

## Factors Influencing Online Impulse Buying Behavior During Covid-19 Pandemic

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### Abstract

The main purpose of this study was to determine the influence of product availability, time availability, money availability on online impulse buying behavior during COVID-19 pandemic among consumers in Malaysia. There was a total of 300 respondents participated in this study. The data were collected through a Google Form that was distributed through social media platforms. The findings of Pearson correlation analysis demonstrated product availability ( $r = 0.530$ ;  $p = 0.000$ ), money availability ( $r = 0.636$ ;  $p = 0.000$ ) and money availability ( $r = 0.637$ ;  $p = 0.000$ ) had significant relationship with online impulse buying behavior. Meanwhile, the multiple linear regression analysis showed money availability ( $\beta = 0.373$ ;  $p = 0.000$ ) was the most significant variable that influence consumers online impulse buying behavior during COVID-19 pandemic. The findings of this study would be beneficial for consumers in identifying the factors that will lead them to conduct an online impulse buying behavior. Besides that, e-commerce business can plan for new business strategies that focus on money availability as the result of this study showed that money availability will trigger online impulse buying behavior during COVID-19 pandemic.

**Keywords:** Online Impulse Buying Behavior, Product Availability, Time Availability, Money Availability, COVID-19

### Introduction

COVID-19 is an entirely new experience for the many people. To end the COVID-19 virus from spreading in Malaysia, the Malaysian government has implemented a Movement Control Order (MCO) on March 18, 2020. #stayhome's hashtag was widely been used to warn and remind people to conduct self-protection (Shah et al., 2020). The MCO has restricted consumers to shop in physical stores. Due to the closing of brick-and-mortar stores, consumers have to rely only on internet purchasing to meet their demands (Koch et al., 2020). Hence, enhancing online buying activities.

Consumers' impulse buying behaviour has risen during the pandemic compared to previous times because customers spend more time on the internet during the lockdown period. According to a survey conducted by Statista (2021) as of May 2020, 64 per cent of the

respondents have purchased more online during the COVID-19 pandemic in Malaysia. A consumer's an overwhelming, consistent, and sudden desire to buy something on the spot will trigger an impulse buying (Rook, 1987). Impulsive buying is frequently aggressive and fast. The rise in online buying contributes to the increase of online impulse buying behavior (Showrav et al., 2021). Despite the fact that impulse purchases are anticipated to be expected in online shopping, marketing researchers have not given much thought to them yet (Pradhan, 2018). Most of the previous study has concentrated on spontaneous purchases made in traditional brick and mortar stores, and there are just a few current studies that focus on the elements of impulse buying online and only a minority have achieved satisfactory results.

Commonly, e-commerce study has focused on enhancing the customer experience, marketing, and discovering characteristics that lead to an initial purchase on a website (Pradhan, 2018). Only a tiny amount of research has been conducted on impulsive purchasing in an online setting, and the results have been inconsistent. Consumers' online buying behavior has been studied in a few research. However, because most of the previous studies were conducted earlier before the outbreak of COVID-19, it is still unclear how the pandemic would affect consumer behavior when it comes to online buying (Pham et al., 2020). Due to social distancing practices, online shopping is becoming more relevant due to the pandemic, and impulsive buying may need to be investigated with new dimensions (Verma & Naveen, 2021).

Time availability influenced online impulse buying behavior during COVID-19 as people began placing online orders and making impulsive purchases to spend as much time as possible at home (Naeem, 2021). As a result of more time spent online, there was an increased purchase in online shopping during the pandemic (Thakur et al., 2020). Product availability is also one of the factors influencing impulse buying behavior. According to Thakur et al (2020), consumers, especially young people, are more likely to do online impulse buying. They are more likely to buy more things online if a product has a limited supply. Furthermore, money availability plays a significant role in the impulsive buying process. For example, it might act as a facilitator by increasing people's purchasing power, and people will avoid purchasing and shopping if they do not have the financial resources (Foroughi et al., 2012).

However, not much research has been done to study more on product availability, money availability and time availability in the context of online impulse buying. In fact, previous research on online impulse buying focused more on the different aspects such as the effects of situational variables such as scarcity and serendipity on online impulse purchases (Akram et al., 2018) functional convenience like product attractiveness, the website trustworthiness, site ease of use and emotional beliefs such as enjoyment on the website and website communication style (Verhagen & Van Dolen, 2011). Besides that, several situational variables also have been studied, such as time availability, money availability, and family impact, as well as store-related factors, such as shopping experience, store atmosphere, store staff, and sales promotion. However, these factors are mainly focusing on offline impulse buying rather than online impulse buying (Iftikhar & Iqbal, 2020)

Before the spread of COVID-19, online impulse buying had already happened among consumers. However, the reason differs when the COVID-19 pandemic strikes. Many people were concerned about the COVID-19 pandemic as the global pandemic of COVID-19 is causing havoc on consumers' lives, and consumer behavior continues to be influenced by new individual circumstances. Nevertheless, most previous studies have placed a greater emphasis on preventive health behaviors, while consumer behavior has gotten less attention (Laato et al., 2020). Family income and leisure time, as well as product availability in the market, have all changed (Showrav et al., 2021). Individual behavior such as purchasing or shopping are affected by this feeling of anxiety (Harahap et al., 2021). According to Naeem (2020), alarming messages provided by the public healthcare sector during the COVID-19 pandemic have been connected to social perceptions of perceived dangers and fear, such as remain at home, wash hands, remain at home and save dear ones and save healthcare workers, which can lead to impulsive buying. However, most consumers are not aware of the reason for their impulse purchasing behavior. Pradhan (2018) argues that consumers are frequently unaware of their impulsive purchasing habits and may falsify answers while filling out questionnaire surveys. Consumers may rationalize their purchases by claiming that they were planned and reasonable rather than impulsive.

This study presents a new line of evidence for online impulse buying behavior. The central question in this study asks: what are the factors that trigger impulse buying behavior during COVID-19. The pandemic affecting the economy, which impacted consumer spending behavior before and during the pandemic on online shopping since there is a rise in purchase that can be observed as customers become more focused on buying cleaning and basics items (Thakur et al., 2020). The COVID-19 pandemic has spread rapidly, resulting in unplanned panic buying and increased impulse purchases. The need for essential items has surged by several times greater (Ahmed et al., 2020). The consumer is looking at another alternative to fulfil their demands on online shopping platforms as they provide more products available to consumers.

Some of the significant factors triggering impulsive buying behavior among consumers are the availability of time as consumers tend to shop more than what is needed when they have more time (Pradhan, 2018). In addition, the availability of money also enhanced consumers' impulse buying activities during COVID-19 (Kwon & Armstrong, 2002). Therefore, this study investigates the factors, i.e., product availability, time availability, money availability that drive online impulse purchase behavior during the COVID-19 pandemic.

## **Literature Review**

### **Online Impulse Buying Behavior**

Impulse purchasing is not just common in brick-and-mortar shops but may also happen happened in an online setting (Wang, 2016). With the rise of e-commerce, customers are increasingly prone to online impulse purchases (Chan et al., 2017). The characteristic of impulsivity has a significant impact on online impulse purchases (Harahap et al., 2021). Consumers' impulse purchasing prospects are expanded by technologies such as television shopping channels and the internet, increasing the usability of items and services and the simplicity which in turn triggered them to purchase impulsively (Kacen & Lee, 2002).

Generally, as compared to traditional shopping, online shopping encourages people to buy more impulsively (Verhagen & Van Dolen, 2011; Paul, 2021). According to Cavazos-Arroyo and Maynez-Guaderrama (2022), impulse buying tendency has a positive, direct, and significant effect on online impulse buying behavior in the case of online shopping. Along the same vein, Iftikhar and Iqbal (2020) also found that the desire to buy impulsively had successfully affected online impulse buying behaviour during the pandemic. Some other previous studies (e.g., Verhagen & Van Dolen, 2011; Floh & Madlberger, 2013; Akram et al., 2018; Kimiagari & Malafe, 2021) emphasized the effect of virtual atmospheric cues of an e-commerce store on online impulse buying behavior and consumption. They investigated the impact of website quality on online impulse buying behavior as well as the mediating role of promotional strategy and credit card usage, online store product attractiveness and ease of use of a website and consumer's enjoyment and the style of websites communication related to online impulse buying and the relationship between external and internal stimuli on online impulse buying behavior.

Previous research focused more on online impulse buying behavior in the aspect of online shopping websites instead of the consumer in the aspect consumer itself. It has become important to understand how other factors such as product availability, time availability and money availability can lead to impulsive buying behavior during COVID-19 pandemic. Additionally, there is limited understanding regarding how these factors led to customers' online impulse buying behavior during the COVID-19 pandemic. Therefore, this study considers the selected factors, i.e., product availability, time availability, and money availability to examine the relationship between online impulse buying behavior during the COVID-19 pandemic as these factors are closely connected to consumers during the pandemic.

### **Product Availability**

Product availability refers to the presence of a wide range of products in an online store to cater to a wide range of potential customers' buying interests (Liu et al., 2013). Sirhindi (2010) states that since internet shops are not required to keep physical inventories of products on hand, they have greater room to display product images. Consumers can find a greater selection of stuff on the internet than at a physical store. Product availability has long been found to increase engagement and purchase impulse (Goldsmith, 2002). According to a study by Steinhart et al (2013), when a lack of product availability served as a positive indication about the product's core, such as limited-edition product, it was discovered that the engagement increased with the product in deciding the intention to buy it. The characteristics of a product desired by consumers might also be an indirect factor in impulsive purchasing behavior (Mesiranta, 2009).

Synthesio Social Data & Ipsos Online Communities (2020) revealed that consumers felt the best thing about online shopping during the pandemic was the ability to access products online from the comfort of home whenever they want without having to worry about the virus. In addition, the possibility of a grocery shortage caused by COVID-19-affected retail stores lead consumers to buy impulsively so they could remain at home for an uncertain amount of time. People hurried to retail stores to purchase additional items to protect themselves and others' lives during the COVID-19 outbreak due to viral footage of

supermarket quarrels, public desire to buy extra, social networks, and health professionals' advice to stay at home (Naeem, 2021). Also, when there is greater demand for a product, and it is hard to acquire the product from the local supermarket because of empty shelves, consumers are more likely to search for these items online (Keane & Neal, 2021). Collinson (2020) revealed that as COVID-19 spread across the United Kingdom, online grocery purchases surged by up to 51.5 percent.

Meanwhile, in Malaysia context of study, product availability revealed a significant relationship with consumer purchasing behavior during the pandemic. It was discovered that when the availability of product selection grew more prominent, people's willingness to buy from an online shopping platform grew as well (Shariff & Izzati, 2021). From these previous studies, it can be concluded that product availability is closely linked to consumer online impulse purchase behavior. Hence, this study hypothesized that:

H1: There is a significant relationship between product availability and online impulse buying behavior during COVID-19 pandemic.

### **Time Availability**

The availability of time and online compulsive purchasing are closely connected. Past studies have shown that there was a tendency for consumers to shop impulsively when they spent more time in shopping places (Husnain, Rehman, Syed, & Akhtar, 2019; Chang, Yan, & Eckman, 2014). In-store surfing appears to influence consumers' available time and impulsive purchasing tendency, positively impacting consumers' lovely sentiments and impulse buying tendency (Beatty & Ferrell, 1998). In other terms, the more time a person has available in a purchasing decision, the more likely they are to make impulsive buying.

Nevertheless, a study by Iftikhar and Iqbal (2020) on online impulse buying behavior in Pakistan revealed that time availability positively connected with the desire to buy on impulse. In Indonesia, a study by Muhammad Hadid, Muhammad Naufal, Yerlinda, and Sanjaya (2020) on the effect of time availability on online impulse buying in the Shopee marketplace also showed time availability has a significant influence on online impulse buying behavior. Along the same vein, Arief et al (2021), found that time availability positively impacts impulse purchases at digital payment applications. The hedonic shopping value link to impulse buying through (moderated by) time availability has a substantial coefficient value, indicating that time availability indirectly affects impulse buying. As a result, in this study, hedonic shopping value can be considered to impact impulse buying through time availability.

Consumers have a lot of time to browse online shopping platforms during the pandemic due to concern and anxiety when going to the grocery. Malaysians have expressed a tendency to stay at home to avoid potential germs and viruses, and many companies allow their employees to work from home during the pandemic COVID-19 (Shah et al., 2020). Verhagen and Van Dolen (2011) state that time spent exploring an online store has a beneficial effect on a consumer's perceived desire to buy impulsively. The availability of time and money influence consumer impulse buying behavior (Kwon & Armstrong, 2002). Consumer impulse purchase

behavior has risen during the pandemic compared to previous times. This is because, during the lockdown, customers spent more time on the internet (Thakur et al., 2020). Actual or perceived time availability and money supply are two situational elements that influence impulsive purchase (Beatty & Ferrell, 1998).

In contrast, research from Zaki et al (2021) reveals that time availability has no influence on impulse buying behavior during the pandemic in Malaysia. The study's mean analysis demonstrates that Malaysian consumers had limited time available in general despite staying at home during the pandemic. The pandemic could partly explain this, in which, although at home, most consumers are working and thus have less free time since consumers engaged with work from home responsibilities. Therefore, the impact of customers spending more time at home because of the pandemic in Malaysia on impulse online purchasing activity has been understudied and requires further investigation. Previous studies also show inconsistent results about money availability as the independent variable. Therefore, this study hypothesized that:

H2: There is a significant relationship between time availability and online impulse buying behavior during COVID-19 pandemic.

### **Money Availability**

Money availability is the capability that people have when they want to buy anything and must first consider how they will spend the money. Money availability refers to the quantity of money available or available cash at the time of purchase, and it plays a crucial role in the impulsive buying process (Beatty & Ferrell, 1998). A study by Iftikhar and Iqbal (2020) shows that money availability raises the possibility of online impulse purchases, which occurs when consumers have excess money to spend. Arief et al (2021) state that a situational element positively impacts impulsive buying when the amount of budget or extra money is available because money is a facilitator in getting the desired product, the availability of impulsive money buying is intimately connected. Money can induce a good mood and diminish a bad mood in shopping circumstances, influencing the desire to buy (Beatty & Ferrell, 1998). Wijaya and Setyawan (2020) also found that money availability has a significant relationship with the desire to buy impulsively. This indicates that as money becomes more available, the desire to buy impulsively increases, potentially affecting impulsive purchasing behavior in line with (Badgaiyan et al., 2016, Foroughi et al., 2012).

For the citizens to survive in unpredictable situations such as COVID-19, governments should provide financial assistance to their citizens (Siddik, 2020). In the case of Malaysia, to lessen the effect of COVID-19, the government introduced an economic stimulus package that vows to assist in easing the financial burden of millions of Malaysians affected by the pandemic. A stimulus plan implemented by the Malaysian government with the aim to help the country's economy through these difficult times encourages Malaysians to keep buying goods. Malaysians spend more time online and are increasingly eager to make online purchases. At such, people would avoid physical shopping and turn into buy things online especially when the internet shopping is in high demand (Arokiasamy, 2021).

However, a study from Alshammari (2021) about the changing of buying behavior during the COVID-19 crisis in Saudi Arabia shows money availability was not supported due to the effect of money availability being positive but not significant. Similarly, in a different survey by Husnain et al (2019), they found that money availability has a non-significant positive impact on impulse buying behavior. The finding shows inconsistent results compared to earlier studies due to only small cities selected as research locations instead of comparing small and big cities that also increase the generalizability of the outcomes in the study. In addition, Wang (2016) stated money availability might have a minor impact on customer impulse purchases, given the mixed results to the hypothesis. Hence, more research is needed to evaluate whether money availability influences consumers' impulse purchasing behavior through an online setting. Therefore, due to these mix-findings result of previous studies on the influence of money availability, this current study hypothesized that:

H3: There is a significant relationship between money availability and impulse buying behavior during COVID-19 pandemic.

Finally, the following hypothesis was constructed to examine the most significant factor that will influence consumer online impulse buying behavior during the COVID-19 pandemic.

H4: Product availability, time availability or money availability is the most significant factor on online impulse buying behavior during COVID-19 pandemic.

### **Methodology**

The target population was drawn among Malaysia citizen who have tried online purchase at least once in their lifetime. According to Malaysian Communications and Multimedia Commission (MCMC, 2021), the number of online shoppers has increased in Malaysia during the pandemic from 53.3% in 2018 to 64.2 percent in 2020. Besides that, according to Google's SEA economy research from 2021, since the outbreak in 2020, Malaysia has added 3 million new digital users, with 80 percent of Malaysian internet users had shopped online. The pandemic has resulted in a significant transition in Malaysia's digitalization where 94 percent of pandemic e-commerce users are still using the service up until now, 98 percent users plan to continue using it in the future.

Since online buying has increased in Malaysia during the pandemic, the sampling frame also should include the whole population. In conducting a sampling procedure for this current study, four online shopping platform social medias were picked randomly using online random picker generator application and four online shopping platform social medias were selected. They were Twitter for Shopee, Instagram for Lazada, Facebook for Zalora and Twitter for Lazada. These social media platforms were chosen because Facebook is Malaysia's most popular social media platform, its share of Internet users was 91.7 percent in 2020. Instagram users increased from 57 percent in 2018 to 63.1 percent in 2020, while Twitter users increased from 23.8 percent to 37.1 percent during the same period, according to the (MCMC, 2021). Then, according to The Borneo Post (2019), Shopee represents 71 percent of Malaysia's overall e-commerce website traffic user and followed by Lazada with 18 percent. Therefore, these platforms are as a medium for consumers to make online impulse purchases and with

the increasing number of users, online impulse buying behavior can be identified more widely. Next, after social media platform were selected, the list of respondents was gain using the list of followers from these four online shopping platforms. By adopting simple random sampling procedure, every 3<sup>rd</sup> followers from the list were selected as it was a method for respondents in larger population to be chosen. The researcher then private message the selected respondents and give them an invitation link to answer the questionnaire using Google Form.

The sample size for this study is supposed to be 384, which is typical number of the respondents. It is calculated using the Krejcie and Morgan's (1970) sample size calculation that is the same as using the Krejcie and Morgan's sample size determination table. It is because the overall population of people who use the internet is around half of the population in Malaysia (16.29 million) who uses the internet to shop, which is larger than the maximum population size specified by Krejcie and Morgan. However, only 300 data was useable to be analyzed. All the scales used to measure the variables under investigation were derived from earlier studies, with the majority of the overall design of the instruments remaining the same but some adjustments to the contents of each item was made to relate all the variable with online impulse buying behaviour during the pandemic. As to state the sources, product availability items were adapted from Ahmed et al (2020); Gupta et al (2021), time availability from Zaki et al (2021), money availability from Pradhan (2018); Ahmed et al (2020); Di Crosta et al (2021) and online impulse buying behavior from (Akram et al., 2018). All the measurement were found to be in a good term with regards to their reliabilities. The Cronbach alpha product availability was 0.765, while time availability was 0.859, followed money availability ( $\alpha = 0.701$ ) and online impulse buying behavior ( $\alpha = 0.845$ ).

In this research, a questionnaire was created online, with Google Form serving as the 'tool' for collecting and examining data from respondents. According to Vasantha and Harinarayana (2016), Google Forms is "a cloud-based data management application which could be used to create and design web-based questionnaires". This tool is developed by Google Inc. and is free to use and build web-based questionnaires for anyone on the internet. Google Forms has become a popular solution in online survey research because to its accessibility from anywhere, at any time, and other benefits such as unlimited surveys and 100 percent free for its user. Statistical Package for the Social Sciences (SPSS) software was then adopted for analysis of data collected. In particular, descriptive analysis was first conducted to explore the respondents' background and it was followed by two inferential analyses. Pearson correlation coefficient analysis was used to examine the relationship between product availability, time availability and money availability with online impulse buying before and during COVID-19 pandemic and multiple linear regression was used to determine the most significant among those three selected factors understudy.

## **Findings and Discussion**

### **Socio-economic Background of the Respondents**

As shown in Table 1, from 300 respondents participated in this study, majority of them were female (74.3%) and the remaining (25.7%) were male. The highest percentage in this sample were in the age group of 20-29 years old (68.0%) and the lowest percentage were from age group of 40-49 years old with 0.7 percent. In terms of ethnic, Malay recorded the largest ethnic



group participated which was accounted as the majority with 92.3 percent. Thus, as the religious background, Islam revealed as the majority of religion from the sample which comprises 94.3 percent, and the minority was Christian with 0.7 percent. Respondents who are single recorded the highest percentage which is 83.3 percent. The study also found that almost half of the respondents (44.7%) were having degree as their highest level of education.

Table 1  
*Socio-Economic Background of the Respondents (N=300)*

Category		Frequency	Percent (%)
Gender	Male	77	25.7
	Female	223	74.3
Age group	19 years old and below	71	23.7
	20-29 years old	204	68.0
	30-39 years old	23	7.7
	40-49 years old	2	0.7
Race	Malay	277	92.3
	Chinese	12	4.0
	Indian	2	0.7
	Others	9	3.0
Religion	Islam	283	94.3
	Buddha	12	4.0
	Hindu	3	1.0
	Others	2	0.7
Marital status	Single	250	83.3
	Married	50	16.7
Highest level of education	SPM	65	21.7
	Diploma	72	24.0
	Degree	134	44.7
	Master	5	1.7
	Others	24	8.0
Employment status	Employed for wages	112	37.3
	Self-employed	19	6.3
	Out of work and looking for work	13	4.3
	Out of work but not currently looking for work	1	0.3
	Homemaker	6	2.0
	Student	140	46.7
	Not working	9	3.0
Personal monthly income	Less than RM1000	39	13.0
	Between RM1000 - RM1999	59	19.7
	Between RM2000-RM2999	43	14.3

Between RM3000-RM3999	14	4.7
RM4000 and above	11	3.7
No income	134	44.7

Student recorded the highest percentage of 46.7 percent for current employment status of respondents. Next, employed for wages are the second highest with 37.3 percent and the lowest is out of work but not currently looking for work with only 0.3 percent. The highest percentage of respondents come from no income group which holds 44.7 percent. This could be explained with the most of respondents were students. There were only 8.4% of respondents whose personal monthly income was RM3000 and above.

### Respondents' Online Buying Experience

The respondents' pattern of online buying was measured in terms of their experience, common products bought, frequency and platform of purchases made from. As shown in Table 2, slightly more than half of respondents (52.0%) were having an experience for more than 3 years showing that they are having quite a huge experience in performing online buying. With regards to the type of product that they normally bought online, the results revealed that clothes and accessories was the most popular item (83.3%), followed by shoes and bags (69.0%) and health and beauty (67.0%). These data showed that fashionable items were become favorable to the respondents of this study.

Surprisingly, the study found that the respondent can be categorized as towards a frequent online purchaser as about 40.0 percent of them reported that they bought online more than three times in a month. This may be due to the restriction in movement and a few other factors as discussed by previous researchers (Husnain et al., 2019; Hadid et al., 2020; Arief et al., 2021) have led consumers to practice an online buying. In terms of the platform that the respondents used to buy online, Shopee were the most visited (98.7%) which might show that Shopee have successfully done great works in their promotion especially during the MCO due to COVID-19 pandemic. Lazada (33.3%) and Zalora (12.7%) were chosen as the second and third platforms frequently used by the respondents, respectively.

Table 2

#### *Respondents' Online Buying Experience*

Category	Frequency	Percent	
Online buying experience	Less than 1 year	48	16.0
	2 years	55	18.3
	3 years	41	13.7
	More than 3 years	156	52.0
Products normally bought online	Home and living	153	51.0
	Food	199	66.3
	Clothes and accessories	250	83.3
	Shoes and bags	207	69.0
	Health and beauty	201	67.0
	Game, books and hobbies	128	42.7

	Computer and accessories	126	42.0
	Mobile and tools	141	47.0
	Toys, kids and baby stuffs, sport and outdoor	81	27.0
	Others	17	5.1
Frequency of consumer purchasing through online per month	Once	61	20.3
	Twice	72	24.0
	Three times	47	15.7
	Above three times	120	40.0
Platform used to shop online	Lazada	100	33.3
	Mudah.my	13	4.3
	11street	4	1.3
	Shopee	296	98.7
	Zalora	38	12.7
	Fashion Valet	7	2.3
	Amazon.com	8	2.7
	Others	20	6.0

### Relationship between Product Availability, Time Availability and Money Availability with Online Impulse Buying Behavior during COVID-19 Pandemic

Pearson correlation analysis was performed to analyze the relationship between product availability and online impulse buying behavior before and during COVID-19 pandemic and the results were simplified in Table 3. All the factors were found to be significantly influence the online impulse buying behavior. In terms of the nature of their relationships, interestingly time availability ( $r = 0.636$ ;  $p = 0.000$ ) and money availability ( $r = 0.637$ ;  $p = 0.000$ ) were almost identical in their strength in influencing the online impulse buying behavior with showed towards a strong relationship. Meanwhile, product availability ( $r = 0.530$ ;  $p = 0.000$ ) were found to have a moderate level in its influence.

All the result obtained in this analysis showed H1-H3 are supported indicated the more available the product, time and money, the more tendency for the respondents to involve in online impulse buying. In addition, the current findings also found to be consistent with previous studies which discovered that product availability (Liu et al., 2013; Shariff & Hamid, 2021), time availability (Azizi et al., 2020; Iftikhar & Iqbal, 2020; Arief et al., 2021) and money availability (Ahmed et al., 2020; Iftikhar & Iqbal, 2020) were significantly affects online impulse buying behavior.

Table 3  
*Results of Pearson Correlation Coefficient*

Hypothesis	Pearson correlation (r-value)	Significance (p- value)

H1: There is a significant relationship between product availability and online impulse buying behavior during COVID-19 pandemic	0.530**	0.000
H2: There is a significant relationship between time availability and online impulse buying behavior during COVID-19 pandemic	0.636**	0.000
H3: There is a significant relationship between money availability and online impulse buying behavior during COVID-19 pandemic	0.637**	0.000

Note: \*\* Level of significance is at  $p < 0.01$

Multiple regression analysis was then conducted to determine the most influential predictor among the factors influencing online impulse buying behavior during COVID-19 pandemic. Before entering the regression model, all relevant predictors were tested in bivariate analysis. Table 4 shows the multiple regression results.

Table 4

*Summary of Multiple Linear Regression for Factors Influencing Impulse Buying Behavior during COVID-19 Pandemic*

Variables	B	Standardized Beta ( $\beta$ )	Coefficients	Beta (t)	p-value
(Constant)				1.875	0.062
Product Availability	0.379	0.134		2.682	0.008
Time Availability	0.150	0.363		7.186	0.000
Money Availability	0.411	0.373		7.572	0.000

Note: Dependent Variable = Online impulse buying behaviour during COVID-19 pandemic

F = 115.660;  $p < 0.001$ ;  $R^2 = 0.540$ ; Adjusted  $R^2 = 0.535$

The F-ratio value of 115.660 with a significant level of 0.000, which is less than 0.01 indicated that the regression model was statistically significant. This implied that the dependent variable (online impulse purchase behavior during the COVID-19 pandemic) and independent variables (product availability, time availability and money availability) had statistically significant associations. As a result, the overall model is significant, and the model's accuracy was high. The result also indicated that the proportional contribution of the three factors to influence online impulse buying behavior during COVID-19 pandemic was moderate (0.540) with an adjusted R-square of 0.535. These statistics indicated that the three factors were able to predict up to 54% of the factors to influence online impulse buying behavior during COVID-19 pandemic.

The results further showed that money availability ( $\beta = 0.373$ ;  $p = 0.000$ ) appeared to be the strongest predictor for factors influencing online impulse buying behavior during COVID-19 pandemic, then followed by time availability ( $\beta = 0.363$ ;  $p = 0.000$ ) and lastly product availability ( $\beta = 0.134$ ;  $p = 0.000$ ). Thus, it revealed that more money availability are reported to have higher influence on online impulse buying behavior during COVID-19 pandemic. This result was also supported by previous research in which Hendra and Kaihatu (2019) found that money availability as the most significant factor that directly influence impulse buying behavior. In addition, consistent with the results of Pearson correlation analysis, among all factors, money availability was found to be the greatest influencing factor towards online impulse buying behavior during COVID-19 pandemic since it had the highest regression coefficient ( $\beta = 0.373$ ). It was closely followed by time availability in both analyses.

### **Conclusion and Implications**

This study was designed to better understand consumer online impulse buying behavior during the COVID-19 pandemic. This study provided an exploratory examination on the relationship between product availability, time availability and money availability, and online impulse buying behavior during the COVID-19 pandemic. There were significant relationships between the factors and online impulse buying behavior during the COVID-19 pandemic. Since money availability has the most substantial influence on online impulse buying behavior during the COVID-19 pandemic, the government has to take a critical measure to provide financial support to Malaysian as these online impulse purchases will highly contribute to the economy.

Moreover, this study can benefit online shopping platform companies such as Shopee, Lazada, and many more. The top management of the companies can consider these significant factors (product availability, time availability, and money availability) to enhance their business strategies in order to attract consumers to make more online purchases on their shopping platform to improve their sales and increase their profits. At the same time, they also need to explore other factors that can benefit consumers as well by providing better services in many ways such as the delivery services, convincing quality of products, promising advertising, good quality of review etc. This is consistent with the result of the adjusted R-square from the multiple regression analysis which showed that there are still about 46% factors that need to be examined with regards to have a more comprehensive understanding about the influence towards consumers impulse online buying behavior. Previous studies have indicated that review could influence the consumers purchase as they tend to believe the messages delivered by other consumer in the online community (Cheung et al., 2019; Tee, 2017; Yagci & Das, 2018).

Lastly, this study can also help consumers in Malaysia understand their online impulse purchase behavior. They can consider the factors of product availability, time availability, and money availability before doing online shopping to reduce the probability of them making an online impulse purchase. This research provides a broader perspective and comprehensive knowledge for identifying those selected factors that contribute towards online impulse purchases.

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### References

- Ahmed, R. R., Streimikiene, D., Rolle, J. A., & Duc, P. A. (2020). The COVID-19 pandemic and the antecedents for the impulse buying behavior of US citizens. *Journal of Competitiveness*, 12(3), 5–27. <https://doi.org/10.7441/joc.2020.03.01>
- Akram, U., Hui, P., Khan, M. K., Yan, C., & Akram, Z. (2018). Factors affecting online impulse buying: Evidence from Chinese social commerce environment. *Sustainability*, 10, 352.
- Alshammari, E. (2021). Has buying behaviour changed during the COVID–19 crisis? What are the implications for retailers? *International Journal of Business and Management Invention*, 10(8), 21–30. <https://doi.org/10.35629/8028-1008012130>
- Arief, S., Alchazin, B., & Firdaus, M. R. (2021). In-store promotion and hedonic shopping motivation influence impulse buying with time availability, money availability, and task definition as moderating variables at digital payment (OVO). *International Journal of Scientific Development and Research*, 6(10), 86–97.
- Arokiasamy, L. (2021). Online shopping among young generation in Malaysia. *Electronic Journal of Business and Management*, 6(1), 31–38.
- Badgaiyan, A. J., Verma, A., & Dixit, S. (2016). Impulsive buying tendency: Measuring important relationships with a new perspective and an indigenous scale. *IIMB Management Review*, 28(4), 186–199. <https://doi.org/10.1016/j.iimb.2016.08.009>
- Beatty, S. E., & Ferrell, M. E. (1998) Impulse buying: Modeling its precursors. *Journal of Retailing*, 74, 169-191. [http://dx.doi.org/10.1016/S0022-4359\(99\)80092-X](http://dx.doi.org/10.1016/S0022-4359(99)80092-X)
- Cavazos-Arroyo, J., & Maynez-Guaderrama, A. I. (2022). Antecedents of online impulse buying: An analysis of gender and centennials and millennials’ perspectives. *Journal of Theoretical and Applied Electronic Commerce Research*, 17, 122-137.
- Chan, T. K. H., Cheung, C. M. K., & Lee, Z. W. Y. (2017). The state of online impulsebuying research: A literature analysis. *Information and Management*, 54(2), 204–217. <https://doi.org/10.1016/j.im.2016.06.001>
- Chang, H. J., Yan, R. N., & Eckman, M. (2014). Moderating effects of situational characteristics on impulse buying. *International Journal of Retail and Distribution Management*, 42(4), 298–314. <https://doi.org/10.1108/IJRDM-04-2013-0074>
- Cheung, J. W., Multhaly, S., Kuppusamy, M., & Han, C. (2019). The study of online reviews and its relationship to online purchase intention for electronic products among the millennials in Malaysia. *Asia Pacific Journal of Marketing and Logistics*. <https://doi.org/10.1108/APJML-03-2019-0192>
- Collinson. (2020). 2020 Commerce Trends. Retrieved from <https://www.collinsongroup.com/es/insights/2020-commerce-trends>
- Di Crosta, A., Ceccato, I., Marchetti, D., LaMalva, P., Maiella, R., Cannito, L., Cipi, M., et al. (2021). Psychological factors and consumer behaviour during the COVID-19pandemic. *PLoS ONE* 16(8), e0256095. <https://doi.org/10.1371/>

- Floh, A., & Madlberger, M. (2013). The role of atmospheric cues in online impulse- buying behavior. *Electronic Commerce Research and Applications*, 12(6), 425-439. <https://doi.org/10.1016/j.elerap.2013.06.001>
- Foroughi, A., Buang, N. A., & Sadeghi, R. H. M. (2012). Exploring the influence of situational factors (money and time availability) on impulse buying behaviour among different ethhics. *International Journal of Fundamental Psychology and Social Sciences*, 2(2), 41–44.
- Goldsmith, R. E. (2002). Explaining and predicting consumer intention to purchase over the internet: An exploratory study. *Journal of Marketing Theory and Practice*, 10(2), 22–28. <https://doi.org/10.1080/10696679.2002.11501913>
- Gupta, R., Nair, K., & Radhakrishnan, L. (2021). Impact of COVID-19 crisis on stocking and impulse buying behaviour of consumers. *International Journal of Social Economics*, 48(12), 1794–1809. <https://doi.org/10.1108/IJSE-03-2021-0163>
- Harahap, D. A., Ferine, K. F., Irawati, N., Nurlaila, & Amanah, D. (2021). Emerging advances in e-commerce: Panic and impulse buying during the Covid-19 pandemic. *Systematic Reviews in Pharmacy*, 12(3), 224-230. <https://doi.org/10.31838/srp.2021.3.37>
- Hendra, H., & Kaihatu, T. S. (2019). How does the store (mall) environment and money availability affect consumer impulse buying behavior at Surabaya city of tomorrow shopping center? Retrieved from <http://dspace.uc.ac.id/handle/123456789/2085>
- Husnain, M., Rehman, B., Syed, F., & Akhtar, M. W. (2019). Personal and in-store factors influencing impulse buying behavior among Generation Y consumers of small cities. *Business Perspectives and Research*, 7(1), 92–107. <https://doi.org/10.1177/2278533718800625>
- Iftikhar, M., & Iqbal, J. (2020). Analyzing the influence of situational factors on online impulse buying behavior: A study of Pakistani consumers. *Global Management Sciences Review*, 5(3), 60-72. [https://doi.org/10.31703/gmsr.2020\(v-iii\).07](https://doi.org/10.31703/gmsr.2020(v-iii).07)
- Kacen, J. J., & Lee, J. A. (2002). The influence of culture on consumer behaviour. *Journal of Consumer Psychology*, 12(2), 163–176.
- Keane, M., & Neal, T. (2021). Consumer panic in the COVID-19 pandemic. *Journal of Econometrics*, 220(1), 86–105. <https://doi.org/10.1016/j.jeconom.2020.07.045>
- Kimiagari, S., & Malafe, N. S. A. (2021). The role of cognitive and affective responses in the relationship between internal and external stimuli on online impulse buying behavior. *Journal of Retailing and Consumer Services*, 61, <https://doi.org/10.1016/j.jretconser.2021.102567>
- Koch, J., Frommeyer, B., & Schewe, G. (2020). Online shopping motives during the COVID-19 pandemic: Lessons from the crisis. *Sustainability (Switzerland)*, 12(24), 1–20. <https://doi.org/10.3390/su122410247>
- Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30(3), 607–610. <https://doi.org/10.1177/001316447003000308>
- Kwon, H. H., & Armstrong, K. L. (2002). Factors influencing impulse buying of sport team licensed merchandise. *Sport Marketing Quarterly*, 11, 151-163.
- Laato, S., Islam, A. K. M. N., Farooq, A., Dhir, A. (2020). Unusual purchasing behavior during the early stages of the COVID-19 pandemic: The stimulus-organism-response approach. *Journal of Retailing and Consumer Services*, 57, 102224.

- <https://doi.org/10.1016/j.jretconser.2020.102224>.
- 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. <https://doi.org/10.1016/j.dss.2013.04.001>
- MCMC. (2021). *MCMC Annual Reports*. Retrieved from <https://www.mcmc.gov.my/en/resources/publications/annual-reports>
- Mesiranta, N. (2009). *Consumer online impulsive buying*. Unpublished manuscript. University of Tampere, Tampere, Finland.
- Shariff, M. N. S., & Izzati, N. H. A. H. (2021). Consumers' buying behavior towards online shopping during the COVID-19 pandemic: An empirical study in Malaysia. *Malaysian Journal of Science Health and Technology*, 7(2), 1–7. <https://doi.org/10.33102/mjosht.v7i2.164>
- Haddid, M. A., Naufal, M. A., Yerlinda, A., & Sanjaya, V. F. (2020). Pengaruh kesenangan hedonis, availability of time dan availability of money terhadap impulse buying. *Digital Economic, Management and Accounting Knowledge Development*, 2(2), 1–12. <https://doi.org/10.46757/demand.v2i2.109>
- Naeem, M. (2021). Understanding the customer psychology of impulse buying during COVID-19 pandemic: Implications for retailers. *International Journal of Retail and Distribution Management*, 49(3), 377–393. <https://doi.org/10.1108/IJRDM-08-2020-0317>
- Paul, M. (2021). Study on impulse buying behaviour on consumer goods. *Research Review International Journal of Multidisciplinary*, 6(5), 33-36. <https://doi.org/10.31305/rrjim.2021.v06.i05.004>
- Pham, V. K., Do Thi, T. H., & Ha Le, T. H. (2020). A study on the COVID-19 awareness affecting the consumer perceived benefits of online shopping in Vietnam. *Cogent Business and Management*, 7(1). <https://doi.org/10.1080/23311975.2020.1846882>
- Pradhan, V. (2018). Study on impulsive buying behavior among consumers in supermarket in Kathmandu Valley. *Journal of Business and Social Sciences Research*, 1(2), 215. <https://doi.org/10.3126/jbssr.v1i2.20926>
- Rook, D. W. (1987). The buying impulse. *Journal of Consumer Research*, 14(2), 189. <https://doi.org/10.1086/209105>
- Shah, A. U. M., Safri, S. N. A., Thevadas, R., Noordin, N. K., Rahman, A. A, Sekawi, Z., Ideris, A., & Sultan, M. T.H. (2020). COVID-19 outbreak in Malaysia: Actions taken by the Malaysian government. *International Society for Infectious Diseases*, 97,108-116. <https://doi.org/10.1016/j.ijid.2020.05.093>.
- Showrav, D. G. Y., Hassan, M. A., Anam, S., & Chakrabarty, A. K. (2021). Factors influencing the rapid growth of online shopping during covid-19 pandemic time in Dhaka City, Bangladesh. *Academy of Strategic Management Journal*, 20 (Special Issue2), 1-13.
- Siddik, M. N. A. (2020). Economic stimulus for COVID-19 pandemic and its determinants: Evidence from cross-country analysis. *Heliyon*, 6(12), e05634. <https://doi.org/10.1016/j.heliyon.2020.e05634>
- Synthesio Social Data & Ipsos Online Communities. (2020). #2020: 8 social insights that helped define an extraordinary year – An IPSOS point of view. Retrieved from <https://www.ipsos.com/sites/default/files/8-social-insights-2020-us.pdf>
- Sirhindi, A. (2010). *A critical review of in-store and online impulse purchase behavior*. Doctoral dissertation, Oklahoma State University.



- Statista. (2021). *E-commerce: Digital Shopping Behaviour*. Retrieved from <https://www.statista.com/statistics/1292965/malaysia-shopping-frequency-using-social-media-networks/>
- Steinhart, Y., Mazursky, D., & Kamins, M. A. (2013). The process by which product availability triggers purchase. *Marketing Letters*, 24(3), 217–228. <https://doi.org/10.1007/s11002-013-9227-4>
- Tee, X. H. (2017). The effect of source credibility on consumers' purchase intention in Malaysia online community. *Journal of Arts and Social Sciences*, 1(1), 12-20.
- Thakur, C., Diwekar, A., Reddy, B. J., & Gajjala, N. (2020). A Study of the online impulse buying behaviour during COVID-19 pandemic. *International Journal of Research in Engineering, Science and Management*, 3(9), 86–90. <https://doi.org/10.47607/ijresm.2020.294>
- The Borneo Post. (2019). *Top E-commerce in Southeast Asia - Borneo Post Online* Retrieved from <https://www.theborneopost.com>
- Vasantha, R. N., & Harinarayana, N. S. (2016). Online survey tools: A case study of Google Forms. Paper presented at the National Conference on “Scientific, Computational Information Research Trends in Engineering, GSSS-IETW”, Mysore, 1-12.
- Verhagen, T., & Van Dolen, W. (2011). The influence of online store beliefs on consumer online impulse buying: A model and empirical application. *Information and Management*, 48(8), 320–327. <https://doi.org/10.1016/j.im.2011.08.001>
- Verma, M., & Naveen, B. R. (2021). COVID-19 impact on buying behaviour. *Vikalpa: The Journal for Decision Makers*, 46(1), 27–40. <https://doi.org/10.1177/02560909211018885>
- Wang, L. (2016). *Do consumers buy impulsively more often in mobile shopping than in store?* Unpublished Master Thesis, Auckland University of Technology.
- Wijaya, E., & Setyawan, O. (2020). Consumer's impulse buying behavior: Do visual merchandising, store atmosphere, availability of money, and promotional activity affect it? *Binus Business Review*, 11(3), 209–215. <https://doi.org/10.21512/bbr.v11i3.6464>
- Yagci, I. A., & Das, S. (2018). Measuring design-level information quality in online reviews. *Journal of Electronic Commerce Research and Applications*, 30, 102-110.
- Zaki, H. O., Ngayesah, S., & Hamid, A. (2021). The influence of time availability, happiness, and weariness on consumers' impulse buying tendency amidst COVID-19 partial lockdown in Malaysia. *Jurnal Pengurusan*, 62. <https://doi.org/https://doi.org/10.17576/pengurusan-2021-62-07>