

SECI2147 08 PROBABILITY & STATISTICAL DATA
ANALYSIS

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FACULTY OF ENGINEERING

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# SECTION 08 PROJECT REPORT

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#### Introduction

According to whatis.techtarget.com, social media is a collective term for websites and applications which focus on communication, community-based input, interaction, content-sharing, and collaboration. Forums, microblogging, social networking, social bookmarking, social curation, and wikis are among the different types of social media. The very first recognizable social media site was Six Degrees, created in 1997. Today, we have numerous popular social media platforms such as WhatsApp, Facebook, Telegram, Instagram, YouTube, Snapchat and Twitter. Due to the ease of creating a social media account, almost everyone who uses a smartphone has an account on at least one social media platform, including primary school kids. Just like every other thing, spending too much time on social media has its side effects.

The purpose of this project is to investigate the impact of social media on society. We collected social media platform preference and usage data of respondents.

#### **Data Collection**

The method that we used to collect the data was using online survey from Google Forms. The form was then distributed among UTM society for answering via online platforms. The population of this project is the society, and the sample of this project is the UTM society. The sample of this project are 65 respondents. The survey form consists of few parts. In the first part, the respondents were asked to provide some personal information such as gender and age. In the second part, they were asked to provide the info about the purpose and usage of social media. The respondents were then asked to provide their preference about the social media in the next part. The last part of the survey is about the rating and numeric data about the social media.

Here the questions that we asked in the survey:

	Questions	Answers	Level of	Suggestion Input	
			Measurement	Type	
1	Gender	Male/female	Nominal	Multiple Choice	
2	Age	Metric value	Ratio	Short Answer	
3	Occupation	Staff/Student/Other	Nominal	Multiple Choice	
4	When did you start using social media (S/M)	Metric value (year)	Interval	Dropdown	
5	Purpose of using S/M	Variety of purposes	Nominal	Checkbox (Multiple	

				Ans)
6	S/M that you used	Variety of S/M	Nominal	Multiple Choice
7	Rating of each S/M (Preference)	Agreement level	Ordinal	Linear Scale
8	S/M that you liked the most	Variety of S/M	Nominal	Multiple Choice
9	Satisfaction of the S/M that you liked the most	Agreement level	Ordinal	Linear Scale
10	Time spent on S/M in a day	Metric value	Ratio	Multiple Choice
11	Time spent on S/M for educational purpose in a day	Metric value	Ratio	Multiple Choice
12	What time do you normally use S/M	Metric value	Interval	Dropdown
13	Did you think using too much S/M affects the performance of your daily activities?	Agreement level	Ordinal	Linear Scale
14	Did you experience any scamming or phishing activities through S/M	Agreement level	Ordinal	Linear Scale
15	Rating of the security of the S/M	Agreement level	Ordinal	Linear Scale

Table 1: Questions asked in the survey

### **Data Analysis**

#### Gender

The pie chart in Figure 1 depicts the proportion of male and female respondents in UTM society who have done the survey. There are 31 male respondents which equals to 47.7% meanwhile there are 34 female respondents which equals to 52.3%.



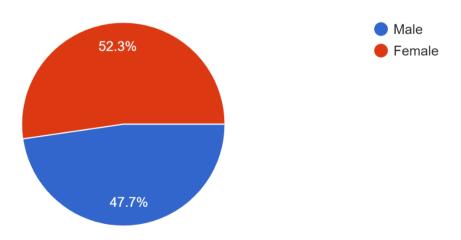


Figure 1: Pie chart of the gender of respondents

#### Age

The stem plot below in Figure 2 shows the age of UTM society who have answered the questionnaire. From the Figure 2, we calculated the mean of the age which is 28.6. For median of the age is 22 while the mode of age is 21.

Stem	Leaf
1	9
2	000000111111111111111112222222
	2 2 2 3 3 3 3 3 3 3 3 4 4 4 4 4 8 8
3	2 3 8 8
4	678899
5	00123
6	00
Key: 3 4 means age of 34	

Figure 2: Stem-and-leaf representation of respondents' age

#### Occupation

The pie chart below in Figure 3 shows the occupation of UTM society who responded to the questionnaire. Majority of the respondents are UTM Students amounting to 42 which is 64.6%, followed by relatives of UTM students and parents of UTM students, each accounting for 15.4%, 10 respondents each. UTM staff only account for 4.6% which is 3 respondents.

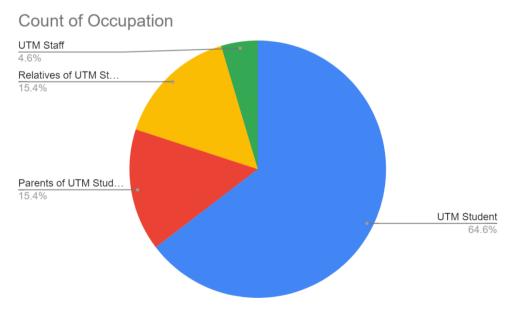


Figure 3: Pie chart of the occupations of respondent

#### Purpose of using social media

Figure 4 below present the purpose of using social media by the UTM society. It is found out that majority of the respondent which is 57 (87.7%) use social media for staying in touch with friends or family. Meanwhile, there are 18 (27.7%) respondent which is the minority for the purpose of meeting new people.

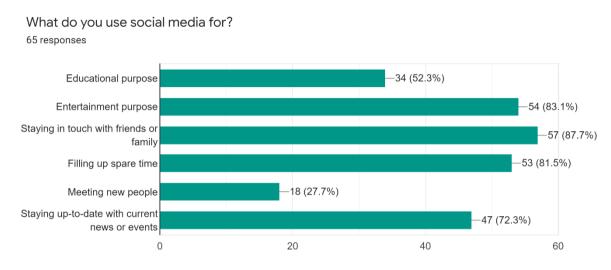


Figure 4: Bar chart of the purpose of respondent in using social media

#### Preferences of social media from the respondents according to rating

Figure 5 below shows the relationship between the preferences of social media and rating of each social media platform. WhatsApp and Facebook have the highest number of users from UTM society which is 64 (98.5%) as WhatsApp has 36 'good' ratings while Facebook has 32 'good' ratings. YouTube has 62 (95.4%) users as it has 38 'best' ratings. On the other hand, Snapchat has the lowest number of users which is 20 (30.8%) as it has 35 'unfamiliar' ratings. This scenario shows that the higher the number of 'best' or 'good' ratings the higher the number of preferences in that social media.

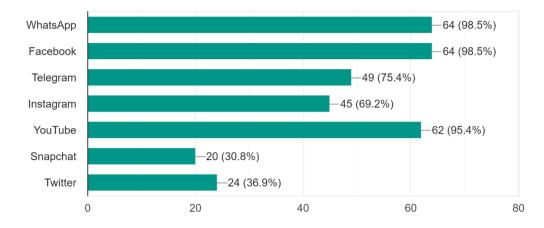


Figure 5: Bar chart of the social media used by the respondent

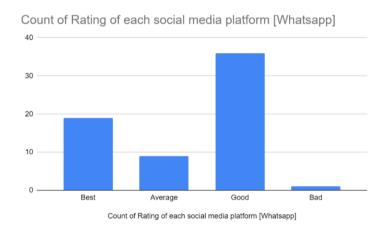


Figure 6: Bar chart of the count of rating of WhatsApp

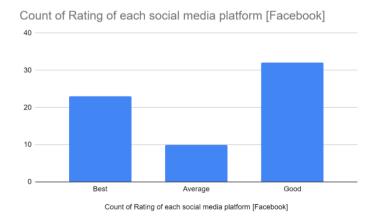


Figure 7: Bar chart of the count of rating of Facebook

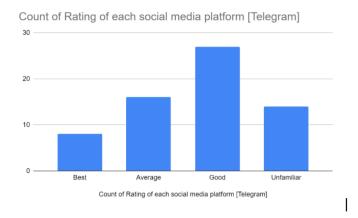
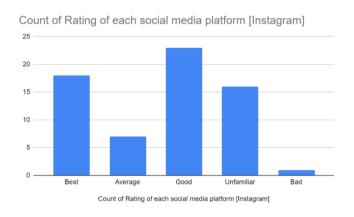


Figure 8: Bar chart of the count of rating of Telegram



Figure~9:~Bar~chart~of~the~count~of~rating~of~Instagram

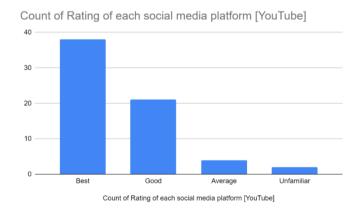


Figure 10: Bar chart of the count of rating of YouTube

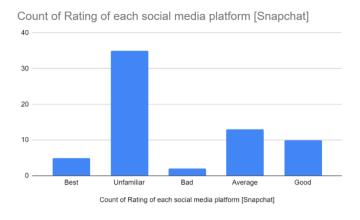


Figure 11: Bar chart of the count of rating of Snapchat

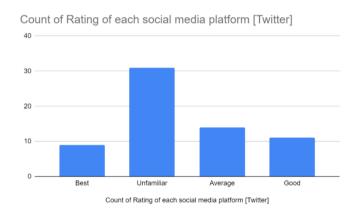


Figure 12: Bar chart of the count of rating of Twitter

#### Relationship of the time started using social media with age

The bar chart below in Figure 13 shows the year when respondents started using social media. Majority of the respondents started using social media platform on year of 2009 with the count of 12, which is 18.5%. The year that respondents started using social media correlates with their age. Older respondents started using social media at earlier years while younger respondents started using social media more recently.

When did you start using social media platform? (Example: 2006) 65 responses

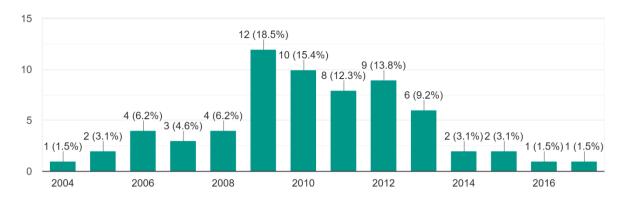


Figure 13: Bar chart of the time of respondent started using social media

When did you start using social media platform? (Example: 2006)	AVERAGE of Age (Example: 25)
2004	51
2005	49
2006	42
2007	40
2008	31.5
2009	31.83333333
2010	26.8
2011	24.25
2012	24.88888889
2013	21.33333333
2014	21.5
2015	21.5
2016	22
2017	19
Grand Total	28.6

Table 2: Time of respondent started using social media with average age

#### Relationship between rating of social media and social media choices liked the most

Figure 14 below shows the rating of social media and platform liked the most by respondents. YouTube is the most preferred social media platform of 22 respondents, equivalent to 33.8% and being rated as 'best' by 38 respondents. Snapchat is favourited by 1 respondent only, with 5 respondents rating it 'best'. As much as 35 respondents rated that they are unfamiliar with Snapchat. The highest rated social media platform is favourited by the most respondents.

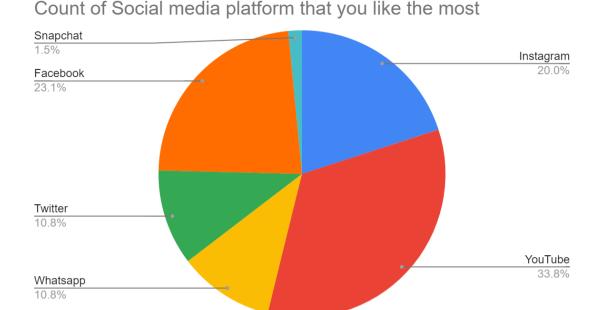
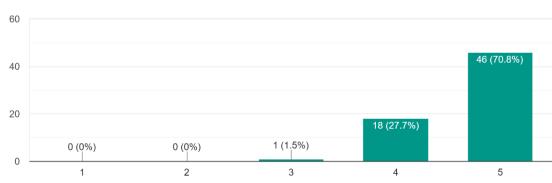


Figure 14: Pie chart of the social media that respondent liked the most

## Relationship between social media choices like the most and the satisfaction level of social media choices

The Figure 15 below represents the satisfaction level of the social media platform that respondent like the most. Majority of the respondent are very satisfied with the social media that they liked the most with the respondent count of 46 which is 70.8%. The mean for the satisfaction level of the social media platform that respondent like the most is 4.69. This proves that the social media which liked by the user tends to get higher satisfaction level.



Satisfactory level of the social media platform that you like the most  ${\rm ^{65}\,responses}$ 

Figure 15: Bar chart of the satisfactory level of social media that respondent like the most

#### Relationship between age and what time do you usually use social media

Figure 16 below displays the time usually use social media by UTM society. Majority of the respondents usually use the social media during 6 p.m. to 12 a.m. By according to the median of the age which is 22, it shows that majority of the young people nowadays usually use the social media during that time period.

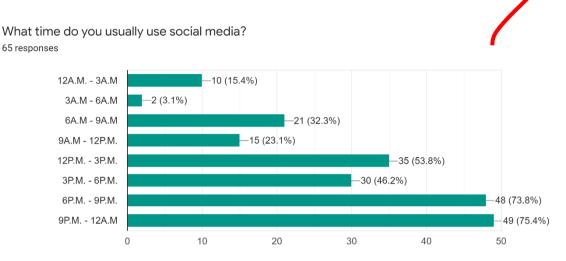


Figure 16: Bar chart of the time that respondent usually use social media

# Relationship between time spent on social media in a day and the impact on the performance of daily activities

The Figure 17 shows the majority of respondents which is 43.1% (28) spend 2 to 4 hours on social media daily. As much as 20 respondents, which is 30.8% think that spending too much time on social media moderately impacts the performance of daily activities. We can deduce that the advisable time spent on social media is 2 to 4 hours in order to minimize the impact of social media on performance of daily activities.

### Count of Time spent on social media platforms in a day Less than 30 minutes 1 - 2 hours

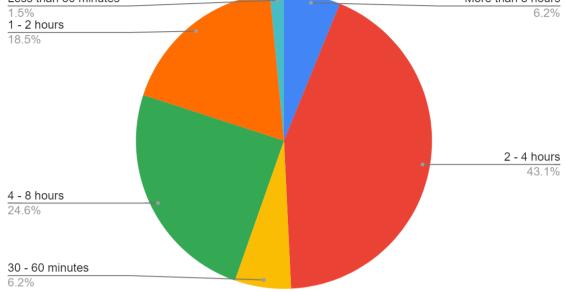


Figure 17: Pie chart of the time spent by respondent on social media platforms in a day

#### Relationship between age and time spent on social media for educational purpose

The figure shows that majority of respondents spend less than 30 minutes (29.2%) to 60 minutes (29.2%) for educational purpose and younger respondents spend more time for this purpose compared to older respondents. This indicates that the younger generation use social media to obtain educational materials and information.

	Time spent on social media platforms for educational purpose in a day						
Age	1 - 2 hours	2 - 4 hours	30 - 60 minutes	4 - 8 hours	Less than 30 minutes	More than 8 hours	Grand Total
19			1				1
20	2	2		1	1		6
21	1	1	7	3	3	1	16
22	2	3	1	3	1		10
23	1		5	1		1	8
24	2	1	1	1			5
28					2		2
32					1		1
33			1				1
38			1		1		2
46			1				1
47					1		1

48					2		2
49	1				1		2
50					2		2
51			1				1
52					1		1
53					1		1
60					2		2
Grand Total	9	7	19	9	19	2	65

Table 3: Time spent on social media platforms for educational purpose in a day with age

## Relationship between experience in any scamming or phishing activities while using social media platform and rating of the security of the social media

Figure 18 below demonstrates that majority of the respondents never experience any scamming or phishing activities while using social media platforms with count of 21 which is 32.3%. Figure 19 below shows that most of the respondents agree that the security of the social media platforms is moderate and good with count of 25 and 24 which are 38.5% and 36.9%. We can deduce that most of the respondents are less likely to experience any scamming or phishing activities with the rating of moderate and good security level.

Did you experience any scamming or phishing activities while using social media platform? 65 responses

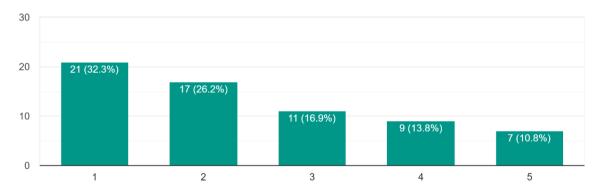


Figure 18: Bar chart of experience of respondent in any scamming of phishing activities while using social media platform

Rate the security level of social media platforms 65 responses

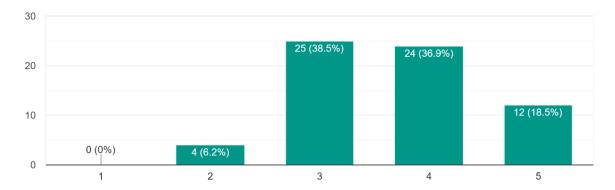


Figure 19: Bar chart of the rating of respondent on the security level of social media platforms

#### **Conclusion**

From this project, we have learnt that how to do data analysis and relate all the data with appropriate approach. We able to apply the data description analysis in order to complete the comparison and relationships between data. To conclude our project, the year that respondents from UTM society started using social media correlates with their age. Older respondents started using social media at earlier years while younger respondents started using social media more recently. Majority of the respondent in UTM society use social media for 2 to 4 hours a day. Their aims of using social media are entertainment purpose, staying in touch with friends or family, and filling up spare time. Social media is also used for educational purpose by users of all age, but it is more apparent among the younger users. We found out that YouTube was the most preferred social media by the UTM society with satisfaction level of 5. This situation occurs because YouTube can provide great entertainment purpose and filling up spare time. In addition, YouTube has a lot of educational videos which anyone can watch, including students and adults. Furthermore, YouTube is a platform developed by Google, meaning that users are unlikely to be vulnerable to phishing activities due to its high safety.

#### **Appendix**

Link to the google form we used to conduct the survey:

https://forms.gle/Mgx38qYt9TdhsCtY7