



UTM
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Project 1 (Group)

**SECI2143 PROBABILITY &
STATISTICAL DATA ANALYSIS
SECTION 06**

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Title: The Most Popular Online Shopping Platform among Students

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1.0 Introduction and Background

Online shopping was introduced about 40 years ago to the world. The first people who invented electronic shopping was Michael Aldrich. He connects a transaction-processing computer and a modified TV through the telephone line and this is the first model of online shopping. Nowadays, we can visit the online shop and shop anytime and anywhere by using smartphones. People are starting “addicted” in online shopping because of the convenience of online shopping which is they can use the time of short break between their work or study to buy their daily necessities or some product to reward themselves. Compared to spending half of the day shopping at the physical shop, online shopping mode is a better choice for the busy lifestyle.

In the late of 2019, the Covid-19 pandemic has started to spread out and cause the people feeling worried and insecure when they need to go out from their home to do their task. Due to this Covid-19 pandemic, people started to buy their needs by online shopping more frequently. It has accelerated the growth of the e-commerce market in Malaysia. GlobalData’s Ecommerce Analytics has stated that there is a 24.7% growth of Malaysia's e-commerce market in 2020. With this kind of situation, our group comes out with an inference that there will be more and more people buying their needs with online shopping in the future.

There are a lot of online shopping platforms that can be chosen such as Shopee, Lazada, Taobao, Amazon and also the numerous categories of product and its price. If we want to start our business in the future, what is the best online shopping platform, the categories of product and its range of price that we can choose? Since the future potential customers are the people who are students now, our group has decided to investigate what is the popular online shopping platform among students and their preference of category of product and its price. We launched a survey that helps us to collect the data of which shopping platform that student frequently used, how much they spend on the platform to buy what kind product and the reason why they choose the platform in order to know which online shopping platform is the most popular among students and its reason. We also have collected the rating from students for their preference of online shopping platforms and their second preference of online shopping platforms. This two data can help us when we want to move our business to other platforms.

2.0 Data Collection

To collect the data based on the objective, 'Questionnaire' method is used. The questionnaire is a research instrument which consists of a set of questions for the purpose of getting information from the respondents.

Target of survey

The objective is to determine the most popular online shopping platform among students. Thus, our target of the questionnaire is the secondary and university students. Therefore, a question was set in the first part to make sure that the age of the respondents is in the range (13-25 years old).

Type of question

The questionnaire is prepared in the google form and it consists of 10 questions (8 multiple choice questions, 1 question with short answer and 1 question with 5 linear scale answers which ask the rating of the application used by the respondents). Details of the google form was shown in *Table 2.1*.

Method to get respondent

After creating the google form, the google form was spread out through social media such as WhatsApp and Telegram which the students mostly used. The number of respondents accepted was set at 70, once the number of respondents achieved 70, the google form was closed and stopped receiving responses.

Table 2.1 Google Form Set Question

Question	Answer
1. Gender (Nominal)	<ul style="list-style-type: none">● Male● Female

2. Age (Ratio)	<ul style="list-style-type: none"> ● (Short answer question, accept only whole number which in the between 13 and 25)
3. Pocket Money (Ratio)	<ul style="list-style-type: none"> ● Below RM200 ● RM200-RM400 ● RM401-RM600 ● RM601-RM800 ● RM801-RM1000 ● Above RM1000
4. Amount you would like to spend on each online purchase (Ratio)	<ul style="list-style-type: none"> ● Below RM200 ● RM200-RM400 ● RM401-RM600 ● RM601-RM800 ● RM801-RM1000 ● Above RM1000
5. Frequency of Online Shopping (Nominal)	<ul style="list-style-type: none"> ● Weekly ● Monthly ● Yearly ● Never
6. Platform (Nominal)	<ul style="list-style-type: none"> ● Shopee ● Lazada ● Taobao ● Amazon ● Mudah ● Others

<p>7. Category of Products (Nominal)</p>	<ul style="list-style-type: none"> ● Clothing ● Computer and accessories ● Book ● Sport ● Belongings ● Others 										
<p>8. Reasons to choose the application (Nominal)</p>	<ul style="list-style-type: none"> ● Discount ● Easy to use ● Free shipping ● Integrity ● Fast delivery ● Others 										
<p>9. Rating for the application (Ordinal)</p>	<ul style="list-style-type: none"> ● 1-5 <table border="1"> <tr> <td>Poor</td> <td>Uncertain</td> <td>Fair</td> <td>Good</td> <td>Excellent</td> </tr> <tr> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> </tr> </table>	Poor	Uncertain	Fair	Good	Excellent	1	2	3	4	5
Poor	Uncertain	Fair	Good	Excellent							
1	2	3	4	5							
<p>10. Second Preference (Nominal)</p>	<ul style="list-style-type: none"> ● Shopee ● Lazada ● Taobao ● Amazon ● Mudah ● Others 										

3.0 Data Analysis and Results

The sample size of our data analysis is within 14 years old to 25 years old students with 2 different types of gender.

Bar chart of age of students

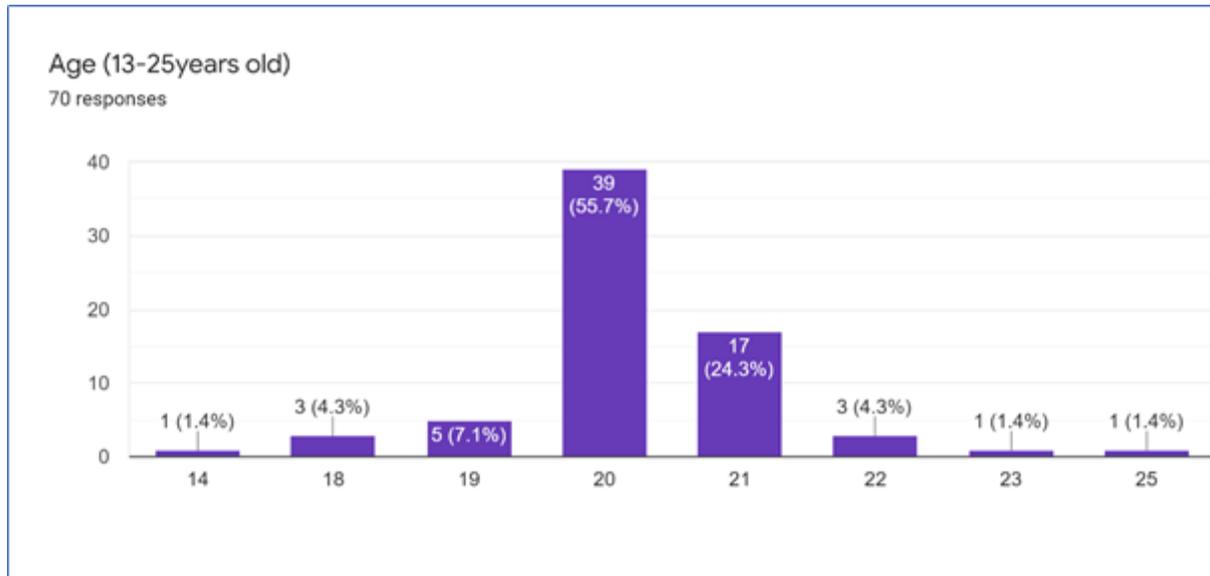


Figure 3.1: Bar Chart of Age of students

Based on this bar chart, it shows that the majority of students are 20 years old (39 students). Then, it is followed by students of 21 years old (17 students). After that, the numbers for other ages of students are quite similar which are in the range of 1 to 5. Hence, in this survey, we can mention that our target students are students of age 20 and 21.

Pie chart of gender

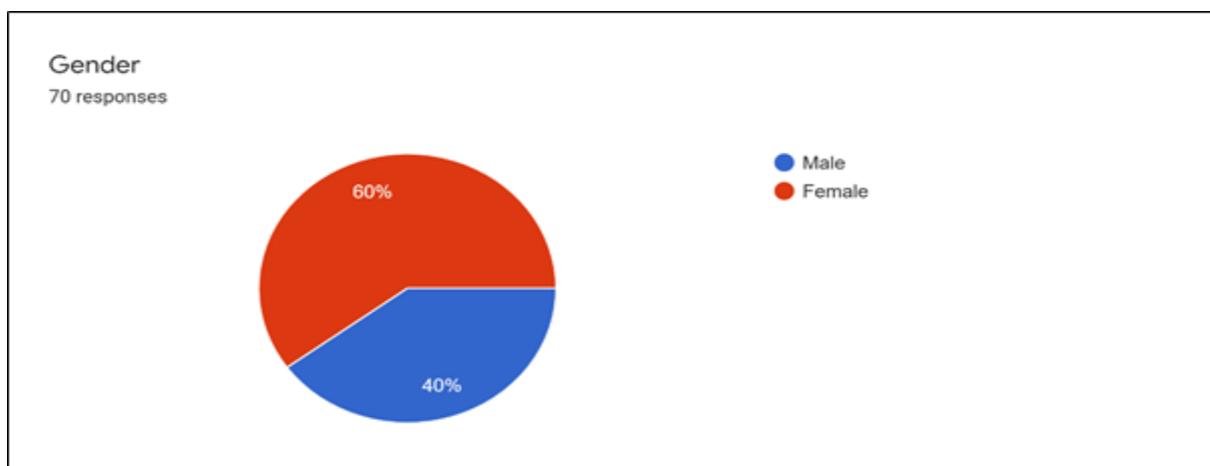


Figure 3.2: Pie chart gender in this survey

Based on this pie chart, it reveals that there are more female respondents compared to male respondents in this survey among the 70 students.

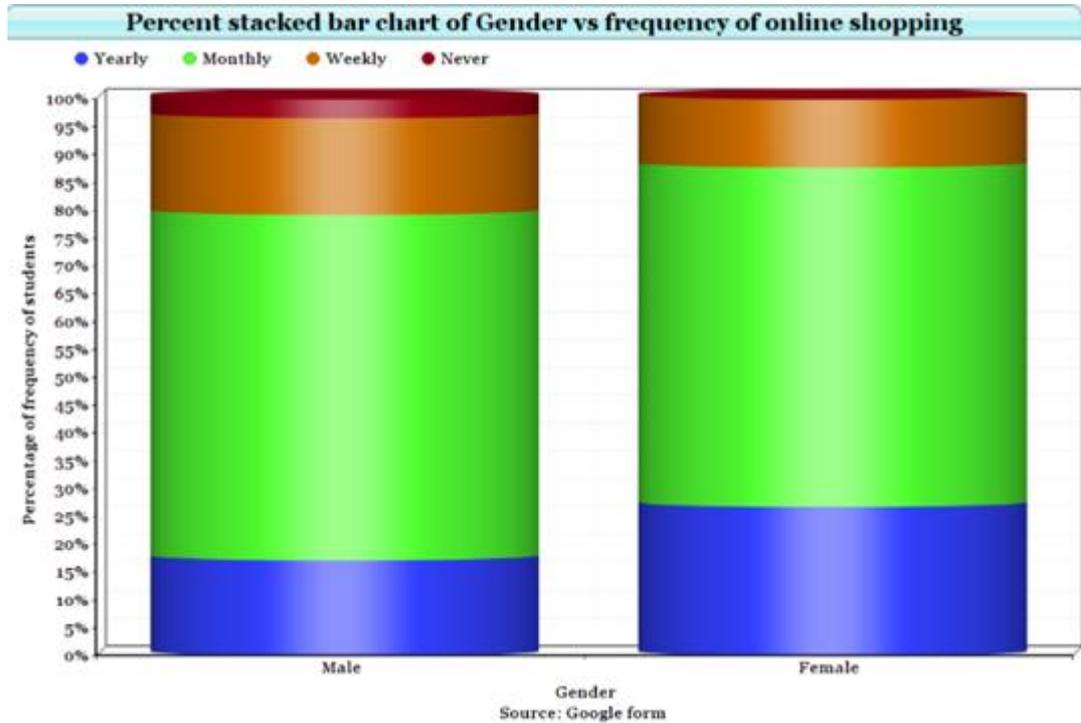


Figure 3.3: Percent stacked bar chart of gender vs frequency of online shopping

This percent stacked bar chart reflects that the most of the students prefer to undergo online shopping monthly regardless of their gender. However, there are more females inclined to have online shopping yearly. In addition, there is only a male student and no female student who never experience online shopping. Hence, we can conclude that most of the students within the age of 13 to 25 have experience in online shopping.

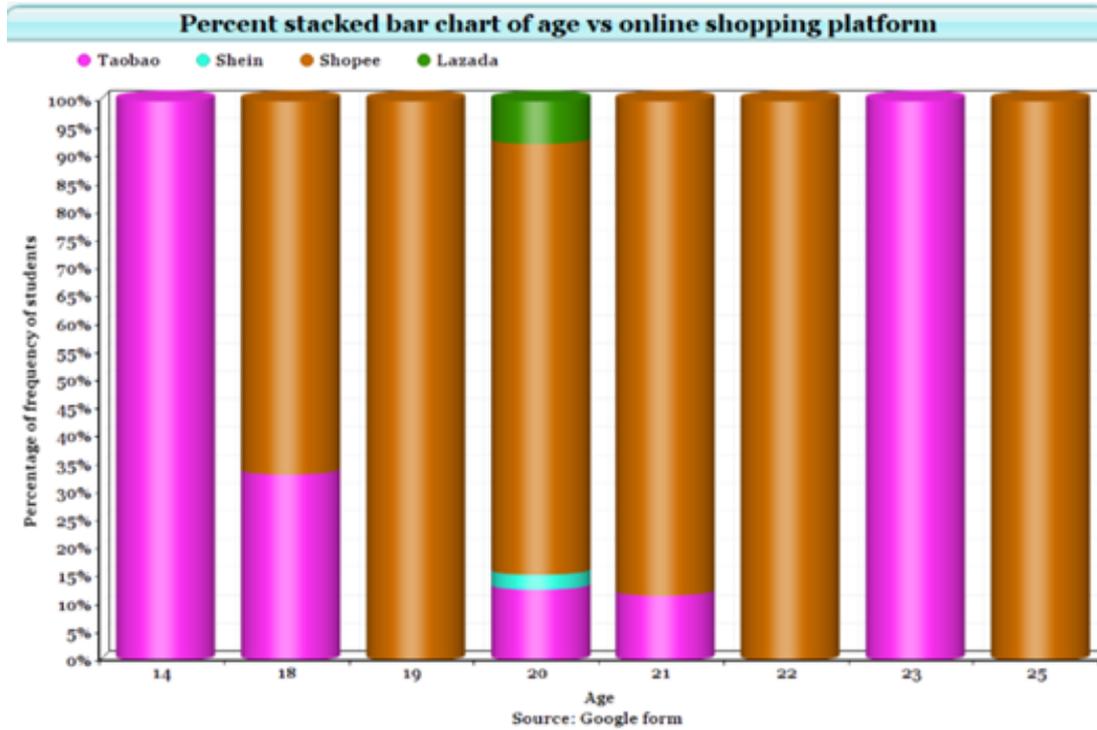


Figure 3.4: Percent stacked bar chart of age vs online shopping platform

This percent stacked bar chart depicts that most of the students prefer to use “Shopee” online shopping platform compared to the others. However, “Lazada”, “Taobao” and “Shein” also become a welcoming online shopping platform among the students. We have found that students at 20 years old use more different type of shopping platforms compared to other age.

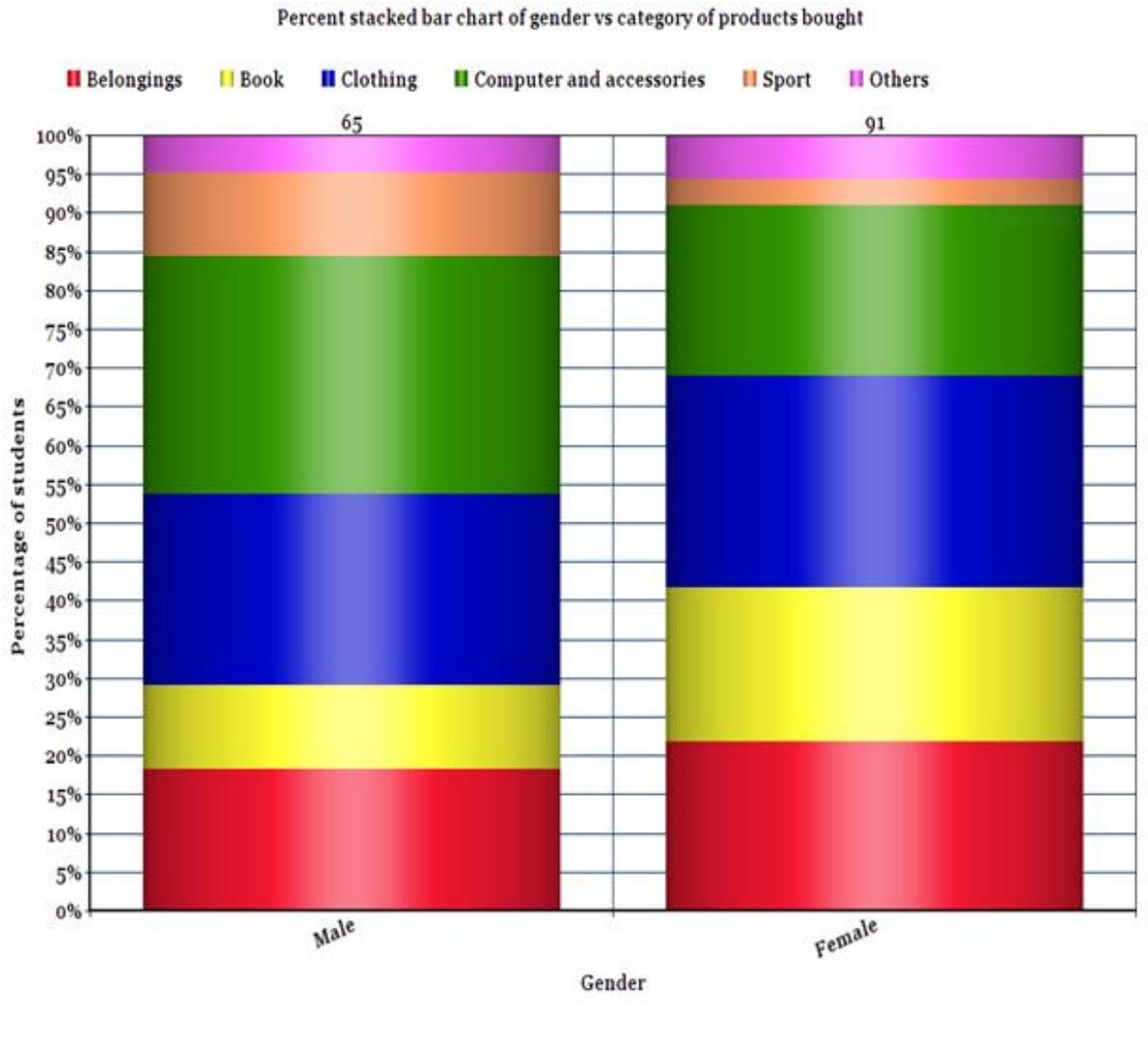


Figure 3.5: Percent stacked bar chart of gender vs category of products bought

This percent stacked bar chart illustrates that most of the students prefer to use online shopping platforms to buy computer accessories and clothing regardless of their gender. Obviously, females prefer to use online shopping platforms for buying clothes, books and belongings whereas male incline to have computer and accessories as well as sport facilities.

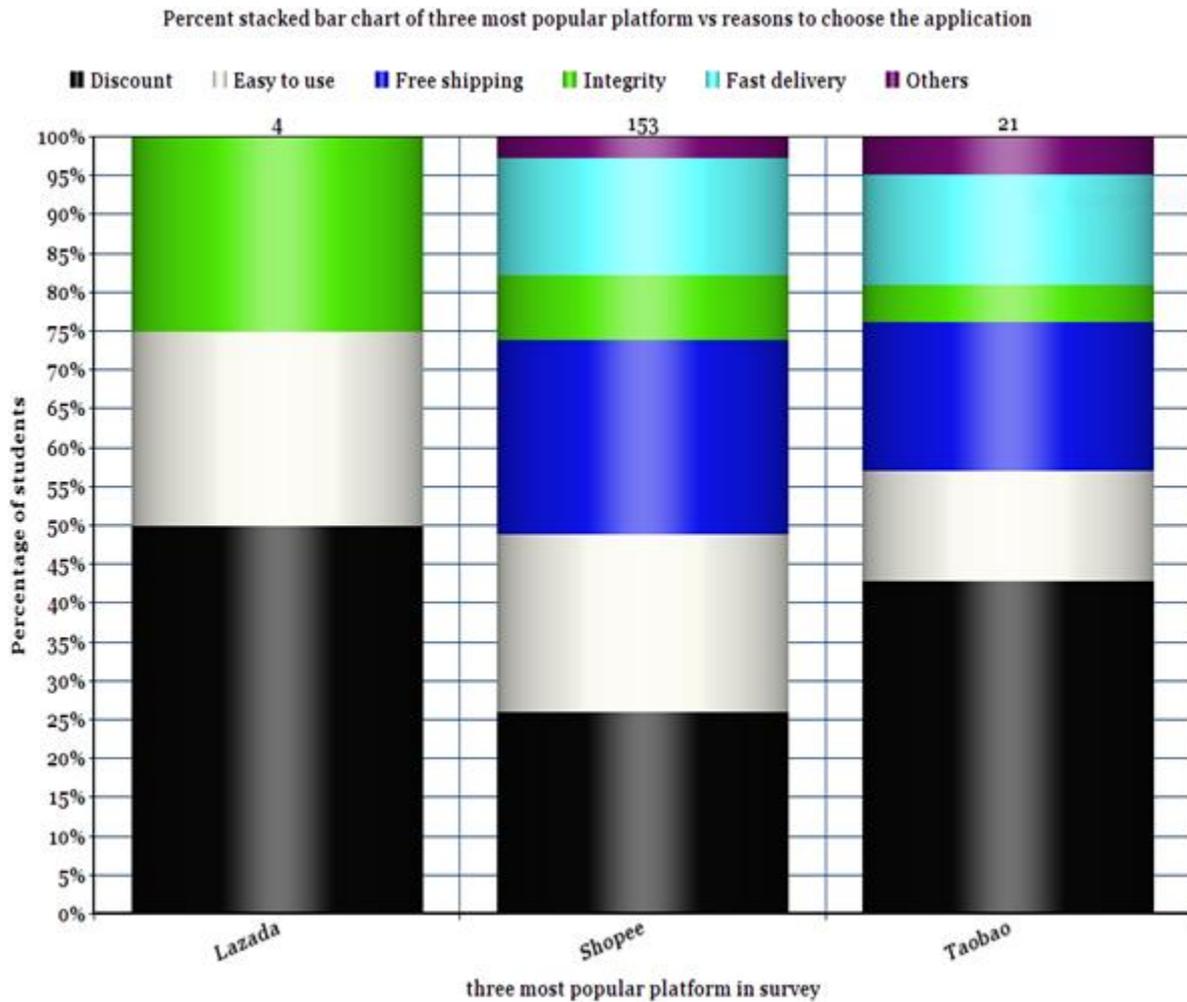


Figure 3.6: Percent stacked bar chart of three most popular platform vs reasons to choose the application

This percent stacked bar chart describes that most of the students prefer to use online shopping platforms due to the availability of a discount feature. Apparently, free shipping is the most welcomed advantage among Shopee users. However, integrity has the least convincing effect on online shopping users. We also found that fast delivery is available for Shopee and Taobao platforms. Furthermore, in this bar chart, we can discover that all three platforms have the vote of easy to use. Hence, we can mention that online shopping platforms have become a part of many students' facilities.

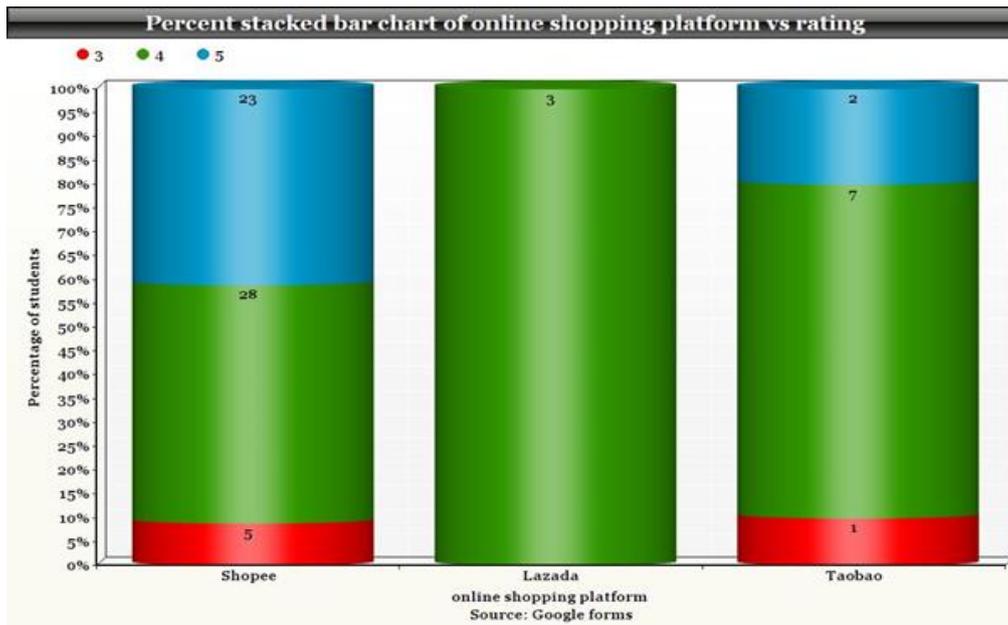


Figure 3.7: Percent stacked bar chart of gender vs category of products bought

This percent stacked bar chart illustrates that most of the students vote for their preferred platform with 4 in the range of 1 to 5. Obviously, there is no student vote 1 and 2 for their preferred platform. There are also a large number of students who vote full ratings for Shopee platform. Hence, it shows that most of the students prefer the features and advantages available in Shopee platform.

Pie chart of second preference of online shopping platform

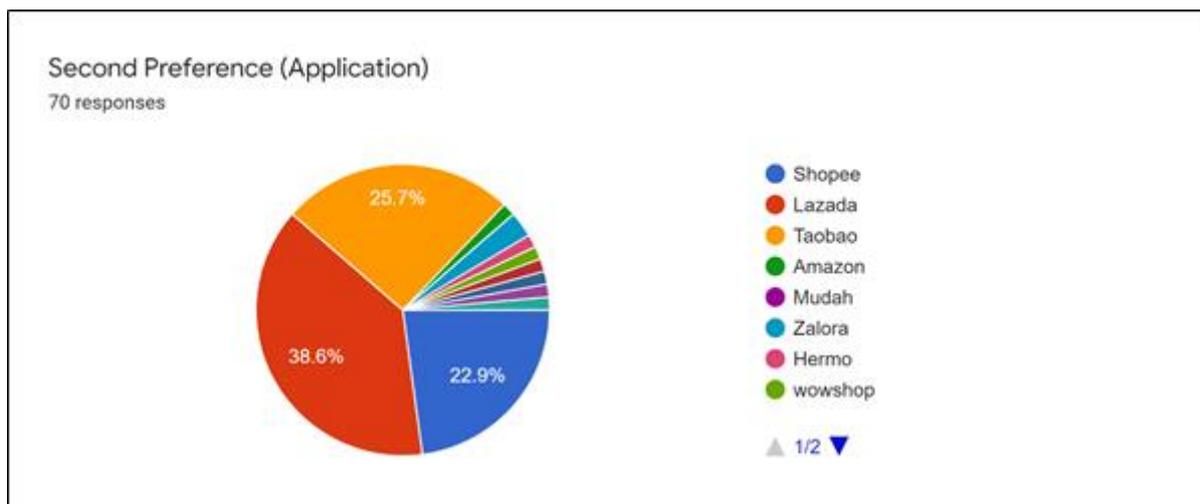


Figure 3.8: Pie chart of second preference of online shopping platform

Based on this pie chart, it reveals that most of the students vote for Lazada, followed by Taobao and Shopee for their second preference. Thus, we can say that Shopee, Lazada and Taobao are the 3 most welcoming online shopping platforms among students.

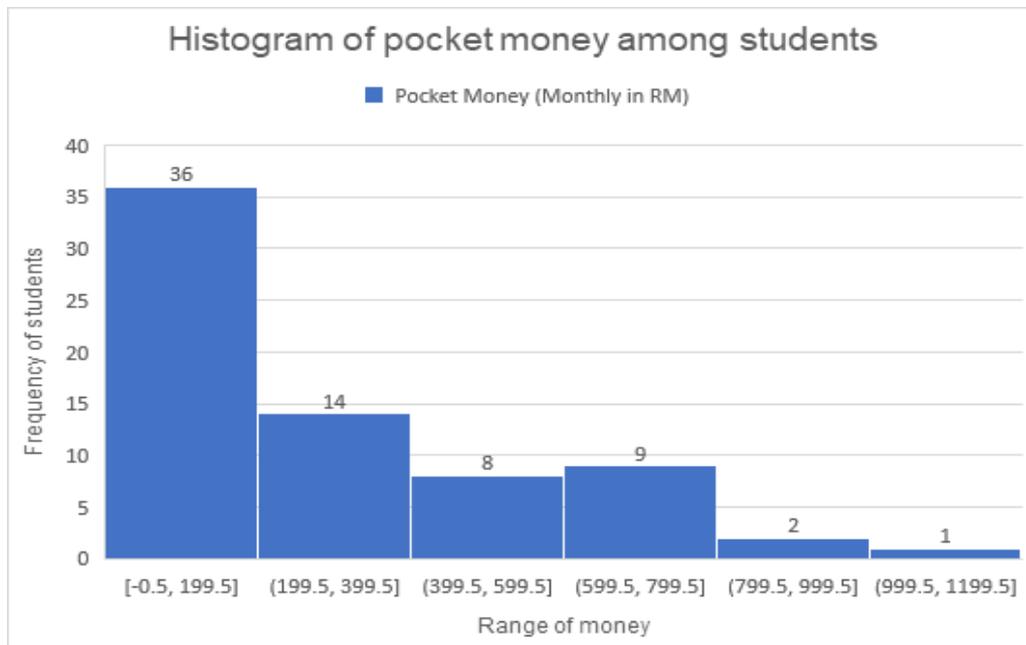


Figure 3.9: Histogram of pocket moneys among students

This histogram reveals that most of the students have pocket money that is below RM200 and there is only 1 student who has pocket money equal or more than 1000.

Mean: 299.50

Median: 193.94

Q1= 96.72

Q3= 462.00

Boxplot:

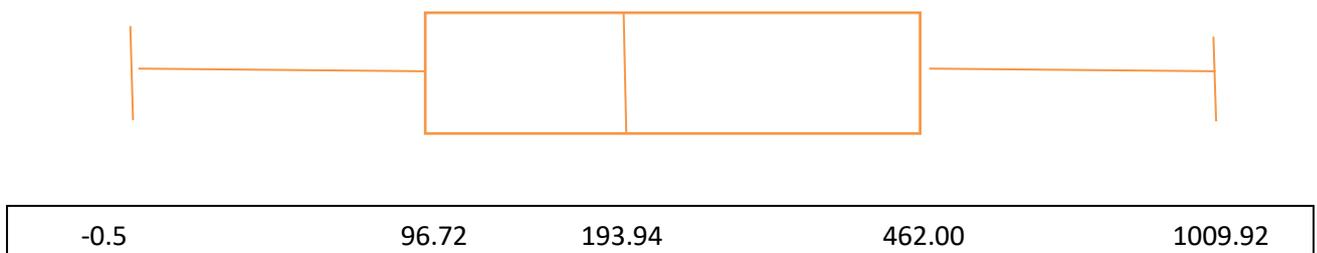


Figure 3.9.1: Box Plot of pocket moneys among students

This box plot shows that pocket money of students has RM193.94 as median, RM96.72 as first quartile, RM462 as the third quartile. Amount of pocket money that exceeds RM1009.92 can be considered as outlier.

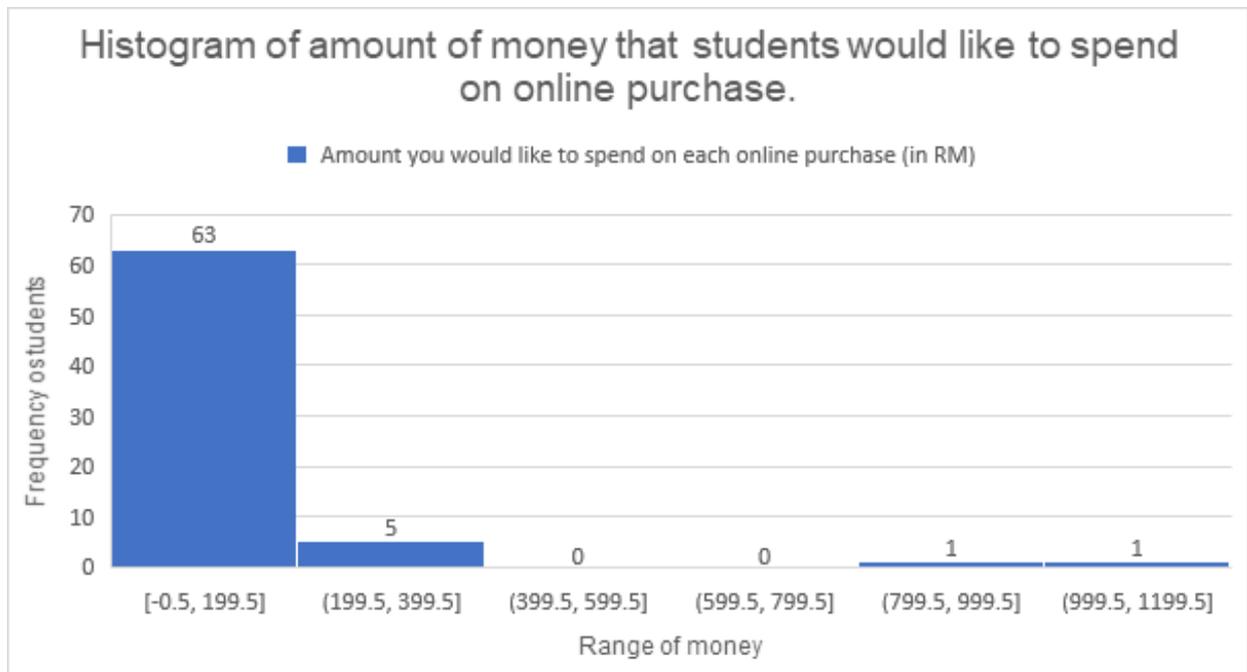


Figure 3.10: Histogram of amount of money that students would like to spend on online shopping

This histogram implies that most of the students are willing to spend their money around the range of below RM200.

Mean: 139.50

Median: 110.61

Q1: 55.056

Q3:166.167



-0.5	55.056	110.61	166.167	282.83	899.5	1099.5
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Figure 3.10.1: Box Plot of moneys that students would like to spend on online shopping

This box plot shows that pocket money of students has RM110.61 as median, RM55.06 as first quartile, RM116.17 as the third quartile. Amounts of pocket money that exceed RM282.83 can be considered as outliers. Hence, the range of RM800-RM1000 and RM1000-RM1200 are not taken into account.

4.0 Conclusion

From Figure 3.1 and Figure 3.2 we can know that most students who go through online shopping activities are 20 years old and females are more likely to shop online compared to male. The bar chart in Figure 3.3 has shown that no matter what sexual that the student is, most of them would like to shop online monthly. As a short inference, we can assume that first year or second year university female students has more potential to become a buyer. Based on Figure 3.5, pays no attention to the gender of students, it shows that students prefer to buy computer accessories and clothing. Unquestionably, the male students prefer to buy computer accessories and sport facilities while female students prefer to buy clothing and books. This data gives us a clear image of what kind of product should be sold when we decide our main customer is male or female. In Figure 3.4 we found out that the most popular online shopping platform is Shopee, the second popular platform is Taobao and a small number of students choose Lazada as their first preference online shopping platform. However, the interesting fact is in Figure 3.8 the second preference online shopping platform of students first is Lazada, second platform is Shopee and then third is Taobao. From these two figures we can observe that although Shopee is the most popular online shopping platform among students but Lazada is also well known among the students. This means that when we want to extend our business or move our main business to another platform, Lazada will be a good choice. From Figure 3.6 we can find out that the reason that most of the students choose Shopee as their first preference online shopping platform is because Shopee has a free shipping fee feature. We can also find out that the students using the top 3 online shopping platforms in our survey are Shopee, Taobao and Lazada due to the discount on the platform. From Figure 3.7 we can know that almost all the Shoppe users vote for Shopee as 4 and 5 marks. This means Shopee is a good choice of online shopping platform for us to sell our product for now. As we can observe in Figure 3.9 and Figure 3.10 most of the students have a pocket money that is below RM 200 and the amount of money for them to spend for each time of online purchase is below RM200. With the histogram Figure 3.9 and Figure 3.10 we can know that students only spend a small

percentage of their pocket money on the online purchase.

As a conclusion, the most popular online shopping platform is Shopee. If we want to start our business in the future, Shopee is the best choice for us. The female Shoppe users are more than male Shoppe users so we could sell our product more on clothing and books. We should sell our product at a low price so that students can afford it. If we want to move our business to another online shopping platform, Lazada will be a good choice for us. From this project, we learned how to analyse our data by constructing percent stacked bar chart, drawing the histogram from the survey and calculating the central tendency. We also learned how to use Google Form (<https://docs.google.com/forms/>) to create our survey form and using Online Charts (<https://www.onlinecharttool.com/>) to plot our graph.