SECI2143-02 PROBABILITY & STATISTICAL DATA ANALYSIS

SEMESTER 2, 2020/2021

PROJECT 1

ONLINE SHOPPING PREFERRENCE AMONG TEENAGERS

GROUP MEMBERS:

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1.0 <u>INTRODUCTION</u>

The business transition process to digital, making the companies to think differently and creative ways in case to make their business still relevant along the eras. Hence, with rapid development of global e-commerce, these companies have to use e-commerce technology in case, to become more sustainable. In terms of marketing, the online world is now widely regarded as the most accessible and profitable medium. Furthermore, there are 2 types of model can be used to run e-commerce, which are B2B and B2C. There is a lot e-commerce preference can be selected in Malaysia, a few of them are Shopee, Lazada, SHEIN, Carousell, Alibaba and TaoBao. Sam Stemler, also said even though the rapid growth of e-commerce technology, these e-shopping websites still have common accessibility issues, which also means that making the websites is difficult to access by consumer.

Many companies have already used e-commerce technology since there are competition of prices and affordable advertising and marketing between companies. Teenagers especially, they do not have fixed money sources, hence most of them, gain money either from parents, allowance, education loan and part time working savings. Hence the purpose of this project is to study which online shopping preference will be the number one choice among teenagers. The reason why our team choose this topic is because we are interested to know which online shopping is the best platform to shop, since it can have so many reasons and factors why we preferred to shop online. Based on the survey that we have made, we included a several questions, there are total 13 questions were asked in the questionnaire to gain an in-depth understanding of their views on online shopping preference. In the questionnaire, we asked some general demographic question, such as age and gender. We also asked how often respondent shop online, item they are preferred to buy such as, bags, electrical things, computer part or electric component for repairing purpose. Respondent also required to answer, how much money they would spend when shop online, the preferred courier to choose as to deliver your parcel, Lastly, we also asked respondent to rate the features of their most visited platform that attracts them.

2.0 **DATA COLLECTION**

To collect data on the online shopping preference among teenagers, our team conducted questionnaire survey by using Google Form. The first step that our team did was we discussed about the format and appropriate question of the questionnaire through Whatsapp group. Eventually we have decided we create total 13 questions based on our topic through Google Form. After that, Google Form is created and all of us sent the Google Form's link to friends in the Whatsapp group to gain data from them about online shopping preference. The table figure below is going to summarize the data collected for each question through the Google Form we distributed.

1. Gender

GENDER	FREQUENCY
Female	26
Male	74
TOTAL	100

2. Age

AGE	FREQUENCY
17	3
18	18
19	7
20	64
21	6
Total	100

3. How often you do online shopping per month (Example: 1/2/3)

HOW OFTEN DO ONLINE SHOPPING PER MONTH	FREQUENCY
0-2	64
3-5	27
6-8	2
More than 10	7
Total	100

4. Item that you preferred to buy online

ITEM	FREQUENCY
Shoes	34
Clothes	60
Accessories	63
Food	35
Sports item	16
Beauty product	47
Bags	40
Electrical things	30
Others	14
Total	339

5. How much do you spend on online shopping in a month?

RANGE OF MONEY SPENT	FREQUENCY
100	31
20	1
30	3
40	2
50	12
60	3
70	3
75	1
150	11
160	1
180	2
200	10
250	5
300	6
330	1
400	1
1000	1
Total	100

RANGE OF MONEY SPENT	FREQUENCY

6. Source of money that you used to buy an item on online shopping (can choose more than 1)

SOURCE OF MONEY	FREQUENCY
Parents	55
Savings	80
Salary	34
Allowance	41
Total	210

7. Your preferred delivery companies.

TYPE OF COURIER COMPANY	FREQUENCY
J&T Express	95
DHL Express	37
Pos Laju	56
Pgeon	2
ABX Express	10
Skynet Express	8
TA-Q-BIN	0
Citylink	25
FedEx	8
Lex Express (Lazada Only)	8

Ninja Van	4
Shopee Express	1
GDex	20
Total	274

8. Average for your item to arrive

NUMBER OF DAYS	FREQUENCY
Below 3 days	13
3 days	33
5 days	17
A week	31
10 days	4
2 weeks	2
A Month	0
More than a month	0
Total	100

9. Have you ever experienced problems with delivery companies such as damaged or lost items?

CHOICES	FREQUENCY
Yes	69
No	31

Total	100

10. Satisfactory level of the delivery service made by the delivery company.

SATISFACTORY LEVEL	FREQUENCY
Satisfied	45
Normal. Still need to improve	55
Not satisfied	0
Total	100

11. Which platform do you always visit to do online shopping?

APPLICATION	FREQUENCY
Shopee	99
Lazada	28
Tao Bao	2
Alibaba	3
Instagram	33
CJ Wow Shop	4
Facebook	12
Zalora	1
Others	1
Total	183

12. Rate the features of your most visited platform that attracts you

FEATURES	FREQUENCY				
	1	2	3	4	5
Cheap stuffs	3	4	22	22	51
Have many options of item	0	5	18	28	50
Platform interface easy to use	0	2	19	27	53
Have many payment methods	5	3	24	30	41
Trusted marketplace seller	1	6	22	25	49
Total	9	20	105	136	244

13. Are you satisfied with making an online shopping?

SATISFACTION LEVEL	FREQUENCY
Satisfied	61
Normal	39
Not satisfied	0
Total	100

3.0 DATA ANALYSIS

1. Demography
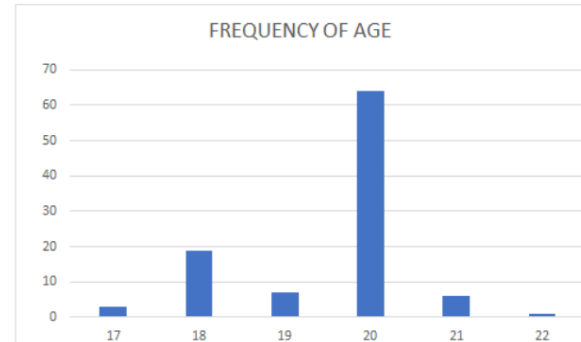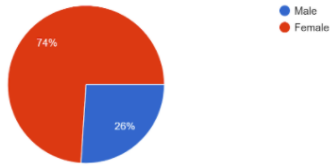
Our sample for this project is among teenagers either from UTM or relatives through the random sampling method because we are supposed to collect our data. Based on data collected, we had total 100 respondent which includes 74 females and 26 males with a majority of them being from the age of 20. Since our mean for age is 19.54 meanwhile the age median of our respondent is 20. There is also respondent from those whose age ranging 18 to 22.

2. How often you do online shopping per month (Example: 1/2/3)

Histogram of How often you do online shopping in a month

How often you do online shopping in a month

The participants are asked 'How often you do online shopping per month' to know the frequencies of teenagers online shopping in a month. Most respondents answered 1 time and 2 times per month. Online shopping done once a month (31 respondents), 2 times in a month (31 respondents). Then followed by, 3 times in a month (12 respondents), 4 times in a month (10 respondents). 5 times in a month (5 respondents). Very low numbers of respondents who does online shopping more than 5 times in a month and less than once a month. Online shopping done 6 times in a month (2 respondents), 10 times in a month (2 respondents), 30 times in a month (2 respondents), 12 times in a month (1 respondent), 20 times in a month (1 respondent), 50 times in a month (1 respondent) and there are also responses who does not online shopping at all in a month. Respondent who does not online shopping in a month (2 respondents).

The mode of the data is 1 and 2, which represents one time and two times online shopping done in a month. The median of the data is 2. The mean of the data is 3.68. The range of the data is 0 to 50, which means the respondents does online shopping from 0 times to 50 times in a month. The minimum data is 0 and the maximum data is 50. The inter quatile range of the data is 2.

Hence, can be concluded that most of the teenagers does online shopping once to twice a month but there also teenagers who does online shopping up to 50 times in a month.

3. Item that you preferred to buy online (can choose more than 1)

Bar chart of Item that is preferred to buy online

Item	Value
Shoes %	10
Clothes %	17.7
Accessories %	18.6
Food %	10.3
Sport Items %	4.7
Beauty products %	13.9
Bags %	11.8
Electrical things %	8.8
Kitchen tools %	0.6
computer part or electric component %	0.3
Stationery %	0.6
Books and novels %	0.6
Entertaining accessories like ukulele %	0.3
Toys and stationery %	0.3
Household items %	0.3
Flavour dap dap %	0.3
musical instrument %	0.3
Cat food %	0.3
Cases %	0.3

frequency
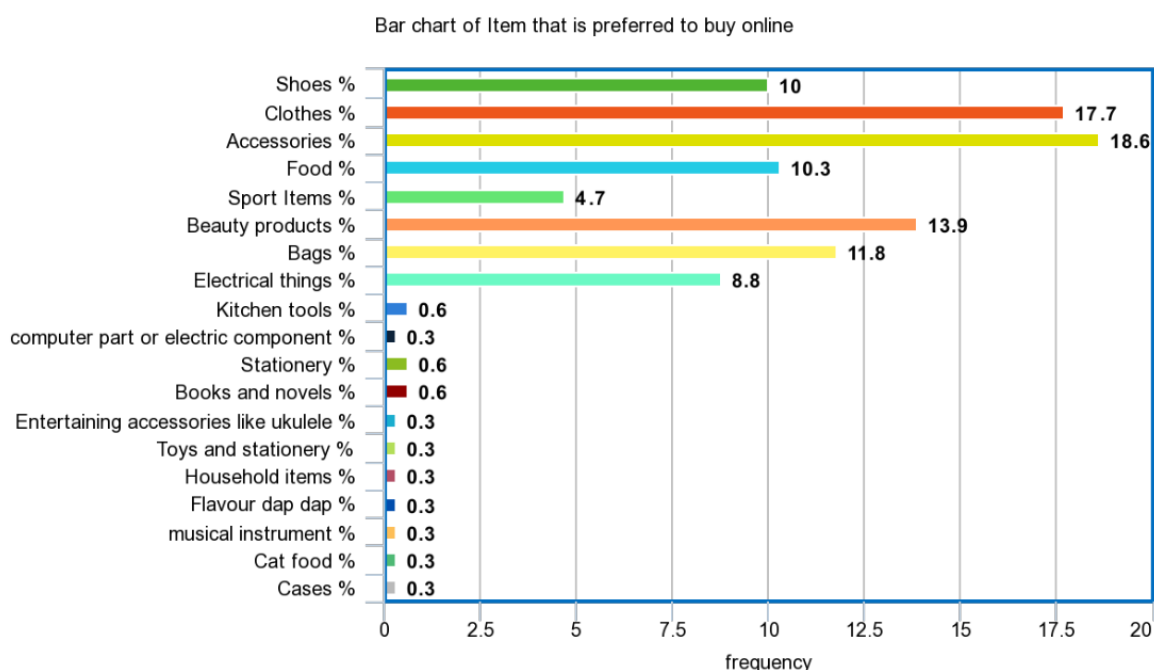
This question is asked to know about the most preferred item to buy online by the teenagers. The options provided in the Google form were shoes, clothes, accessories, food, sport item, beauty products, bags and electrical things. But the respondents are allowed to give their own answers which is not in the options. Hence, the respondents had given some of their preferred stuffs to buy online were, kitchen tools, computers parts or electrical components for repairing purpose, stationery, books or novels, entertaining accessories like ukulele, oil paintings and gifts, toys and stationery, household items, flavor dap dap, musical instruments, cat foods and cases.

Most teenagers preferred to buy accessories (63 respondents), followed by clothes (60 respondents). Then, teenagers also prefer to buy beauty products (47 respondents), bags (40 respondents), food (35 respondents), shoes (34 respondents), electrical things (30 respondents), sports items (16 respondents). Then, based on the answers given by the respondents, teenagers also preferred to buy kitchen tools (2 respondents), computers parts or electrical components for repairing purpose (1 respondent), stationery (2 respondents), books or novels (2 respondents), entertaining accessories like ukulele, oil paintings and gifts (1 respondent), toys and stationery (1 respondent), household items (1 respondent), flavor dap dap (1 respondent), , musical instruments (1 respondent), cat foods (1 respondent) and cases (1 respondent).

Hence, this shows that most teenagers prefer to buy accessories, clothes, beauty products, bags, food and followed by all the other items.

4. How much do you spend on online shopping in a month? (Example: 250)

**Histogram 'Amount spend on online shopping in a month'**
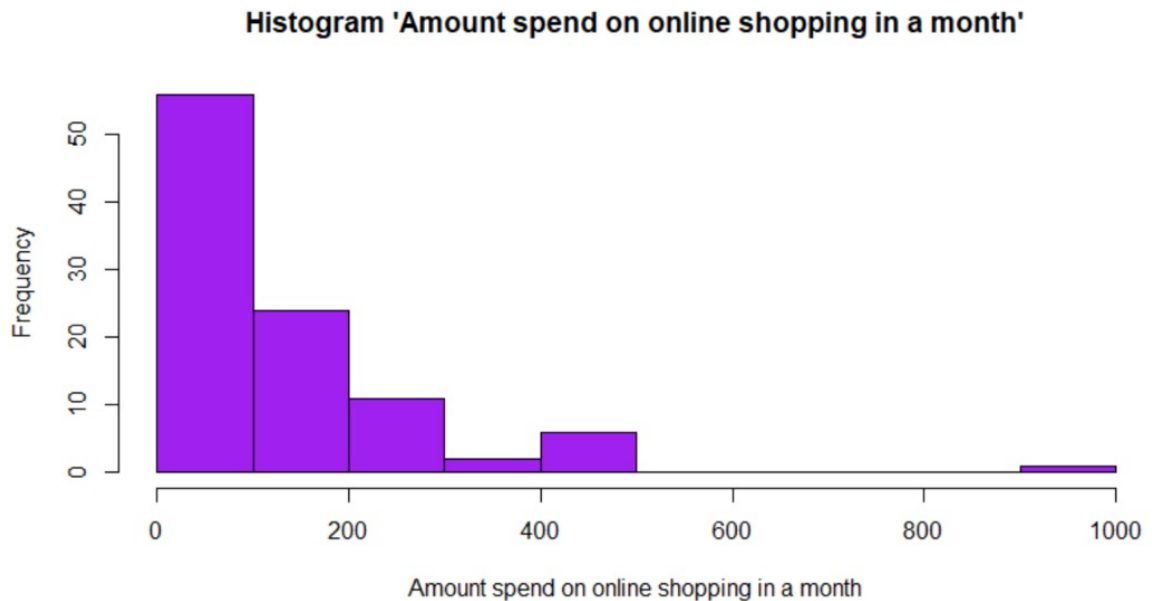
This question asked to get to know about the amount spend on online shopping in a month by teenagers. Hence, options are not given, respondents are allowed to write down their own answers based on how much they spend in month. Most of the teenagers spend RM100 in a month in online shopping (31 respondents), followed by teenagers spend RM50 (12 respondents), then, spending RM150 (11 respondents), spending RM200 (10 respondents), spending RM300 (6 respondents), spending RM500 (6 respondents), spending RM250 (5 respondents), spending RM30 (3 respondents), spending RM60 (3 respondents), spending RM70 (3 respondents), spending RM40 (2 respondents), spending RM180 (2 respondents), spending RM20 (1 respondent), spending RM75 (1 respondent), spending RM160 (1 respondent), spending RM330 (1 respondent), spending RM400 (1 respondent), spending RM1000 (1 respondent).

The mode of the data is 100, which represents RM100 spend in a month for online shopping by teenagers. The median of the data is 100. The mean of the data is 163.5. The range of the data is 20 to 1000, where most respondents spend between RM20 to RM1000 on online shopping in a month. The minimum data is 20 and the maximum data is 1000. The inter quartile range of the data is 112.5.

Hence, this shows that most teenagers spend RM100 for online shopping in a month but there also teenagers who spend up to RM1000 in a month for online shopping.

5. Source of money that you used to buy an item on online shopping (can choose more than 1)

Pie Chart of Source of money that is used to buy an item on online shopping
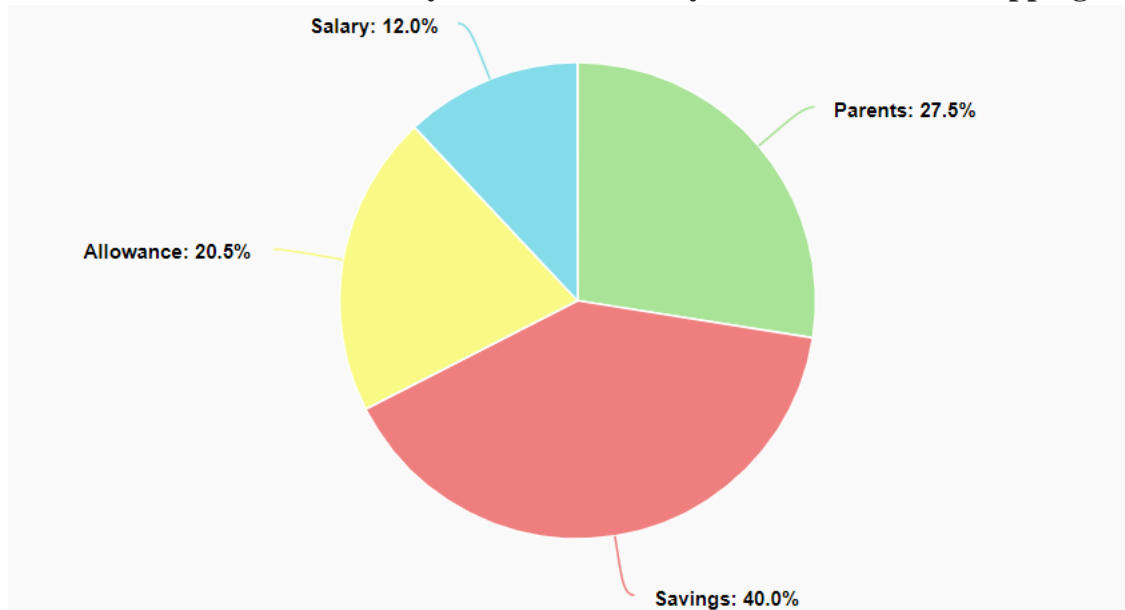
This question is asked to know about the source of money that is used by teenagers to buy an item on online shopping. The options that are included in Google form is parents, savings, salary, allowance. Moreover, the respondents are allowed to pick more than 1 option. Hence, most of the teenagers use their savings money to buy an item on online shopping (80 respondents), followed by using their parent money to buy an item on online shopping (55 respondents), then, using their allowance money to buy an item on online shopping (41 respondents) and finally using their own salary to buy an item on online shopping (34 respondents).

It shows that majority of the teenagers spend money from their savings to buy an item on online shopping but they also use money from their parents, allowance, and salary to buy an item on online shopping.

6. Your preferred delivery companies (can choose more than 1 based on your preference)

Preferred Delivery Companies
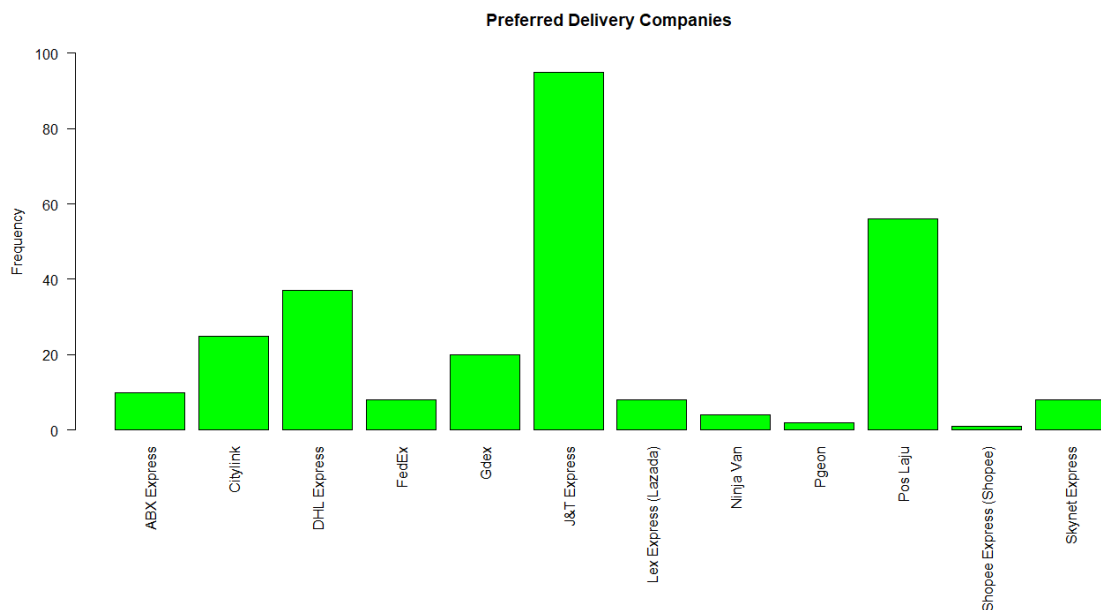
The preferred delivery companies of the participants were also asked to see whether the participants will choose a company that delivers quickly, a company that takes good care of their item or a company that charge low fees. Most of the respondents chose their item to be delivered by J&T Express (95 respondents), Pos Laju (56 respondents), DHL Express (37 respondents), Citylink (25 respondents) and GDex (20 respondents). While other companies that are less popular among respondents received a low option, namely ABX Express (10 respondents), FedEx (8 respondents), Lex Express (8 respondents), Skynet Express (8 respondents), Ninja Van (4 respondents), Pgeon (2 respondents) and Shopee Express (1 respondent).

Our participants want their item to deliver quickly and the charges charged by the delivery company are also low, that's why J&T Express have the highest preference among our participants. The other reason is that most of online shopping stores, they only provide J&T Express as their delivery company and our participants has no other choice to choose.

7. Average for your item to arrive

Duration for item to arrive
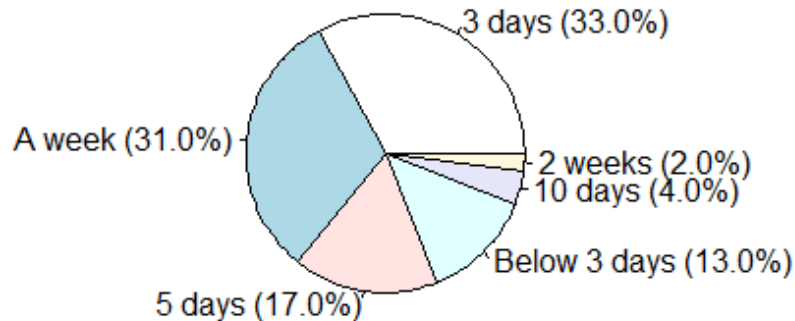
Next, we asked our participants about the duration for their item to arrive when they online shopping. The options that they can choose from are below 3 days, 3 days, 5 days, a week, 10 days, 2 weeks, a month and more than a month. This data can be used to determine either their chosen delivery company can deliver their item quickly or not. As we can see from the pie chart above, it is shown that there are only times from 2 weeks and lower are selected by the participants. The percentage of the respondents who receive their item in 3 days and a week had a slight difference gap which 33.0% for 3 days and 31.0% for a week. These percentage then followed by 17.0% and 13.0% who received their item in 5 days and below 3 days respectively. Lastly, the percentage of the respondents who received their item in 10 days and 2 weeks are 4.0% and 2.0% respectively.

From this, we can relate to why many participants choose J&T Express as their preferred delivery company. This is because it has been proven that the service is very fast and does not require them to wait for a long time.

8. Have you ever experienced problems with delivery companies such as damaged or lost items?

Problems with Delivery Companies
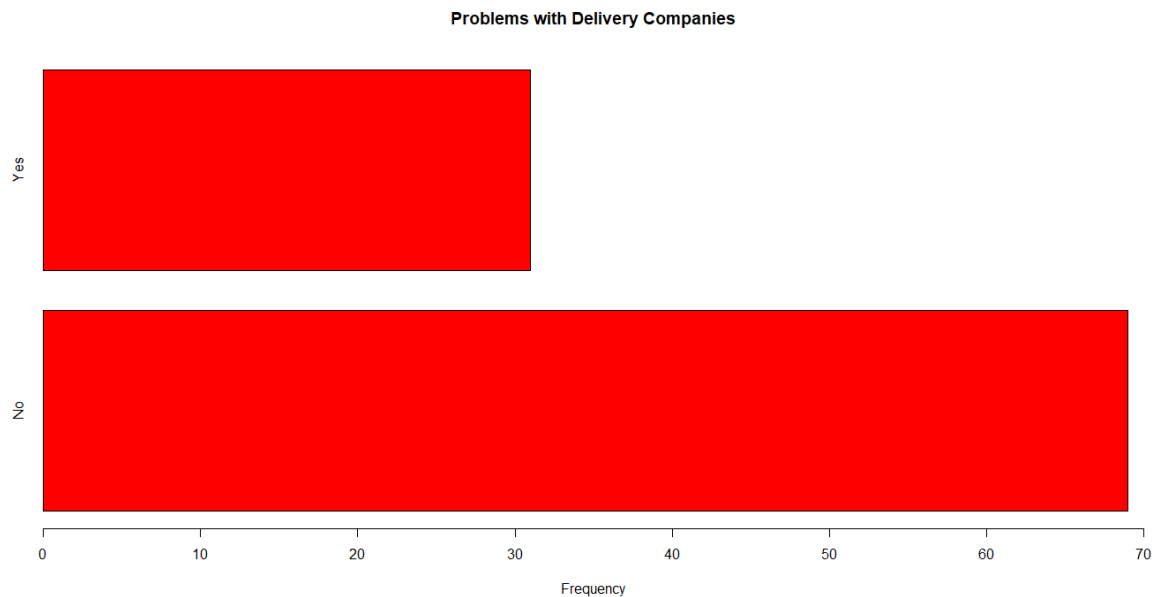
From the survey, we also asked our participants whether they have ever experienced problems with delivery companies such as damaged or lost items. We asked this question because we are aware of a recent issue involving a delivery company located in Malaysia. The answer choices provided are either 'Yes' or 'No'. Most of the respondents choose 'No' (69 respondents) and that's mean they never had any problems with delivery companies. However, there are still respondents who choose 'Yes' (31 respondents). Even the major percentage is 'No', this does not mean that the delivery companies in Malaysia are good, but this means that there are still weaknesses in the system used by delivery companies until there is damage or loss in the buyer's items. Hopefully things like loss and damage of items purchased from online shopping do not happen again and the security of items is enhanced by all delivery companies.

9. Satisfactory level of the delivery service made by the delivery company.

Satisfactory level of the delivery service

Still need improvement (55.0%)
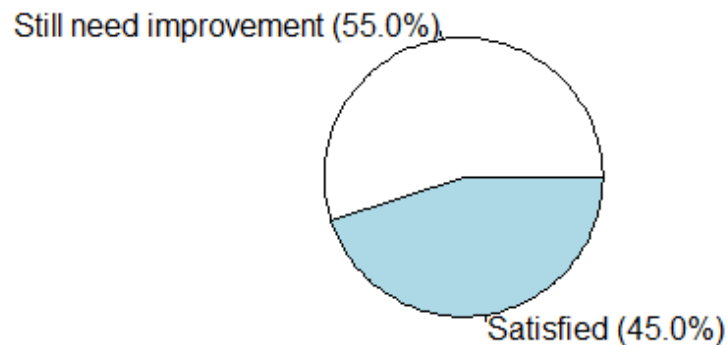
Satisfied (45.0%)

     The last question we asked our participants in this section was about their satisfaction with the services provided by delivery companies. This question has 3 answer choices namely satisfied, not satisfied and still need improvement. None of the respondents answered not satisfied and this is a good sign of the service provided by the delivery company. However, major percentage which is 55.0% of respondents chose that there is still need improvement through their services and followed by 45.0% of respondents who satisfied. This clearly indicates that most participants want improvements in the delivery of their items as I have already told above, the safety of items from being damaged and lost.

10. Which platform do you always visit to do online shopping? (Can pick more than 1)

Which platform do you always visit to do online shopping? (can pick more than 1)
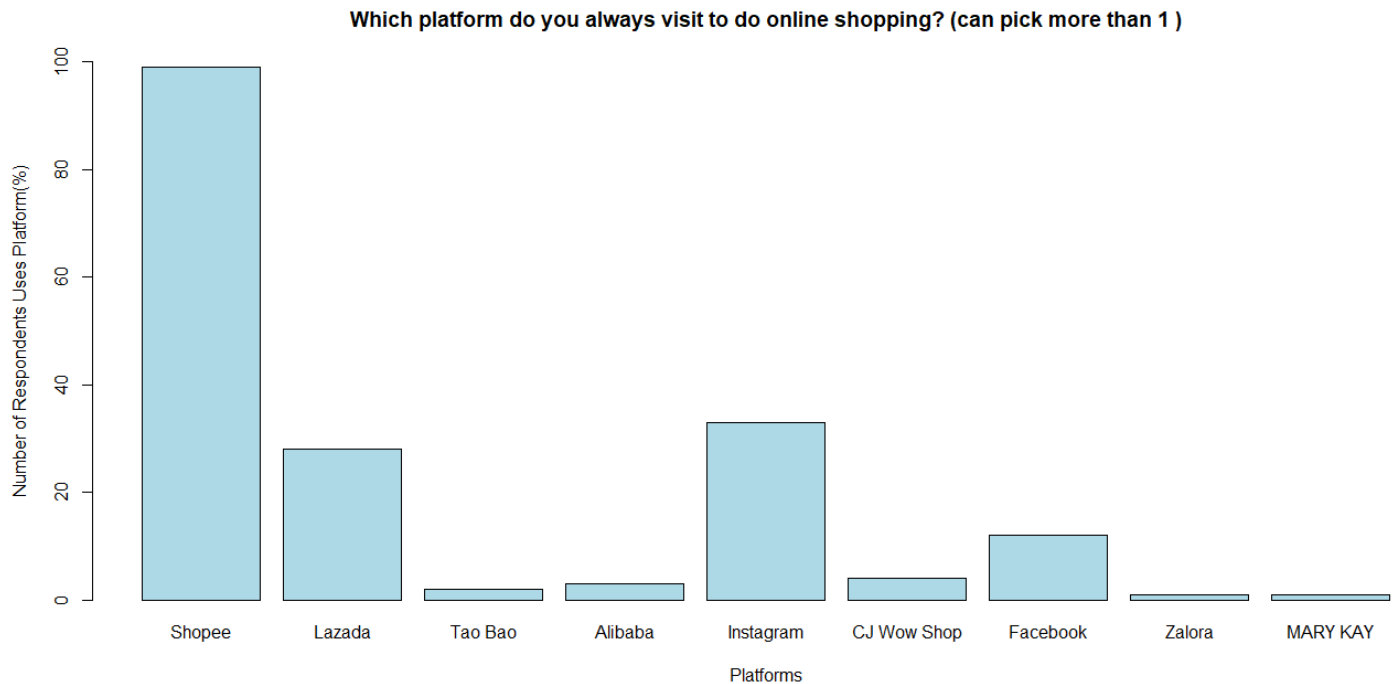
Platform that respondents prefer to conduct their online shopping at is asked, this is because we had to analyse their decisions and provide reasoning behind the demography. Respondents can choose more than 1, therefore it is possible for a platform to have a 100% preference rate by respondents. However, most respondents preferred their online shopping to be done at Shopee (99 respondents [99%]), followed by Instagram (33 respondents [33%]), then comes Lazada (28 respondents [28%]), after that comes Facebook (12 respondents [12%]), CJ Wow Shop comes in next (4 respondents [4%]), then comes Ali Baba (3 respondents [3%]), Tao Bao comes in next with (2 respondents [2%]), then Zalora and Mary Kay Online Shopping ties (1 respondent [1%]).

It is possible that respondents would prefer certain platforms for their specific features. We believe that Shopee has a 99% respondent preference rate because of their excellent payment options and since their platform provides a lot of shipping methods. Another factor for this happening, could be because respondents could have only found the item that is to be purchased offered only at Shopee.

11. Rate the features of your most visited platform that attracts you. (1 = Lowest, 5 = Highest)

Rate the features of your most visited platform that attracts you.
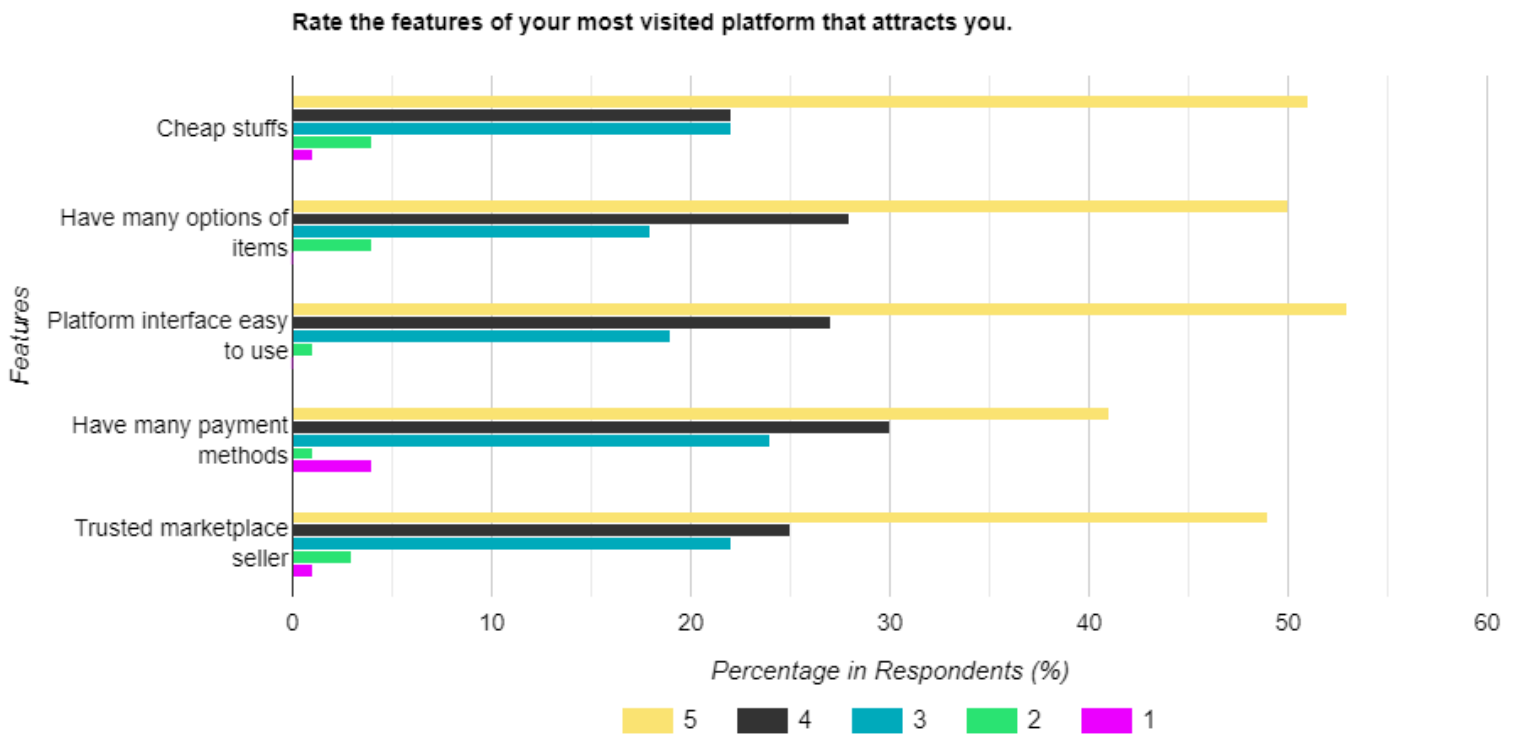
In terms of most visited platform of respondents, we asked the respondents what makes a platform their preference. Features in platforms which we included for the respondents to rate are availability of products that are cheap, plentiful options of items, easiness of platform interface, amount of payment methods and trustworthy marketplace seller. The respondents are requested to rate between 1 to 5, according to their opinion on how their platform of choice performs in the above features.

The stacked bar chart clearly depicts, prime preferred feature according to platform of choice by the respondents is easiness of platform interface (53 respondents [53%]), which is followed by availability of products that are cheap (51 respondents [51%]), plentiful options of items (50 respondents [50%]), trustworthiness of marketplace seller (49 respondents [49%]), and amount of payment methods offered (41 respondents [41%]).

On the contrary, the least preferred feature according to platform of choice by the respondents is amount of payment methods offered (4 respondents [4%]), which is followed by a tie between availability of products that are cheap and trustworthiness of marketplace seller (1 respondent [1%]), Plentiful options of items and easiness of platform interface are features that could use improvement but not least preferred by any of the respondents.

These results depicts that most of the respondents prefer to use platforms that provide easiness of interface compared to amount of payment methods offered. It is arguable that respondents do not have many options to pay with, therefore only few is preferred. Also, the respondents' answer may also be affected by respondent's choice of payment which might not be preferred by platforms.

12. Are you satisfied with making an online shopping?

Are you satisfied with making an online shopping?

Normal, still need improvement 39%
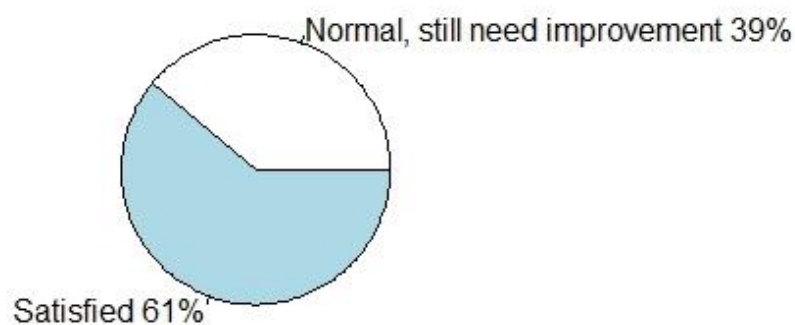
Satisfied 61%

The last question asked in our survey, was about their satisfaction with online shopping itself. This question has 3 choices as an answer namely "Satisfied", "Not satisfied", and "Normal, still need improvement". None of the respondents answered not satisfied and which is a good sign for online shopping, this means that platforms are emitting above average results and delivery is up to par. Majority of the respondents (61 respondents [61%]) are satisfied with online shopping, while the rest (39 respondents [39%]) thinks that the service is run-of-the-mill since there are improvements that can improve online shopping.

This indicates that most participants are happy with online shopping today, which is a good thing to hear since the pandemic has restricted physical interaction. But we cannot forget, online shopping still has room for improvement that will improve the experience even further for teenagers.

4.0 <u>CONCLUSION</u>

In the conclusion, based on this study we can conclude that most teenagers, from average age of 20 prefer to shop online. There are 4 factors are affecting it which are expenditure, platform, items and delivery.

The average estimated expenses when shopping online is RM163.5 which is mainly sourced from their own saving. Based on the mode data, how often they shop online is one times and two times done in a month, most of the teenagers do online shopping twice in a month but there also teenagers who does online shopping up to 50 times in a month. This because few of them gain money sources from their allowance and parents. In addition, teenagers also preferred to buy accessories, since 63 respondents preferred buying that item when online shopping. This is because the amount spend on online shopping in a month is only RM100 with 31 respondents. Thus, they preferred to buy cheaper items, rather than buying household item which only has 1 respondent. Respondents also choose Shopee as their platform to shop, since it has excellent payment options and also has provides a lot of shipping methods, the other reasons are Shopee has better interface which is chosen by 53 respondents (53%) and 52 respondents also said that the product availability on Shopee are cheap rather than the other e-shopping application. Since most of our respondents bought accessories online, Shopee has plentiful options of item (50 respondent).

Next, based on delivery part of data analysis is, our 100 respondents want their parcel delivered quickly and the charges charged by the courier companies are also low, so this is why J&T Express have the highest preference among our respondent, meanwhile the least preferred courier company is Shopee Express. The other reason is because most of the online shopping stores, they only provide J&T Express as their courier, hence our respondents have no other choice to choose other courier company. Next, J&T Express also proven that their services were very fast which the item will be delivered in 3 days, with 33% from the survey. Respondents also required to rate 'Yes' or 'No' if they having any experienced problems with delivery company. The data gained is, most of respondent (69 respondents) choose 'No', meanwhile, for 'Yes' is only 31 respondents, so basically we can conclude that, J&T Express which is the most preferred courier company has no problem regarding to item damaged or lost, but 55% of respondent which is 55 respondents choose that there is still need improvement through their services, meanwhile 45 respondents choose satisfied.

Online Shopping Preferences Among Teenagers

Hi, everyone. We are team GOAL DIGGERS from Probability & Statistics Data Analysis (SECI2143_02).

We are conducting a survey regarding the ONLINE SHOPPING PREFERENCES AMONG TEENAGERS

Shopping is one of the things that many people love to do and are interested in, especially among the teenagers. Every person has their own style and preference to do an online shopping according to their interests and financials. This survey is only intended to study the preference of University students in making online shopping.

DISCLAIMER: ALL INFORMATIONS WILL BE KEPT CONFIDENTIALLY.

1. Gender
   A. Male
   B. Female

2. Age

   _____

3. How often you do online shopping per month (Example: 1/2/3)

   _____

4. Item that you preferred to buy online (can choose more than 1)
   A. Shoes
   B. Clothes
   C. Accessories
   D. Food
   E. Sports item
   F. Beauty products
   G. Bags

H. Electrical things

I. Other: _____

5. How much do you spend on online shopping in a month? (Example: 250)

_____

6. Source of money that you used to buy an item on online shopping (can choose more than 1)
   A. Parents
   B. Savings
   C. Salary
   D. Allowance
   E. Other: _____

7. Your preferred delivery companies (can choose more than 1 based on your preference)
   A. J&T Express
   B. DHL Express
   C. Pos Laju
   D. Pgeon
   E. GDec
   F. ABX Express
   G. Skynet Express
   H. TA-Q-BIN
   I. Citylink
   J. FedEx
   K. Lex Express
   L. Other: _____

8. Average for your item to arrive
   A. Below 3 days
   B. 3 days
   C. 5 days

D. A week

E. 10 days

F. 2 weeks

G. A month

H. More than a month

I. Other: _____

9. Have you ever experienced problems with delivery companies such as damaged or lost items?

A. Yes

B. No

10. Satisfactory level of the delivery service made by the delivery company.

A. Satisfied

B. Normal, still need improvement

C. Not satisfied

11. Which platform do you always visit to do online shopping? (can pick more than 1)

A. Shopee

B. Lazada

C. Tao Bao

D. Alibaba

E. Instagram

F. CJ Wow Shop

G. Facebook

H. Other: _____

12. Rate the features of your most visited platform that attracts you. (1 = Lowest, 5 = Highest)

	1	2	3	4	5
Cheap stuffs					
Have many options of items					
Platform interface easy to use					

Have many payment methods					
Trusted marketplace seller					

13. Are you satisfied with making an online shopping?

    A. Satisfied

    B. Normal, still need improvement

    C. Not satisfied