping, relaxation shopping, and idea shopping in influencing impulsive online buying behavior moderated by scarcity and serendipity information. The research method used is the quantitative research paradigm using surveys as a medium to obtain primary data. The paper examines the theoretical research model and tested fifteen hypotheses. The questionnaire was developed based on indicators from previous research. A non-probability sampling framework is used in this study. The data collection method uses electronic and online questionnaires to collect primary data with a total sample of 330 taken with the criteria of having made transactions in e-commerce Shopee in the last three months. Data analysis tools using Structural Equation Modelling (SEM) approach. The results showed that 8 out of 15 hypotheses were accepted and supported. The results show that there is a relationship between the value of hedonic shopping, scarcity, and serendipity information on impulsive online buying behavior. Therefore, analyzing the needs of customers, optimizing customer satisfaction, service excellence, website quality, and the ease of use of e-shopping itself especially in the e-commerce industry should be taken seriously nowadays.

**Keywords:** Scarcity, Serendipity Information, Online Shopping, Impulse Buying Behavior, Structural Equation Modelling

**JEL Classification Code:** M20, M31, M39

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## 1. Introduction

The number of online trading forums nowadays has a positive influence on the high level of Internet use which affects the development of e-commerce in Indonesia. Indonesia is a country that has experienced relatively rapid e-commerce growth. Indonesia, one of the largest democracies in the world, has seen a significant spike of internet users within the last decade. (Rizan et al., 2020). As reported in the Census of the Central Statistics Agency, Indonesia is the eleventh largest market for e-commerce with a revenue of US\$20 billion in 2019. With an increase of 49%, the Indonesian e-commerce market contributed to

the worldwide growth rate of 17% in 2019 (Putri & Iriani, 2019). This shows that Indonesia is increasingly literate in Internet technology and makes Indonesia a high-internet consumer market. (Abdu'a & Wasianty, 2019).

Indonesia's large and relatively young population, coupled with a fast-growing middle class and high levels of consumer confidence, has been a key driver of expansion in retail and e-commerce. This rapid development is reinforced by many marketplaces that currently dominate the Indonesian market such as Tokopedia, Bukalapak, Shopee, and others. In the current market, Tokopedia, Bukalapak and Shopee are well positioned as the leaders, and as such the vertical market tends to focus on niche segments (Putri & Iriani, 2019). According to Andika (2020), Shopee has successfully established itself as the most popular e-commerce in Indonesia in the fourth quarter (Q4) 2019. Shopee's monthly visitors for the fourth quarter were 72,973,300 and Shopee was ranked number 1 in the AppStore and PlayStore. From the first quartile of 2017 to 2019 Shopee continues to be the top most popular e-commerce in Southeast Asia and the most downloaded application on the play store (Ilyas et al., 2020). With consumers dominated by the young generation, the country has huge potential to accelerate retail development since they have more purchasing power (Pham, 2020).

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Although users have increasingly turned to their smartphones to access the web, many still find desktops to be the most convenient way to scour the internet, especially when they are shopping online on the many e-commerce sites available today. However, despite the advantage of Shopee itself, domestic e-commerce namely, Tokopedia has raced Shopee in the number of desktop and mobile web visits during 2019. (Rachmatunnisa, 2020). The percentage of Shopee's visitors from the desktop is around 20.58% while the percentage of visitors from the mobile web is around 79.42%. Meanwhile, the percentage of Tokopedia visitors from the desktop is around 27.65% and the percentage of visitors from the mobile web is around 72.35%. Tokopedia is currently still the most visited local e-commerce site in Indonesia

Many customers are complaining that the help center at the Shopee application has not been able to solve the problems of customers. This happens due to the lack of human resources in analyzing the problems (Siaumei, 2020). Based on the previous studies, research on variables scarcity and serendipity information are still relatively minimal compared to other hedonic value variables, whereas these two variables could have significant effects on impulsive buying behavior (Akram et al., 2018; Chung et al., 2017).

Both scarcity and serendipity information variables should be studied in Shopee to have an understanding of how impulsive buying happens (John et al., 2019). Moreover, the hedonic shopping values also assists e-retailers and web developer to manage marketing strategies that are suitable and affecting the consumer purchasing decision process (Akram et al., 2018). This study aims to analyze the influences of hedonic shopping values moderated by scarcity and serendipity information towards online impulse buying behavior.

## 2. Literature Review

### 2.1. Online Impulsive Buying Behavior

Impulsive buying is the tendency of a customer to buy goods and services without planning in advance. When a customer takes such buying decisions at the spur of the moment, it is usually triggered by emotions and feelings (Astari & Nugroho, 2017). It is a fast, unlimited purchase with no pre-spend that aims to buy a certain classification of goods or to fulfil a specific purchase task. Emotions, feelings, and attitudes play a decisive role in purchasing, triggered by seeing the product or upon exposure to a well-crafted promotional message (Kathiravan et al., 2019).

There are two factors affecting impulse buying which are external and internal stimuli (Muruganantham & Bhakat, 2013). The external factor refers to the marketing cues that marketers place and control to entice consumers into buying behavior. External stimulus associated with the shopping environment comprises store size, atmosphere, and design whereas the marketing environment includes several sales

techniques and advertising activities. The internal factor is concerned with numerous personality-related factors that describe an individual rather than the shopping environment. It reflects the clues and internal characteristics of the individual that make customers involved in impulsive buying.

### 2.2. Social Shopping

Social shopping refers to hedonic shopping behaviors, motives, or orientations, for instance, in an online shopping platform or social commerce. (Wang & Zhang, 2012). Social shopping is an e-commerce methodology in which the shopping experience is shared with a social network of friends and contacts. Social shopping impacts an individual's buying process by using social media networks to share, recommend, suggest and comment on products or services. These communications can lead to finding products, aggregating, and sharing product information, and collaboratively creating shopping decisions (Shen, 2012).

### 2.3. Adventure Shopping

Adventure shopping refers to shopping for stimulation, adventure in the search for products, and the feeling of being in a different world. Hence, shopping on online sites can be a good solution for consumers in terms of searching for products around the world (Utbah, 2015). For instance, consumers will feel attracted when dealing with computers. This curiosity will generate action-adventure and influence consumer e-impulse buying tendencies (Ozen & Engizek, 2014).

### 2.4. Value Shopping

Moharana and Pradhan (2020) stated that value shopping can be conceptualized as tangible and intangible expenses as well as benefits related to the purchasing experience, and is important in understanding the motives for shopping and the buyer's assessment of these expenses and benefits. Value is defined as the key outcome of consumption experiences and argue that shopping value is the overall worth of a shopping experience. Value shopping is the overall worth of a shopping experience. Value shopping can be task-related or hedonic (Karim et al., 2012). Task-related values or work-related values are deliberated to be utilitarian whereas shopping experiences or the amusing part are hedonic values. When shopping online, people are more expected to look for discounts and special offers with the extensive use of day-to-day websites and this action can influence consumers' impulsive buying online and unplanned shopping (Akram et al., 2018).

### 2.5. Relaxation Shopping

The value relaxation denotes shopping that involve improving personal well-being by relaxing and reducing

stress. The relaxation value attained when shopping provides opportunities for escape or therapeutic measures that assist consumers to feel better afterward (Djelassi et al., 2018). The value of joy, exploration, relaxation, and socialization influence the frequency of patronage and purchases. Relaxation shopping is a method to relax or have fun with particular people (Sutrisno & Novrita, 2015).

## 2.6. Idea Shopping

Idea shopping is one of the other hedonic shopping values that related customers go shopping to keep on trends, new modes, and understand new products as well as innovations (Luo & Ye, 2019). It is about getting and receiving information about new modes and trends (Singh, 2018). To sum up, idea shopping refers to the nature of consumers to collect information related to the latest trends, or fashions, aimed at studying or experiencing the latest designs, innovations, and creations.

## 2.7. Scarcity

According to Hamilton et al. (2019), scarcity is described as a real or apparent risk to a consumer's capability to accomplish their requirements and wants due to the shortage or lack of access to goods, services, or resources. Scarcity can be defined as a consumer's recognition of the limited availability of an item or the time and benefits. (Akram et al., 2018). Thus, scarcity is the limitation in the amount of supply, quantity, and time or the lack of a consumer's ability to meet his/her needs and wants due to lack of access to goods, services, or resources.

## 2.8. Serendipity Information

According to Erdelez et al. (2016), serendipity is the phenomenon of finding valuable or pleasant things that are not sought. Martin and Quan-Haase (2013) stated that the word information is a noun but also recognized as a process and thus, similar to a verb. Hence, serendipity information is a process of obtaining valuable or pleasant things that are not sought. Serendipity enhances the consumer's experience and subsequent research has confirmed that serendipity information provides consumers with satisfaction and happiness by letting them look for new products (Akram et al., 2018).

## 2.9. Social Shopping towards Online Impulse Buying Behavior

Impulsive buying behaviour contains several hedonic characteristics, one of which is social shopping (Akram et al., 2018). Social recognition is also an advantage received through social interaction when people shop together at the same place. It is a usual trend that buyers post their shopping

experiences through online blogs and are interacted through these activities nowadays. Regardless of this view, some customers choose online shopping because they want to get away from social interactions (Akram et al., 2018). Therefore, social shopping positively has a significant connection to online impulsive buying behavior (Ozek & Engizek, 2014). Previous studies indicate the relationship between social shopping and online impulse buying behavior (Ozen & Engizek, 2014; Asnawati & Sri, 2018; Sutrisno & Novrita, 2015; Purnomo & Riani, 2018; Gultekin & Ozer, 2012; Maqhfiroh & Prihandono, 2019). Hence, the following hypothesis can be formed:

*H<sub>1</sub>: Better social shopping could increase online impulse buying behavior.*

## 2.10. Adventure Shopping towards Online Impulse Buying Behaviour

The importance of adventure shopping is a competent way to stimulate online impulsive buying behavior (Cinjarevic et al., 2011). Adventure shopping positively has a significant relation to online impulsive buying behavior (Ozek & Engizek, 2014). This is a powerful influential element when shopping online (Akram et al., 2018). There are many previous studies that show the relationship between adventure shopping and online impulse buying behavior (Ozen & Engizek, 2014; Asnawati & Sri, 2018; Sutrisno & Novrita, 2015; Purnomo & Riani, 2018; Gultekin & Ozer, 2012; Maqhfiroh & Prihandono, 2019). Therefore, the following hypothesis can be stated as:

*H<sub>2</sub>: The better adventure shopping could increase online impulse buying behavior.*

## 2.11. Value Shopping towards Online Impulse Buying Behaviour

Chandon et al. (2000) mentioned that obtaining a better discount will provide satisfaction to consumers because they are confident as smart buyers. Finding a good discount or offer can lead consumers to personal fulfillment. Value shopping is considered the most influential variable as it can make consumers feel happy and excited when they obtain a good deal or discount while purchasing products (Akram et al., 2018). There are several previous studies that signify the relationship between value shopping and online impulse buying behavior (Ozen & Engizek, 2014; Asnawati & Sri, 2018; Sutrisno & Novrita, 2015; Purnomo & Riani, 2018; Gultekin & Ozer, 2012; Maqhfiroh & Prihandono, 2019). Thus, the following hypothesis can be stated as:

*H<sub>3</sub>: The better value shopping could increase online impulse buying behavior.*

## 2.12. Relaxation Shopping towards Online Impulse Buying Behaviour

The relaxation value is achieved when shopping offers chances for a getaway or relaxing occasions that help consumers to feel healthier (Kang & Park-Poaps, 2010). To increase their hedonic value, they may act on the atmosphere such as design of the website or e-commerce. These environmental factors can increase overall customer satisfaction and, thus, influence customer product decisions (Lin & Liang, 2011). By offering shopping opportunities for consumers to be more self-rewarding, it spurs online impulsive behavior for someone to buy the product. There are many previous studies that denote the relationship between relaxation shopping and online impulse buying behavior (Ozen & Engizek, 2014; Asnawati & Sri, 2018; Sutrisno & Novrita, 2015; Purnomo & Riani, 2018; Gultekin & Ozer, 2012; Maqhfiroh & Prihandono, 2019). Hence, the following hypothesis can be formed:

*H<sub>4</sub>: Better relaxation shopping could increase online impulse buying behavior.*

## 2.13. Idea Shopping towards Online Impulse Buying Behaviour

The dimension of the idea of hedonic motivation denotes to consumers shopping because they have the urge to know and learn about new trends and new modes (Arnold & Reynolds, 2003). Online shopping provides information to consumers regarding new products, modes, and trends (To et al., 2007). This may lead them to purchase impulsively (Kim and Eastin, 2011). Six previous studies reveal the relationship between idea shopping and online impulse buying behavior as stated in Ozen and Engizek (2014); Asnawati and Sri (2018); Sutrisno and Novrita (2015); Purnomo and Riani (2018); Gultekin and Ozer (2012); Maqhfiroh and Prihandono (2019). Therefore, the following hypothesis can be established:

*H<sub>5</sub>: The better idea of shopping could increase online impulse buying behavior.*

## 2.14. The Moderating Effect of Scarcity

Scarcity is one of the many variables that can influence consumers' impulsive buying behavior. According to Moser et al. (2019), perceived scarcity is less commonly used on e-commerce sites, participants want a tool that addresses these features, indicating that participants find them effective in encouraging impulsive purchases. As stated in Moser et al. (2019), one of many ways an e-commerce site increases

the perception of product scarcity is through a 'stock pointer'. For instance, there is only one stock available. When consumers feel that the product they are interested in is running out, they experience an urge to buy the product immediately. In short, because being in a competitive environment with limited resources is a powerful stimulus, scarcity positively moderates the relationship between hedonic shopping values and impulsive behavior (Chung et al., 2017). However, there is limited research that indicates scarcity has successfully moderated the relationship between the hedonic shopping values and the urge to buy impulsively (e.g., Chung et al., 2017). Hence, the following hypotheses can be formed:

*H<sub>6</sub>: The relationship between social shopping and online impulse buying behavior will be stronger when scarcity presents*

*H<sub>7</sub>: The relationship between adventure shopping and online impulse buying behavior will be stronger when scarcity presents*

*H<sub>8</sub>: The relationship between value shopping and online impulse buying behavior will be stronger when scarcity presents*

*H<sub>9</sub>: The relationship between relaxation shopping and online impulse buying behavior will be stronger when scarcity presents*

*H<sub>10</sub>: The relationship between idea shopping and online impulse buying behavior will be stronger when scarcity presents*

## 2.15. The Moderating Effect of Serendipity Information

Serendipity information is another theoretical viewpoint that can help the understanding of the effect process in online impulsive buying behavior (Chung et al., 2017). Research has been done on the situational factors (for instance, serendipity and scarcity) of e-commerce that drive consumers' impulsive buying behavior. Song, Chung, and Koo (2015) stated that serendipity increases the need to purchase impulsively in an e-commerce environment. Once users come across information serendipity, this information may look very interesting and even surprising to them.

This feeling will influence their experience because they trust that it contains shopping value. Because chance is an unpredictable situation, it can lead to suddenly consumers perceiving the hedonic shopping values contrarily from the rational consumer's way. Inadvertent information will increase the user experience through the "Aha!" moment (McCay-Peet & Toms, 2011), which will positively moderate the relationship between hedonic shopping values and online

impulsive buying behavior (Chung et al., 2017). However, there is only one research that indicates scarcity has successfully moderated the relationship between the hedonic shopping values and the urge to buy impulsively (e.g., Chung et al., 2017). Therefore, the following hypotheses can be formed:

**H<sub>11</sub>:** *The relationship between social shopping and online impulse buying behavior will be stronger when serendipity information presents*

**H<sub>12</sub>:** *The relationship between adventure shopping and online impulse buying behavior will be stronger when serendipity information presents*

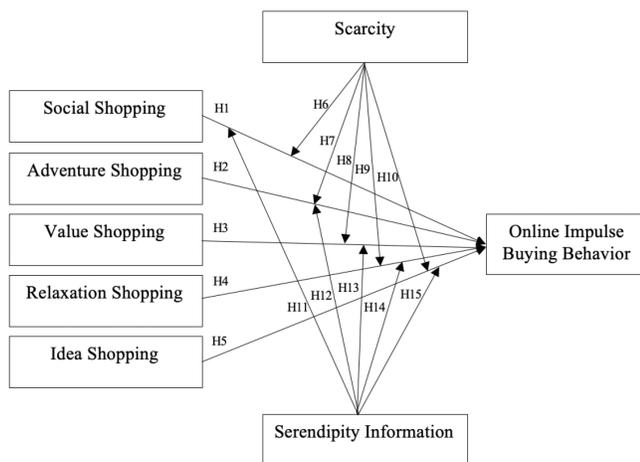
**H<sub>13</sub>:** *The relationship between value shopping and online impulse buying behavior will be stronger when serendipity information presents*

**H<sub>14</sub>:** *The relationship between relaxation shopping and online impulse buying behavior will be stronger when serendipity information presents*

**H<sub>15</sub>:** *The relationship between idea shopping and online impulse buying behavior will be stronger when serendipity information presents*

**2.16. Research Model**

This model consisting of eight variables including five independent determinants of online impulse buying behavior which are social shopping value, adventure shopping, value shopping, relaxation shopping, and idea shopping. It is moderated by two situational factors namely, scarcity and serendipity information over the factors that influence online impulse buying behavior as the dependent variable (Figure 1).



**Figure 1:** The Proposed Research Model

Source: Modified from Akram et al. (2018)

**3. Methods**

**3.1. Design Sample**

This study uses a non-probability sampling method namely, purposive sampling, meaning that each of the respondents is specifically selected to be the research participant (Sekaran & Bougie, 2016). The main reason why this study uses the sampling method is because, it includes identifying and choosing adept and well-informed individuals or groups of individuals (Etikan et al., 2016). This study focuses on millennials aged 17-30 years old because they are the most effective in experiencing e-commerce nowadays (Harahap & Amanah, 2018). The criteria of the participants are customers who have transactions at Shopee within the last three months.

**3.2. Sample Size**

For conducting the data analysis, this study uses Smart-PLS. The main objective of calculating the sample size is to decide the number of respondents required to perceive a clinically relevant behavior effect (Noordzij et al., 2010). Within this research, the sample size is 330, calculated from indicators multiplied by 10 as stated in Hair et al. (2017). Hence, the researcher applies the sample size multiplied by ten since it describes the maximum sample. Furthermore, in terms of the number of respondents, it is pointed out that for the sake of stability, a minimum of 200 respondents is required (Alwi, 2015).

**3.3. Measurement Scale**

This research used a Likert scale for measuring each of the indicators in this study. Likert scale is a set of items given for an actual or hypothetical situation to be studied. Respondents were asked to indicate their level of agreement (from strongly disagree to strongly agree) with the specified statement or item using the metric scale. The Likert scale is commonly used since it is one of the most basic psychometric tools and is often used in educational and social science research (Joshi et al., 2015). All research indicators are engendered from a previous study in Akram et al. (2018).

**4. Results and Discussions**

The result shows that out of 330 distributed questionnaires, there were 271 females and 59 males in which the percentage between females and males was found to be 82.1% and 17.9% respectively. Furthermore, the age range was dominated by 21 to 25 years old, a total of 120 with a percentage of 36.4%. Reliability and validity tests were applied to assess the goodness of data before

conducting the hypothesis testing. For reliability testing, it includes Cronbach's alpha, corrected item-total correlation, and composite reliability testing. For validity testing, it contains the values of AVE and outer loading. The threshold of Cronbach's alpha should be equal to 0.7 or above to be considered acceptable (Hair et al., 2017). The values of AVE should be 0.5 or above to be considered good because if the value is below 0.5, it means that there is an error (Hair et al., 2017). Table 1 shows the result of the reliability and validity assessment.

The next step after conducting the reliability and validity testing is to conduct the hypothesis testing. Hypothesis testing is important to determine whether a typical or atypical data sample is compared to a population assuming the hypothesis that has been prepared regarding the population is correct (Emmert-Streib & Dehmer, 2019). This study uses PLS-SEM to carry out hypothesis testing. The threshold for t-statistics must equal 1.645 or above while the p-value must be lower than 0.05 (LaMorte, 2017; Hair et al., 2017).

Within this study, the values of both  $R^2$  and path coefficient were attained to measure the inner model. The  $R^2$  is projected to be between 0 to 1. An  $R^2$  value of 0.75 shows that the model is strong, 0.50 shows that the model is moderate and 0.25 shows that the model is weak (Hair et al., 2017). Thus, the result indicates that this model is moderate. Below are the values of  $R^2$  for this study (Table 3).

#### 4.1. Moderating Effect of Scarcity and Serendipity Information

The next step after determining the  $R^2$  values is to calculate the moderating effect. This study has ten moderating effects but four of them are not significant. If the t-value is above 1.96 and the p-value is below 0.05, then there is a moderating effect between the independent and dependent variables and vice versa. To determine each of the moderating effects,  $a_2$  and  $a_3$  can be calculated using moderated regression analysis. The threshold of both  $a_2$  and  $a_3$  is 0.05; if the values of both are below 0.05 then it is considered significant but if the values are above 0.05, it is considered as not significant (Bryan & Haryadi, 2018).

#### 4.2. Discussions

The purpose of this study is to test a model of online impulse buying behavior by using the theory of emotions. The outcome indicates that out of fifteen hypotheses, only eight hypotheses are being supported. The result shows that the first hypothesis stated that there is no significant influence between social shopping and online impulse buying behavior. This happens because Indonesian consumers in e-commerce platforms do not like to deal or interact with

sellers (Purnomo & Riani, 2018). Based on the previous study, 70% of the consumers who purchase online never ask questions regarding the product they want to purchase (Putri, 2020). The second hypothesis shows that there is no significant influence between adventure shopping and online impulse buying behavior. As stated in Harahap and Amanah (2018), the number of Internet users in Indonesia is as much as 77% using the Internet looking for product information and shopping online. This certainly shows that impulsivity in someone does not exist. Additionally, since this study is dominated by teenagers aged 21-25 years old, it means they have the impact of low self-control, making people often regret buying online.

The third hypothesis indicates that there is a significant influence between value shopping and online impulse buying behavior. There are previous studies that signify the relationship between value shopping and online impulse buying behavior (Ozen & Engizek, 2014; Asnawati & Sri, 2018; Sutrisno & Novrita, 2015; Purnomo & Riani, 2018; Gultekin & Ozer, 2012; Maqhfiroh & Prihandono, 2019). The fourth hypothesis shows that there is no significant relationship between relaxation shopping and online impulse buying behavior. A consumer who does window shopping can change their mood to be positive. This gives consumers pleasure which in turn reduces purchasing planning (Santoso & Triwijayati, 2018). Mabuni (2017) also stated that one of the characteristics of Indonesian consumers is looking for stability instead of spontaneity, meaning that online shoppers tend to be careful when shopping online and do not have recreational characteristics. The fifth hypothesis proves that there is a significant relationship between idea shopping and online impulse buying behavior. There are previous studies that signify the relationship between value shopping and online impulse buying behavior (Asnawati & Sri, 2018; Sutrisno & Novrita, 2015; Purnomo & Riani, 2018; Gultekin & Ozer, 2012; Maqhfiroh & Prihandono, 2019).

The sixth hypothesis shows that there is no significant relationship between social shopping and online impulse buying behavior moderated by scarcity. This happens because if sellers want to change the availability stock mark, their account frequently is blocked by Shopee; hence, the buyers cannot go to their store and cannot obtain the updated information (Luis, 2020). Also, as stated in Ayudhitama and Pujianto (2019), it takes a long time for buyers to get a reply from the seller. The seventh hypothesis indicates that there is a significant influence between adventure shopping and online impulse buying behavior moderated by scarcity. However, there is only one research that indicates scarcity has successfully moderated the relationship between hedonic shopping values and online impulse buying behavior (Chung et al., 2017).

**Table 1:** Reliability and Validity Testing

Variable and Indicators	Reliability			Validity	
	Corrected Item-Total Correlation (> 0.4)	Cronbach's Alpha (> 0.7)	Composite Reliability (≥ 0.7)	AVE (> 0.5)	Outer Loading (> 0.6)
<b>Online Impulse Buying (OIB):</b>					
1. Shopee triggers me to make purchase spontaneously	0.700	0.838	0.891	0.671	0.809
2. I did not plan this purchase before visiting the Shopee site	0.638				0.822
3. I have no intention of making this purchase before visiting the Shopee site	0.674				0.843
4. Shopee makes me unable to hold back from purchasing goods	0.666				0.801
<b>Scarcity (SCA):</b>					
1. Shopping at Shopee makes me think about deadlines	0.666	0.870	0.911	0.720	0.800
2. Shopping at Shopee makes me worry about time constraints	0.762				0.881
3. Shopee makes me worry with limited quantity	0.728				0.853
4. Shopping at Shopee makes me worry about a sold-out sign	0.734				0.857
<b>Serendipity Information (SIF):</b>					
1. Shopee gives me new information while shopping	0.750	0.892	0.925	0.755	0.864
2. I accidentally find what I want to buy beforehand while shopping at Shopee	0.760				0.869
3. Shopee gives me new information in accordance with the item I wanted to buy unexpectedly	0.800				0.893
4. Shopee gives me new knowledge about an item	0.736				0.850
<b>Social Shopping (SS):</b>					
1. I shop at Shopee to share my experiences with others	0.655	0.847	0.888	0.667	0.702
2. I shop at Shopee to exchange information about the items I bought with many friends	0.678				0.882
3. Shopee makes me expand my relationship with the seller	0.752				0.838
4. I will recommend items that I buy at Shopee to other people	0.655				0.835
<b>Adventure Shopping (AS):</b>					
1. Shopping at Shopee is like an adventure	0.713	0.845	0.895	0.681	0.865
2. I feel happy when shopping at Shopee	0.670				0.788
3. Shopping at Shopee makes me feel like I'm in my world	0.746				0.857
4. Shopping at Shopee inspires my life	0.598				0.789
<b>Value Shopping (VS):</b>					
1. I shop at Shopee when there is a discount	0.783	0.893	0.921	0.699	0.853
2. I like looking for discounts when shopping at Shopee	0.744				0.853
3. Shopee makes me enjoy hunting for bargains while I shop	0.722				0.832
4. I have my pleasure when buying goods at low prices	0.692				0.815
5. Shopee gives me pleasant shopping experiences	0.748				0.826
<b>Relaxation Shopping (RS):</b>					
1. When I am sad, I shop at Shopee to make me feel better	0.738	0.890	0.924	0.752	0.862
2. Shopping at Shopee helps me relieve stress	0.759				0.860
3. I shop at Shopee when I want to treat myself to something special	0.775				0.877
4. I shop at Shopee as a gift to myself	0.763				0.871
<b>Idea Shopping (IS):</b>					
1. I shop at Shopee to keep up with trends	0.766	0.893	0.924	0.753	0.878
2. I shop at Shopee to keep up with new fashions	0.746				0.859
3. I shop at Shopee to see what new products are available	0.778				0.843
4. Shopee helps me understand new trends	0.763				0.889

**Table 2:** Result of the Structural Model

H	Variable Relationship	Path Coefficient	Critical Value	P-value	Conclusion
H <sub>1</sub>	SS → OIB	-0.030	0.515	0.303	Not significant
H <sub>2</sub>	AS → OIB	0.073	1.389	0.083	Not significant
H <sub>3</sub>	VS → OIB	0.098	2.356	0.009	Significant
H <sub>4</sub>	RS → OIB	0.059	0.943	0.173	Not significant
H <sub>5</sub>	IS → OIB	0.090	1.991	0.023	Significant
H <sub>6</sub>	SS → SCA → OIB	-0.021	0.323	0.373	Not significant
H <sub>7</sub>	AS → SCA → OIB	-0.175	2.613	0.005	Significant
H <sub>8</sub>	VS → SCA → OIB	-0.214	3.213	0.001	Significant
H <sub>9</sub>	RS → SCA → OIB	0.142	1.757	0.040	Significant
H <sub>10</sub>	IS → SCA → OIB	0.088	1.395	0.082	Not significant
H <sub>11</sub>	SS → SIF → OIB	-0.094	1.248	0.106	Not significant
H <sub>12</sub>	AS → SIF → OIB	0.127	2.238	0.013	Significant
H <sub>13</sub>	VS → SIF → OIB	0.144	2.226	0.013	Significant
H <sub>14</sub>	RS → SIF → OIB	-0.199	2.983	0.001	Significant
H <sub>15</sub>	IS → SIF → OIB	-0.010	0.191	0.424	Not significant

**Table 3:** R<sup>2</sup> Value of the Actual Test

Variable	R <sup>2</sup>	R <sup>2</sup> adjusted
Online Impulse Buying Behaviour	0.596	0.574

**Table 4:** Type of Moderator Variable

Hypotheses	a2	a3	Type of Moderator
H <sub>7</sub> : AS → SCA → OIB	0.001 (significant)	0.563 (not significant)	Predictor moderator
H <sub>8</sub> : VS → SCA → OIB	0.000 (significant)	0.028 (significant)	Quasi moderator
H <sub>9</sub> : RS → SCA → OIB	0.000 (significant)	0.751 (not significant)	Predictor moderator
H <sub>12</sub> : AS → SIF → OIB	0.027 (significant)	0.944 (not significant)	Predictor moderator
H <sub>13</sub> : VS → SIF → OIB	0.010 (significant)	0.832 (not significant)	Predictor moderator
H <sub>14</sub> : RS → SIF → OIB	0.000 (significant)	0.377 (not significant)	Predictor moderator

The eighth hypothesis stated that there is a significant influence between value shopping and online impulse buying behavior moderated by scarcity. A previous study indicated the relationship between hedonic shopping values and online impulse buying behavior (Chung et al., 2017). The ninth hypothesis mentioned there is a significant relationship between relaxation shopping and online impulse buying behavior moderated by scarcity. A previous study has proved the relationship between relaxation shopping and online impulse buying behavior moderated by scarcity (Chung et al., 2017). The tenth hypothesis proves that there is no significant influence between idea shopping and online impulse buying behavior moderated by scarcity. This happens when a seller wants to change or update the available stock, sometimes Shopee takes action itself by blocking the seller's shop so that buyers cannot see and access the store (Luis, 2020). Also, if consumers who follow new trends or fashions are sensitive online and like to follow trends by exploring the Internet, meaning that it does not stimulate someone's impulsivity (Ozen & Engizek, 2014).

The eleventh hypothesis stated that there is no significant influence between social shopping and online impulse buying behavior moderated by serendipity information. This occurs because Shopee has a limitation in the system in updating the information customers desire to provide so that the buyers can receive detail and comprehensive information regarding the products. Also, this can happen because Indonesian consumers in e-commerce platforms do not like to deal or communicate with the seller (Purnomo & Riani, 2018). The

twelfth hypothesis stated that there is a significant influence between adventure shopping and online impulse buying behavior moderated by serendipity information. A previous study has proved the relationship between adventure shopping and online impulse buying behavior moderated by serendipity information (Chung et al., 2017). The thirteenth hypothesis shows that there is a significant relationship between value shopping and online impulse buying behavior moderated by serendipity information. Nonetheless, there is only one study that has proved the relationship between value shopping and online impulse buying behavior moderated by serendipity information (Chung et al., 2017).

The next hypothesis has proved that there is a significant relationship between relaxation shopping and online impulse buying behavior moderated by serendipity information. Nevertheless, there is only one study that has proved the relationship between relaxation shopping and online impulse buying behavior moderated by serendipity information (Chung et al., 2017). The last hypothesis has stated that there is no significant relationship between idea shopping and online impulse buying behavior moderated by serendipity information. This happens because if consumers who follow trends or modes are doing it online and like following trends by using the Internet, this means it will not stimulate someone's impulsivity (Ozen & Engizek, 2014). Additionally, unintended information is also not obtained by the way that is sought, but information by chance occurs when consumers search for things that are not being sought (Erdelez et al., 2016). In short, when people follow trends from a specific culture, they must already recognize these trends before they make a purchase.

## 5. Conclusion

This study aims to predict hedonic shopping values in influencing the online impulse buying behavior moderated by scarcity and serendipity information. Eight out of fifteen hypotheses are accepted while the other seven hypotheses are not accepted. Hedonic shopping values need to be explored in this study as a factor affecting online impulse buying. The existence of these hedonic shopping values helps online retailers and web developers to design marketing strategies that are appropriate and influence the consumer purchasing decision process (Akram et al., 2018). Both situational factors, scarcity and serendipity information variables should be explored in Shopee to have an understanding of how impulsive buying occurs and how marketers can better serve the needs of buyers and organizations especially in e-commerce companies (John et al., 2019).

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