# Factors that Influence Online Purchasing Behavior among Students in Universiti Utara Malaysia


## ABSTRACT

**Aims**: The rapid growth in Internet access among Malaysian showed more ventures towards e-commerce activity that contributes to significant value in national growth domestic product. As technology-driven industry is normally associated with younger generations that are more technology savvy, their purchasing behavior through online shopping platform is of interest.
**Methodology:** Undergraduate students online purchasing behavior will be assessed, and factor analysis will be adopted.
**Results**: Result shows that there are three major factors that influence online purchasing behavior, which are the attitude towards online shopping, trust, and perceived benefit. Result also indicated that 41.9% of the respondents have been victimized by financial fraud during online transaction at least once, thus the need to educate people in managing online financial risk is a must.
**Conclusion:** There are three factors that influence students' attitude towards online shopping. The factors are behavior towards online shopping, trust and perceived benefit. Technological advances nowadays influence current students' purchasing pattern that are more likely to buy products through online platforms.



Keywords: factor analysis, online shopping, purchasing behavior, university students


## 1. INTRODUCTION

The internet penetration in Malaysia showed rapid growth, in which online activities are not restricted towards information seeking and entertainment industry. It is now extensively being used for business and e-commerce activities. This platform is heavily used due to its versatility as it can be accessed 24 hours a day. Among 31.2 million population in Malaysia, 24 million are social media users which allow them to have access to Internet (Export.gov, 2019). Current e-commerce platform is not limited to the buying and selling activities but also diverges from standard economy. Examples include the e-hailing services, food delivery, and e-wallet facilities, giving more freedom and convenience for customers to choose services during their flexible hours. However, retail industry in e-commerce platform such as online shopping contributes significantly to the use of Internet platform. In recent years, more e-commerce activities utilize social media platforms such as Facebook, Instagram and Twitter to sell their products.

To date, Malaysia has 15.3 million online shoppers and 62% of mobile users use their devices to shop (Export.gov, 2019). In 2015, Malaysia saw the growth of 5.9% in Malaysia's growth domestic product (GDP) amounting to 68.3 billion, and 6.1% in GDP valued at 74.6 billion in 2016 contributing from the e-commerce platform. Malaysia plans to increase this growth rate from 10.8% in 2016 to 20.8%, contributing to 211 billion GDP in value by 2020 (NSTonline, 2018). In the year 2018, Lazada Malaysia sets the new record of sale during their annual 11.11 Singles Sale Day, where they managed to sell 27 tons Milo to customer within the first two hours of their sales, with estimated 3,000 transactions per minute during the day (Soyacincau, 2019). Whereas, its competing platform Shopee.com also performed

significantly well as they were able to secure 58,000 items sold within a minute. Another platform, the 11streets.com saw three times higher activity in their online platform during this day (Ringgitplus, 2018). Such behavior is consistent with the finding by Wolfinbarger & Gilly (2001) that highlighted the reasons why online shopping is enticing was due to the pleasure of having freedom, be in control and having fun.

Choudhury & Dev (2014) reported that young people are the majority of the online shoppers. This may be caused by the familiarity of computer, internet and IT skills (Hubona & Kennick, 1996; Hernández, Jiménez & José Martín, 2011). Though possessing good internet ability signaling to digital savviness among people, too much exposure to online platform can lead to internet addiction (Young, 2004; Kuss, Griffiths & Binder, 2013; Rose & Dhandayudham, 2014), security risk (Aldás-Manzano et al., 2009; Thakur & Srivastava, 2015), and financial risk (Koenig-Lewis, Palmer & Moll, 2010; Zheng et al., 2012; Martin, Oliveira & Popovič, 2014).

In this study, factors that influence online purchasing behaviors among university students in Universiti Utara Malaysia (UUM) are investigated. The students are within age group from 18 to 24 years old, thus representing young adult in campus. Their online purchasing behavior will be assessed, and factor analysis will be adopted (Thompson, 2004; Misiran *et al*., 2016; Misiran *et al*., 2018) to extract determinants that strongly affect their behavior towards online shopping. Several works have discussed the contributing factors that influence online shopping activity. Such works entail in Delafrooz et al. (2009), Delafrooz, Paim & Khatibi (2010), Eri, Aminul Islam & Ku Daud (2011), George (2004) and Jadhav & Khanna (2016).

## 2. METHODOLOGY

### *2.1 Method of Collecting Data*

This research found out the factors that influence students' behavior towards online shopping. In this research, the data was collected through questionnaire. Therefore, the data is acquired as primary data.

### *2.2 Population of Study*

The target population for this research is all students from one of residential hall in Universiti Utara Malaysia (UUM). In UUM, there are 15 residential halls for students, students with families and students with special needs. TNB residential hall was selected because this hall comprises of different gender (male and female) and the level of undergraduate studies varies from all semester.

### *2.3 Sampling Method*

Simple random sampling method was adopted in this study. By using this sampling method, all samples had the same chances to be chosen in order to estimate the population means. In simple random sampling, the selection process is corresponding to a random sampling which all sample had an equal chances to be chosen. Only undergraduate students were considered for this study purposes. Figure 1 illustrates the selection of respondents.

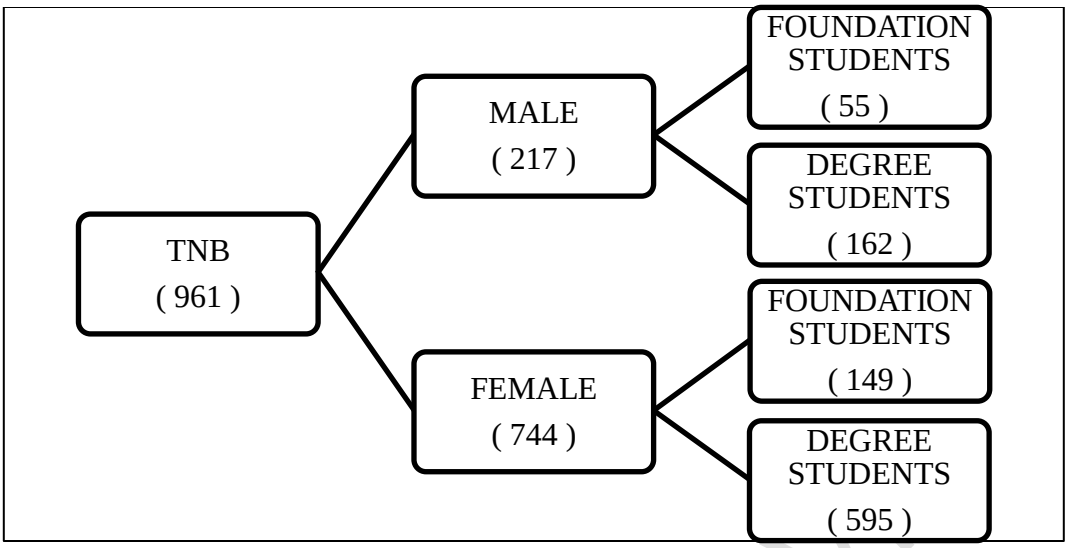


*Figure 1: Total number of TNB students*

The sample size was calculated by using a formula with a bound *B* on the error of estimation, which is:

$$n = \frac{Npq}{(N-1)D+pq} \qquad D = \frac{B^2}{4}$$

where *N* denotes the size of the *i*th stratum, and *p* denotes the population proportion for the *i*th stratum. The fraction *p* is approximated by 0.5 because there is no information about earlier study, *i* = 1, 2, 3. The aims is to estimate the population proportion *p* with bound of error on estimation equal to 0.05.

$$D = \frac{0.05^2}{4} = 0.000625$$

$$n = \frac{Npq}{(N-1)D+pq} = \frac{757(0.5)(0.5)}{(757-1)0.000625+0.5(0.5)}$$

$$= 261.9377$$

$$\approx 262$$

The population contains 961 undergraduate students in TNB residential hall. Out of 961 students, 217 of them are male and the remaining 744 are female students. The number of female is higher in this residential hall because the total population in UUM also showed that number of female is higher compared to male students. By using the formula of simple random sampling, 265 students were selected as a sample from the population. In total, 265 TNB residential hall students are selected to be a respondent to answer the questionnaire.

### *2.4 Method of Data Analysis*

In this study, primary data has been collected. The reliability and validity of the data were investigated. Questionnaire survey was used for this research. A set of questionnaire was design in order to collect all the information. Moreover, analysis on the questionnaire and respondents responds were done in order to identify the factors that influence students' behavior towards online shopping.

### *2.4.1 Reliability Analysis*

Reliability analysis is a method to determine the proportion of systematic variation in a scale which can be done by determining the association between the scores found from different administrations of the scale. Thus, if the association in reliability analysis is high, the scale yields consistent results and therefore reliable. The steps in reliability analysis are used to calculate the number regularly used in order to determine the scale of reliability and furnish information about the relationships between individual items in the scale. Reliability analysis can be performed in MS Excel to test whether the questionnaire is reliable or not. Reliability analysis was run using SPSS software. The questionnaire will be reliable if the Cronbach Alpha value is greater than 0.6 (Bland & Atltman, 1997). Therefore, the questionnaire is reliable for further analysis.

### *2.4.2 Factor Analysis*

Factor analysis is a technique that studies interdependences between variables. This technique is another type of data reduction tools. It tries to simplify the complicated and various relationships that found among a set of observed variables by revealing common dimensions that link the seemingly not related variables and consequently provides insight into the underlying structure of the data. Factor analysis is to identify and analyse the factors. The aims of factor analysis are to study the inter-relationships among variables and to find a new set of variables that are fewer in number than the original set of variables. Factor analysis is based on a model that assumes a variable consists of common and unique parts.

## 3. ANALYSIS AND RESULTS

Descriptive analysis showed that 20% of male students answered the questionnaire while the balance are female students, as the female population is higher in this residential hall, as well as in the University. 40% respondents is from age group of 18 to 20 years old, 50.90% respondents from 21 to 22 years old, and 9.10% respondents from 23 to 24 years old. For religion and ethnicity, 81.50% are Malay, 6.42% are Chinese, 4.60% are Indian, and 7.55% are others, with 85.70% Muslim, 6.00% Buddhist, 4.50% Hindu, and 3.80% respondents having others religion.

There are three main College in UUM, namely College of Arts and Sciences (CAS), College of Business (COB) and College of Government and International Studies (COLGIS). 24.20% respondents are from CAS, 56.20% respondents from COB and 19.60% respondents from COLGIS. Further, 33.60% of the respondents are from semester 1, 0.40% respondents from semester 2, 27.50% respondents from semester 3, 170.% respondents from semester 5, 1.50% respondents from semester 6, 19.60% respondents from semester 7 and 0.40% respondents from semester 8. There are least respondents from semester 2, semester 4, semester 6 because the number of students' enrolment in February intake is less compared to students in September intake.

Finally, the monthly allowance received by the respondents vary. 46.80% of respondents get allowances from RM0 to RM100, 14.30% respondents get allowance from RM101 to RM200, 23.10% respondents get allowances from RM201 to RM300, and 15.80% respondents get allowances above RM300 from their parents.

The analysis on the questions regarding online shopping showed that 23.4% of the respondents have been doing online shopping for less than a year, 18.1% respondents have been doing online shopping in a year, 30.2% respondents have been doing online shopping from 1 until 3 years, and 28.3% respondents have been doing online shopping more than 3 years.

**Table 1: Time spends on internet and online shopping**

| Items | Frequency | Percentage (%) |
|---|---|---|
| *How much time do you spend on internet every day?* | | |
| Below than 1 hour | 6 | 2.3 |
| 1 to 3 hours | 58 | 21.9 |
| 4 to 6 hours | 103 | 38.9 |
| More than 6 hours | 98 | 37.0 |
| *How much time do you spend on online shopping?* | | |
| Below than 1 hour | 131 | 49.4 |
| 1 to 3 hours | 115 | 43.4 |
| 4 to 6 hours | 16 | 6.0 |
| More than 6 hours | 3 | 1.1 |

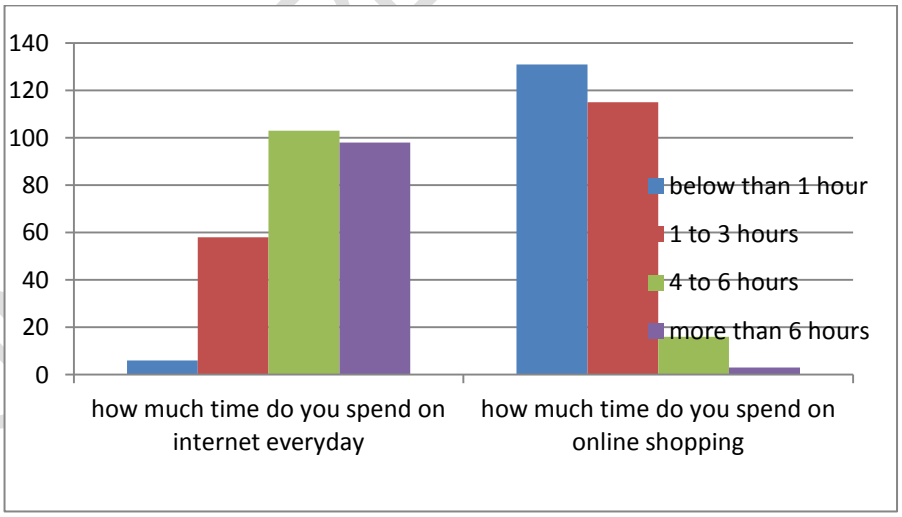


***Figure 2: Time spends on internet and online shopping***

Based on Table 1, 2.3% respondents spend time below 1 hour on internet every day while 49.4% respondents spend time below 1 hour on online shopping. 21.9% respondents spend time from 1 to 3 hours on internet every day while 43.4% respondents spend time from 1 to 3 hours on online shopping. 38.9% respondents spend time from 4 to 6 hours on internet every day while 6.0% respondents spend time from 4 to 6 hours on online shopping. 37.0%

respondents spend time for more than 6 hours on internet every day while only 1.1% respondents spend time more than 6 hours on online shopping.

**Table 2: Product frequently buys the most**

| Items | Frequency | Percentage (%) |
|---|---|---|
| What do you buy the most among these following? | | |
| Clothing | 147 | 55.5 |
| Gadgets | 24 | 9.0 |
| Footwear | 50 | 18.9 |
| Others | 44 | 16.6 |

Based on Table 2, 55.5% respondents bought clothing, 9.0% respondents bought gadgets, 18.9% respondents bought footwear and 16.6% respondents bought other than clothing, gadgets and footwear.

**Table 3: The best thing about online shopping**

| Items | Frequency | Percentage (%) |
|---|---|---|
| *What is the best thing you like about online shopping?* | | |
| Variety of brands | 102 | 38.5 |
| Price | 14 | 54.0 |
| Timely delivery | 11 | 4.1 |
| Others | 9 | 3.4 |

Based on Table 3, 102 respondents (38.5%) prefer online shopping because of online shopping offered variety of brands. 14 respondents (54%) opt for the price, 11 respondents (4.1%) prefer its timely delivery, and 9 respondents (3.4%) like to do online shopping because of others reasons.

**Table 4: Total spending**

| Items | Frequency | Percentage (%) |
|---|---|---|
| *How much do you spend on online shopping on last 3 months?* | | |
| RM0 – RM100 | 142 | 53.6 |
| RM101 –RM200 | 70 | 26.4 |
| More than RM200 | 53 | 20.0 |

Table 4 shows that 142 respondents (53.6%) spend RM0 until RM100 on online shopping for the last 3 months, 70 respondents (26.4%) spend RM101 until RM200, 53 respondents (20%) spend more than RM200.

**Table 5: Experience for fraud**

| Items | Frequency | Percentage (%) |
|---|---|---|
| *Have you ever experience any fraud while paying online?* | | |
| Once | 67 | 25.3 |
| Twice | 28 | 10.7 |
| More than twice | 16 | 6.0 |
| never | 154 | 58.1 |

Based Table 5, 67 respondents (25.3%) of respondents has once experience any fraud while paying online, 28 respondents (10.7%) experience any fraud twice, 16 respondents (6%) experience fraud more than twice, and 154 respondents (58.1%) has no experience of any fraud while paying online.

### *Reliability Analysis for Pilot Test*

**Table 6: Reliability statistics for pilot test**

| Reliability Statistics | | |
|---|---|---|
| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
| .868 | .885 | 26 |

Before distributing the questionnaire to selected respondents, the questionnaire needs to be tested on the reliability of the questions. A sample of 26 students was chosen for this pilot test. Based on the table above, the value of Cronbach's alpha for this questionnaire is 0.868. Therefore, the questionnaire is reliable for further analysis.

### *Reliability Analysis for Overall Question*

**Table 7: Reliability Overall**

| Reliability Statistics | | |
|---|---|---|
| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
| .912 | .916 | 30 |

After a pilot test has been done, questionnaires were then distributed to the target respondents. A sample of 265 of students was chosen by using simple random sampling method. The value of Cronbach's alpha for the questionnaire is 0.912. The value of Cronbach's alpha is greater than 0.6, then this questionnaire is reliable.

### *KMO and Bartlett Test*

**Table 8: KMO and Bartlett Test**

| KMO and Bartlett's Test | | |
|---|---|---|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | .902 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 3066.129 |
| | df | 435 |
| | Sig. | .000 |

Table 8 shows the output of Kaiser-Meyer-Olkin (KMO) and Bartlett test. KMO which is a measure of sampling adequacy is a statistic that shows the proportion of variance in variables that might be caused by underlying factors. The value of KMO is between 0 until 1. If the value is less than 0.50 then the result of factor analysis will possibly not very suitable. Based on the table above, the value of KMO is 0.902, and then the factor analysis is useful. Bartlett's test of sphericity tests is an identify of matrix of the hypothesis of the correlation matrix. It can detect the unrelated and unsuitable of the variables. If the significance level of Bartlett is less than 0.05, then the data for factor analysis is useful. The Bartlett test of sphericity approximately chi square is 3066.192 and all the variable are significant at 0.000 which is smaller than 0.05.

***Scree Plot***

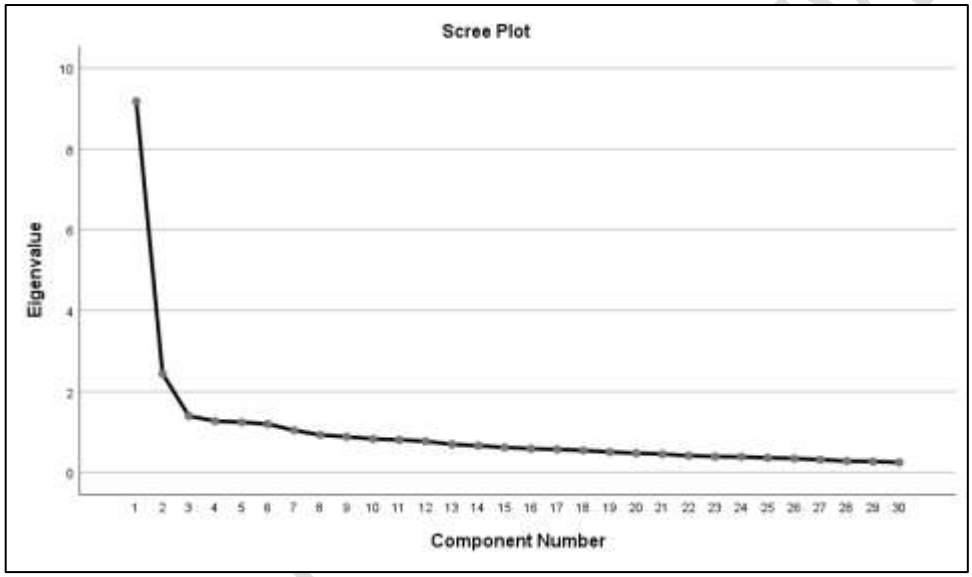


**Figure 3: Scree Plot**

Scree plot in Figure 3 shows three factors that will be investigated in this study. The first factor is attitude towards online shopping, second factor is trust, and the third factor is perceived benefit.

***Rotated Component Matrix***

**Table 9: Rotated Component Matrix**

| | Rotated Component Matrix[a] | | | |
|---|---|---|---|---|
| | | Component | | |
| No. | Item | Behaviour towards online shopping | Trust | Perceived Benefit |
| 1. | You are overall satisfied with your experience of shopping online. | .518 | | |
| 2. | Shopping through the internet makes information available at any time of the day. | .528 | | |
| 3. | I recommend good online shopping to my family and my friends. | .648 | | |

| | | | | |
|---|---|---|---|---|
| 4. | There are more choices offered through online shopping than conventional shopping. | .519 | | |
| 5. | Based on my experience with online shopping in the past, I know it provides good service. | .475 | | |
| 6. | I will continue to be loyal on the online stores that I am satisfied with. | .560 | | |
| 7. | I shop online because the homepage of the online store is personalised or customised to my needs. | .639 | | |
| 8. | I will continue shop online for long terms. | .729 | | |
| 9. | I prefer to buy lower cost products online to reduce risk. | .279 | | |
| 10. | I have sufficient information and experience of the product to enable me to purchase it with confidence without physical inspection. | .533 | | |
| 11. | I find online shopping convenient. | .561 | | |
| 12. | I have a stronger willingness to buy online when I am having enjoyable online shopping experiences. | .628 | | |
| 13. | I often consider shopping online. | .529 | | |
| 14. | I like to shop online from a trustworthy website. | | .687 | |
| 15. | You will buy the product again from a same shop you are satisfied with it. | | .626 | |
| 16. | Online shopping has cheaper goods. | | .453 | |
| 17. | Online shopping saves energy. | | .680 | |
| 18. | When shopping online you search for discounted items. | | .640 | |
| 19. | When shopping, knowledge of your income effect how much you will spend on an item. | | .549 | |
| 20. | I always compare prices with other shopping sites before buying. | | .585 | |
| 21. | Comparing prices is easier through online shopping. | | .594 | |
| 22. | Online shopping saves time. | | .559 | |
| 23. | Online shopping is risky. | | .294 | |
| 24. | When I buy from an online shopping, detailed information about products is important to me. | | .662 | |
| 25. | When online shopping, I am not being able to physically inspect the goods before purchase. | | | .492 |
| 26. | The products same as it is shown in the website. | | | .684 |
| 27. | The information given about the products on the site is sufficient. | | | .617 |

| | | | | |
|---|---|---|---|---|
| 28. | I have better shopping experience online compared to conventional shopping. | | | .469 |
| 29. | The product is not available in local shops. | | | .507 |
| 30. | I feel safe and secure while shopping online. | | | .455 |

Rotated factor matrix is to understand the results of the analysis. Based on the Table 9, there are 3 factors that influence students' behavior towards online shopping which are attitude towards online shopping, trust and perceived benefit. Question number 1 until number 13 is categorized under attitude factor towards online shopping. Question number 14 until number 24 is categorized under trust factor. Lastly, question number 25 until number 30 is categorized under perceived benefit factor.

## Reliability Analysis for each factor

***Reliability Analysis for Attitude towards Online Shopping***

**Table 10: Cronbach Alpha for Attitude towards Online Shopping**

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|---|---|---|
| .881 | .883 | 13 |

Table 10 shows the reliability statistics of Cronbach's Alpha for the questionnaire for factor of attitude towards online shopping. The value of Cronbach's Alpha for the factor for attitude towards online shopping is 0.881.

***Reliability Analysis for Trust***

**Table 11: Cronbach Alpha for Trust**

| Reliability Statistics | | |
|---|---|---|
| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
| .833 | .841 | 11 |

Table 11 shows the reliability statistics of Cronbach's alpha for the questionnaire for the factor of trust. The value of Cronbach's alpha for the factor for attitude towards online shopping is 0.833.

***Reliability Analysis for Perceived Benefit***

**Table 12: Cronbach Alpha for Perceived Benefit**

| Reliability Statistics | | |
|---|---|---|
| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
| .686 | .690 | 6 |

Table 12 shows the reliability statistics of Cronbach's alpha for the questionnaire for factor of trust. The value of Cronbach's alpha for the factor for attitude towards online shopping is 0.833.

## 4. CONCLUSION

As the conclusion, there were three factors that influence students' behavior towards online shopping which were attitude towards online shopping, trust and perceived benefit. Technological advances nowadays influenced the current students' purchasing pattern more likely to buy products online. This study showed that majority of people used social media and internet to obtain information on the selected products before making purchases online. The increasing use of gadgets such as smartphone, and the popularity of social media can also be the factors that contributed to the frequency of online shopping. This was because it was easy to access the internet anywhere and anytime.

To obtain the information about product or services, people will generally evaluate testimonials and customer's feedback on social media. Hence, sellers should make priority to deliver their products and services similar as shown in the online image to avoid confusion from buyers. They should be aware of buyer's attitude who want to try new things, thus such demand needs to be fulfilled through proper details of information describing the product. Reliable service, product that can be trusted with lower risk in financial transaction activities were necessary to attract new buyers online. The result also reported 41.9% respondents (nearly half of the respondents) have been victimized by fraud online transaction, thus the need to educate people on managing online financial risk.

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