UNIVERSITI TEKNOLOGI MARA CAWANGAN PERAK
KAMPUS TAPAH

FACULTY OF ACCOUNTANCY

ACCOUNTING INFORMATION SYSTEM (AC120)

GROUP PROJECT : TRANSPORTATION AMONG UiTM TAPAH STUDENTS

COURSE : INTRODUCTION TO STATISTICS

COURSE CODE : STA104

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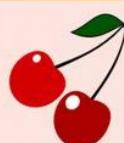
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INTRODUCTION

Transportation is the movement of goods and persons from place to place and the various means by which such movement is accomplished. There's a lot of transportation that can be used for someone to go from place to place such as bus, car, train, plane and many more. Transportation will be one of the most important things for students that study in university. This is because they stay on campus and need transportation to go back to their hometown.

This topic will talk about transportation that UITM Tapah students can use to go back to their hometown. They can use public transportation such as buses and KTM/ETS trains. Other than that,they also can use their own transportation too.

The reason we choose this topic is because many students still do not have their transportation due to the rules that UITM'S instructions say students who stay at college are not allowed to bring their vehicle. Students who stay in college prefer to use public transport since it is convenient and saves money. At the same time, students can get discounts on the public transport that they choose.

Objectives of Study

The objective of this study is to investigate on :

1) How much students spent on their transportation

2) Which transportation the students would prefer more

3) How frequently do students go back to their hometown

4) How satisfied the students are with the transportation that they use

METHODOLOGY

Sampling method

Population : UiTM Tapah Students

Sample : 53 randomly selected students from UiTM Tapah

Sampling frame : A complete list of all students in UiTM Tapah

Sampling technique : Snowball

Gender (Group)	Number of respondents (Population)
Male	5
Female	48
Total	53
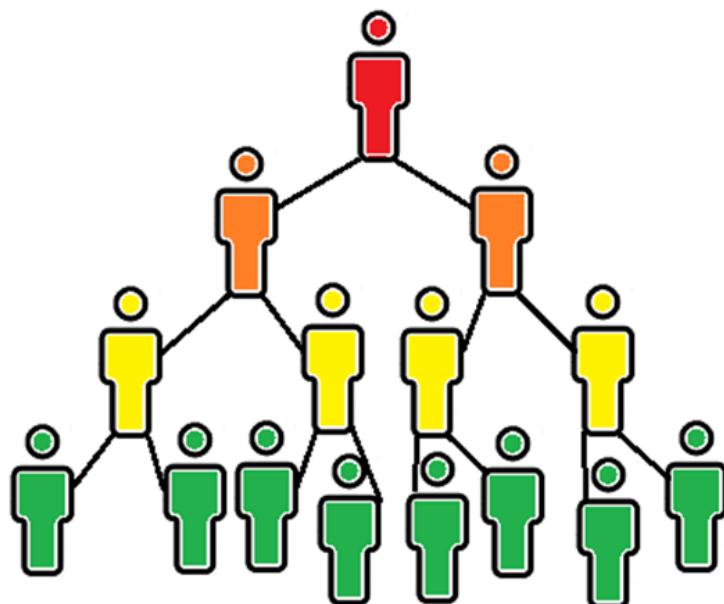
QUESTION NO.	VARIABLES	TYPES OF VARIABLES	SCALES OF MEASUREMENT	PROPOSED ANALYSIS
1.	Gender	Qualitative	Nominal scale	Pie chart
2.	Frequency going back to hometown	Quantitative (Discrete)	Ratio scale	Frequency distribution
3.	Cardinal points	Qualitative	Nominal scale	Frequency distribution
4.	Type of transportation	Qualitative	Nominal scale	Bar chart
5.	Time consumed	Quantitative (Continuous)	Ratio scale	Ogive
6.	Money spent on transportation	Quantitative (Continuous)	Interval scale	Histogram
6.	Money spent on transportation	Quantitative (Continuous)	Ratio scale	Frequency polygon

6.	Money spent on transportation	Quantitative (Continuous)	Ratio scale	MOD (variance, standard deviation)
6.	Money spent on transportation	Quantitative (Continuous)	Ratio scale	Shape of distribution
7.	Student discount price	Quantitative (Continuous)	Interval scale	MOCT (mean, median, mode)

SAMPLING TECHNIQUE

Sampling technique is a process where the most suitable method is chosen to select the sample to represent the population. The sampling technique that we use in our study is non-probability sampling to make inferences about the population. We choose a snowball from the non-probability sampling technique. Snowball is a sampling technique that can be used to recruit participants via other participants. The number of people we have access to snowballs as we get in contact with more people. Some of the reasons we choose this method are that it is quicker to find samples and cost-effective.

This picture shows how the snowball technique works.

DATA COLLECTION METHOD

Online questionnaires

For this assignment, we have chosen an online questionnaire method in order to collect data. In this era, it's a must for students to already have their own gadget so in this case, with this online questionnaire, we had no problem in distributing the questionnaire to other students. We have seen that this data collection method is quite popular among people in order to collect data since this method is one of the easiest methods to use in order to gain feedback.

There are advantages that made us choose this data collection method, for example, this method has less time consuming and energy needed, where we don't have to go outside and distribute questions manually. It is because the online questionnaire can be shared through all the social media apps. Besides, it is also a low cost method where the only thing that we use for this method is only our gadget.

By using this data collection method,we have shared this online questionnaire by using a social application,Whatsapp where there are lots of students in Malaysia who use it to communicate with each other. Sharing the link of the online questionnaires to the whatsapp group will help us to gain the people who are willing to answer the questions distributed. It took only a few hours to get the student's responses and this method shows how time saving this method is.

After receiving the total of 50 responses, we decided to finalise it by looking through the pie chart that the google form provided. With the pie chart provided, it's also easier for us to analyse the data we received to make the final report. In conclusion, this method has been really helpful for us to collect data.

FINDINGS

This section will discuss the findings of all the objectives above :-
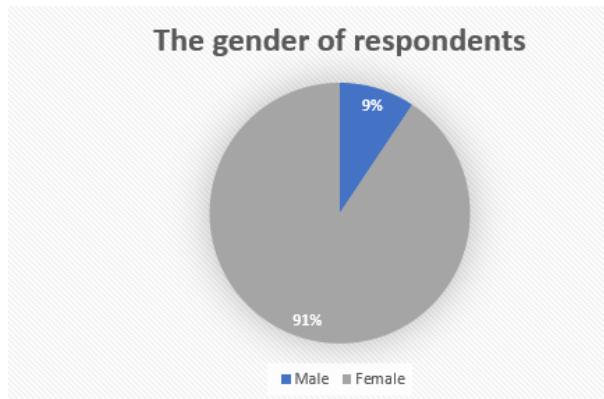
Respondents Profile

Our respondents are UITM Tapah students who use public transportation to go back to their hometown.

Question 1

The rate of respondent's gender (Pie chart)

Figure 1

The pie chart shows that the majority of the respondents are females. There are 53 responses and it shows that 91% of the pie chart are female respondents that total to 48 people while for male, it's only 9% that equals only 5 people.

Question 2

Frequency going back to hometown

Table 1

Score	Frequency
7	4
14	21
61	8
154	20

Most of the UiTM Tapah students are usually going back to their home every two weeks and also every semester break. There are 39.6% of the respondents that equates to 21 people going back for every two weeks, and 37.7% respondents or 20 people voted for the students that are going back for every semester break. Therefore, there are 15.1% or 8 respondents that go back for every two months. Lastly, the students that are going back for every week are the least respondents that there are only 7.5% students choosing the option.

Question 3

Cardinal points (Frequency distribution)

Table 2

Students range	Frequency
0-10	1
11-20	3
21-30	0
31-40	0

Table 3

Cardinal Points	Number of students
South	18
North	15
East	4
West	15

From the data that we collected.the data shows 53 of the respondents will return to their hometown according to the cardinal points.A total of 18 respondents will return to the South while a total of 15 respondents will return to the North and West.The rest will return to the East, which is a total of 4 respondents from UITM Tapah, Perak.

Question 4

Type of transportation (Bar chart)

- We are using a bar chart for this assignment.

This is data from our collection :
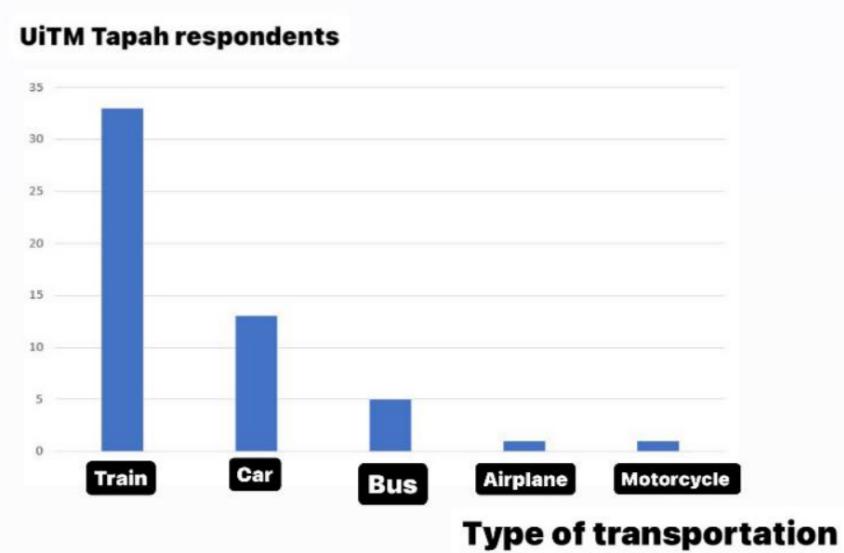
Table 4

Type of transportation	Respondents
Train	33
Car	13
Bus	5
Airplane	1
Motorcycle	1

Total of the respondents : 53 person

This is what the bar chart looks like. The y-axis is Uitm Tapah respondents and the x-axis is type of transportation.

Figure 2

Explain about the graph

The information we gathered shows that out of 53 respondents.

33 respondents preferred trains as the transportation to go back home. The second highest selection is cars with 13 respondents. Next, the bus had 5 respondents that students preferred. Lastly, the number of respondents for both aeroplane and motorcycle are the same amount which is 1.

Question 5

Time consumed (Ogive)

Table 5
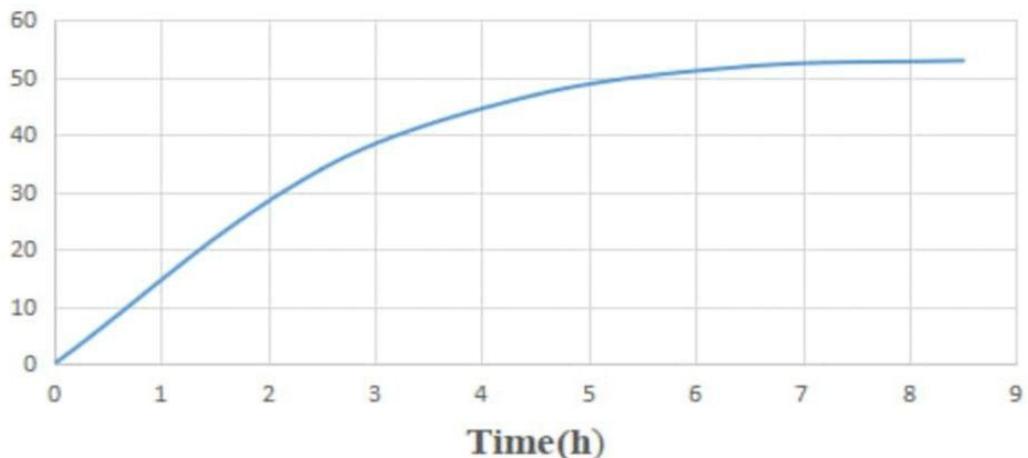
Time(h)	Frequency	Cumulative frequency	Relative cumulative frequency
0	0	0	0%
2.5	34	34	64%
4.5	13	47	89%
6.5	5	52	98%
8.5	1	53	100%

Table 6

Time(h)	Frequency
0-2	34
3-4	13
5-6	5
7-8	1

Figure 3

The ogive shows the time consumed to get back to their hometown using the transportation.The highest time chosen by 64% of the respondents is 0-2 hours while the least time chosen by 2% of respondents is 7-8 hours.

Question 6
Money spent on transportation.

Proposed Analysis:

i) Histogram

ii) MOD (variance, standard deviation)

iii) Frequency Polygon

iv) Shape of Distribution

Data collected:

Table 7

Money spent on transportation (RM)	Frequency	Percentage (%)
0 – 100	48	90.6
100 – 200	3	5.7
200 – 300	0	0
300 – 400	2	3.8
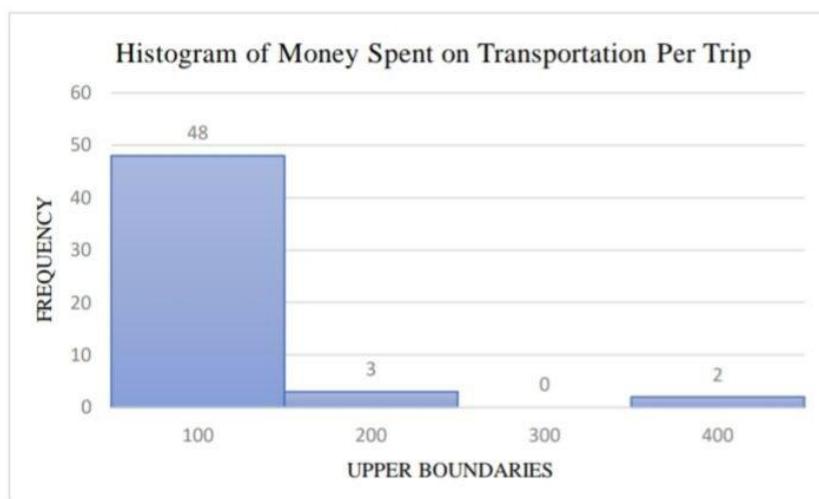
i)Histogram

Table 8

Class limits	Frequency	Upper boundaries
0 - 100	48	100
100 - 200	3	200
200 - 300	0	300
300 - 400	2	400

Graph histogram for money spent on transportation:

Figure 4

From the data that we collected, it shows that 48 of the students spend between RM0 to RM100. This is the highest option that students have chosen. 3 students spend between RM100 to RM200. None of the students spend between RM200 to RM300 and 2 students spend between RM300 to RM400.

ii) MOD (variance, standard deviation)

Formula for sample variance and standard deviation:

Sample variance = $s^2 = \dfrac{\sum fx^2 - \frac{(\sum fx)^2}{n}}{n-1}$

Standard deviation = $\sqrt{s}$

Answer for sample variance and standard deviation:

Table 9

X	f	fx	fx^2
50	48	2400	120000
150	3	450	67500
250	0	0	0
350	2	700	245000
sum	53	3550	432500
		s^2	3744.55733
		s	61.1927882

From the same data that we had collected, the sample variance for 53 UITM Tapah students that we get using the formula that was provided is 3744.56 and the standard deviation is 61.19.
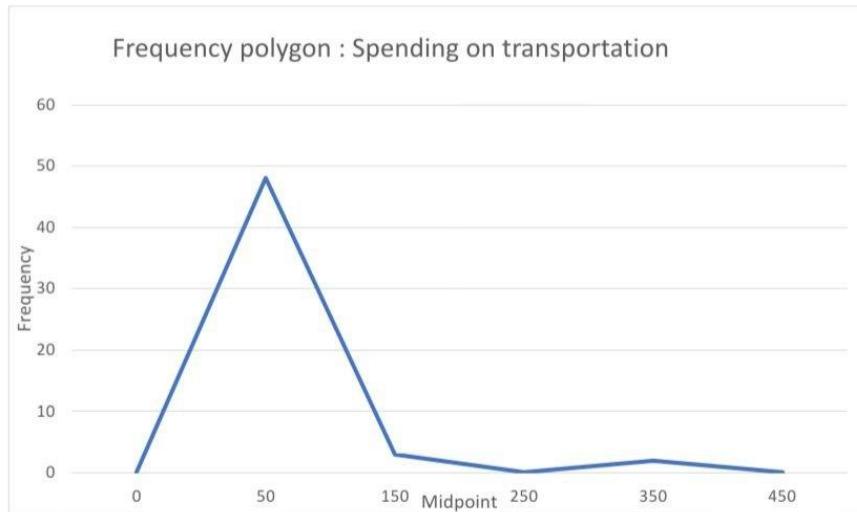
iii) Frequency Polygon
      Frequency table:

Table 10

Upper boundaries	Midpoints	Frequency
	0	0
100	50	48
200	150	3
300	250	0
400	350	2
	450	0
	Total	53

Graph frequency polygon for money spent on transportation:

Figure 5

Frequency polygon : Spending on transportation
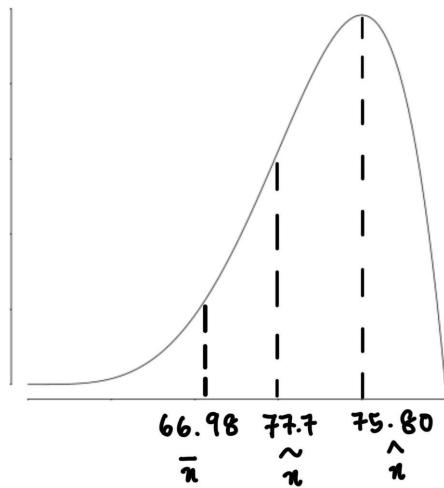
Most of UiTM Tapah students spend between RM0 to RM100 for transportation per trip, and 48 students choose this option.

iv) Shape of distribution

Figure 6

66.98 77.7 75.80
$\bar{x}$ $\tilde{x}$ $\hat{x}$

1) Mean=3550/53
         =66.98
   Mean=3550/53
         =66.98

2) Mode
   =50+[48/48+45]x50
   =75.80

3) Median location=53/2
                 =26.5th
   between 0-100
   Median=50+[53/2-0/48]x50
         =77.7

4) Standard Deviation
   s=61.1928
   We took from MOD question above

5) Pearson's Coefficient of skewness, PCS
   =66.98-75.80/61.1928
   = -0.1441

The graph is negatively skewed
(Skewed to the left) because the pcs is negative

Question 7
Students discount price (MOCT)

-MOCT or also known as mean,mode and median

This is data that we collected :
This data is simplified ungrouped data

Table 11

Discount % (x)	How students many get discount (f)	f(x)
0%	35	0
25%	14	3.5
40%	2	0.8
50%	2	1
sum	53	5.3

Formula
   1) Mean
   -    Use this formula

$$\bar{x} = \frac{\sum f x}{\sum f}$$

   2) Median
   -    Calculate the median from data above. Sum plus one divide with two. Next,you will get the median location. From the location you will find the median from the position.

   3) Mode
   -    You need to observe data which has the highest frequency.

Answer :

Mean $\bar{x}$ = 0.1%

Median $\tilde{x}$ = 0%

Mode $\hat{x}$ = 0%

1) Mean= 0.1%

The average of students who get discount prices is 0.1%

2) Median location = (53 + 1)/ 2

= 27th

Median = 0%

66% of the students get a 0% of discount

3) Mode= 0%

Most of the students did not get any discounts or

 Most of the students get a 0% discount.

Conclusion

In conclusion,the data that we have been collected show thats the transportation taken by UITM Tapah students.Firstly is the pie chart that is shows the gender of 53 respondents who answered our questions in the google form.The data that have been conclude that majority of the respondents are female which is 91% equal to 48 respondents and the rest is a male which is only 9% equal to 5 respondents.

Secondly,the frequency distribution show that how many days or weeks that the students decided to go home.Most of them chose to go back to their homes for 14 days which is 22 of respondents while around 4 respondents will not going back to their hometown if have a holiday for a 7 days.Other than that,students will return to their hometown according to the cardinal points. A total of 18 respondents will return to their hometown in the south.It's shows that mostly students come from South.

Thirdly is the simple bar chart that shows 33 respondents preferred trains as the transportation to go back to their hometown but the number of respondents for both airplane and motorcycle are same amount which is 1 respondents.Besides that,we used ogive to shows the time consumed to get back to their hometown using the transportation that they chosen.The highest time chosen by 64% of the respondents is 0-2 hours while the least time chosen by 2% of respondents is 7-8 hours.

Next,we used histogram,MOD,frequency polygon and shape of distribution for money spent on transportation on question 6. From the data that we collected,it shows that 48 of the students spends money between RM0- RM100 and the sample variance for 53 respondents is 3744.56 while the standard deviation is 61.19.Besides that,the shape distribution shows that the graph is negatively skewed(skewed to the left) because the PCS is negative.

Last but not least, type of transportation or question 7 we used MOCT for the question. MOCT known as (mean,mode and median). The mean is 0.1% . Both median and mode are 0%. From the data, most of the students did not get any discount.

Lastly, we can conclude from the data that we gathered, most of UiTM Tapah students preferred using public transportation to go back to their hometown. This is because many students are from different states and backgrounds.In order that, public transportation is the only choice students have.

Reference

https://www.mysumber.com/ktm-card-student.html

Borang permohonan online kad diskaun pelajar KTM i Card student

KTM i-Card Student kini berwajah baru
Daftar sekarang dan nikmati diskaun sehingga 50%

https://myrapid.com.my/our-products/concession-cards/

Concession Card

Fare discount of 50% on cash rate for every journey on
Rapid KL Bus, BRT, LRT, Monorail and MRT services

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Malaysia Airlines Announces MHexplorer for Students

*First airline in the world to digitalize student travel programme*
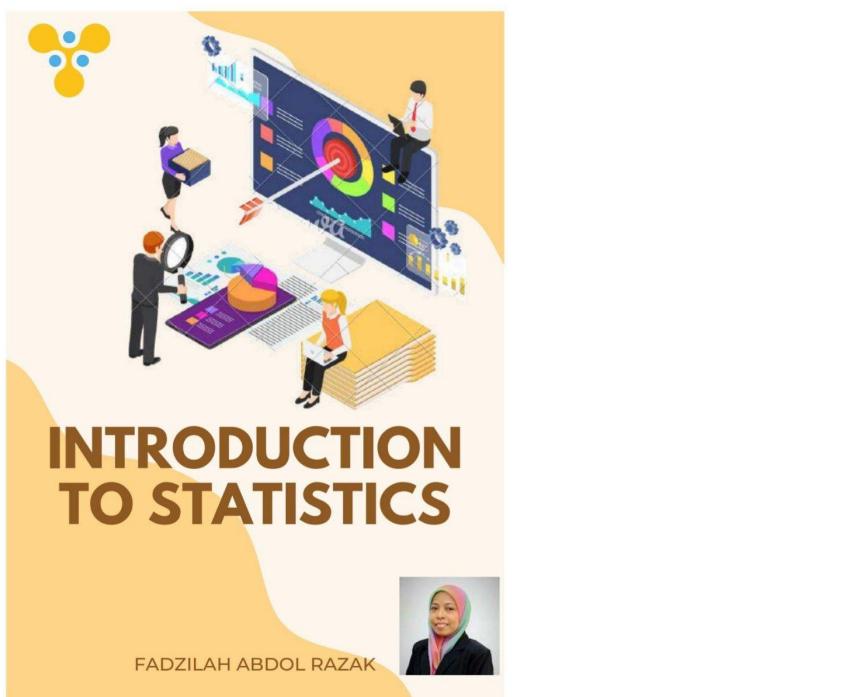
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Ebook sta104

Trains that near Uitm Tapah (ETS/KTM)

Appendix

1.   Gender

- Male
- Female

2.   How often do you go back to your hometown?

- Every week
- Every 2 weeks
- Every 2 months
- Every semester breaks

3.   Which cardinal points are you from?

- South
- North
- East
- West

4.   Type of transportation usually used to go back to your hometown.

- Bus
- Train
- Car
- Airplane
- Motorcycle

5. How long does it take to get back to your hometown using the transportation that you choose?

- 0 hour - 2 hours
- 3 hours - 4 hours
- 5 hours - 6 hours
- 7 hours - > 8 hours

6. How much do you spend on your transportation per trip?

- RM0 - > RM 100
- RM100 - > RM200
- RM200 - > RM300
- RM300 - > RM400

7. How much the student discount price you get when using public transportation?

- 25%
- 40%
- 50%
- 70%
- 0%