



**UNIVERSITI TEKNOLOGI MARA
GROUP PROJECT**

COURSE	:	STATISTICS FOR BUSINESS AND SOCIAL SCIENCES
COURSE CODE	:	STA404
TASK	:	GROUP PROJECT
DURATION	:	WEEK 8 – WEEK 12
MARKS	:	50 MARKS (10%)

OBJECTIVES PROJECT:

The **main objective** of this project is to expose the students to the application of statistics techniques towards on the actual data (secondary/primary data). Besides that, to overview the students to the Final Year Project report nature.

OUTCOMES PROJECT

At the end of the project, students should be able:

1. Describe the actual data.
2. Explain and analyze the appropriate statistical techniques in analyzing the actual data.
3. Produce a good class project report.

SUGGESTED GUIDELINES FOR PROJECT

1. INDIVIDUAL/GROUP

- Students are required to perform a group with **3 – 5 members**. (The number of members per group depending on the number of students in the class and the number of class)

2. SOURCE OF DATA

- Students are allowed to use secondary and primary data (final year students are encourage to use their own data). There is no restricted on the number of sample size.
- You can easily gain secondary data from google or any trusted website such as Statistics Department, Malaysian Institute of Road Safety Research and etc.
- **NOTE:** students are forbidden to imitate the data from textbooks (A. G. Bluman, Elementary Statistics: A Step by Step Approach, 9th ed., McGraw Hill Higher Education, 2014, ISBN: 9781259251665).

3. COVER PAGE:

- Cover page should be included UiTM logo, report title, name, student number and group.

4. STANDARD TABLE OF CONTENT

5. CONTENT OF PROJECT

1.0 INTRODUCTION

1.1 Background of Study (not more than 1 page)

- Background of study should include a review of the area being study/research, current information surrounding the issue, previous studies on the issue (if any), and relevant history on the issue.

1.2 Objectives of Study

- You are required to determine at least **TWO OBJECTIVES** on the statistical methods. You may use example as attach in this subtopic.

- Example:

The objectives of study are included:

- a) **To describe** the demographic profile of the respondents (descriptive)
- b) **To determine** whether there are differences on **average** number of siblings between **gender** (1st statistical method).
- c) **To gauge** the **association** between the duration of marriage (year) and the level of education (2nd statistical method)

2.0 METHODOLOGY

2.1 Description of Data

- This section, expecting the students to write the related population, sample, sampling techniques and data collection method that involved in your study. Describe as well as the variable, type of variable and scale of measurement for the respective variable namely mention in your study (highly recommended to present this information in constructive table).

2.2 Method of Analysis

- This section related to the objective of the study that you have stated in 1.2. For instance, if the objective of the study is “to describe the demographic profile of the respondents”, you may use descriptive statistics including bar graph, pie chart or any graphical presentation that appropriate towards on the demographic variable involve in your study.
- To fulfill the first objective that involve the application of statistical method, which is “to determine whether there are differences on average number of siblings between gender” the most appropriate method will be the *Independent t-test*. On the other hands, if the objective of the study is “to gauge the association between the duration of marriage (year) and the level of education” you may use *Chi-Square Test of Independence (inferential statistics)* because involving correlation between categorical variables.
- In conclusion, if you have three objectives of study, you should have three statistical methods encompass of descriptive and inferential statistics.

- Example:

Objective	Method of Analysis
To describe the demographic profile of the respondents.	Bar graph/ Cluster bar graph/ Cross tabulation/ Mean, median, mode, standard deviation, skewness and etc. (any descriptive statistics relevant towards on your selected data)
To determine whether there are differences on average number of siblings between gender	Independent t-test
To gauge the association between the duration of marriage (year) and the level of education	Chi-Square Test of Independence

3.0 FINDINGS

- This section expecting the students to perform the analysis on descriptive and inferential statistics that have been mentioned/choose in section 2.2.

3.1 Descriptive Analysis

- A. suitable graphical presentation (chart/plot/table) with suitable explanation or comment on the selected graphical presentation

Example:

Duration Marriage * Level of Education Crosstabulation

		Level of Education						Total
		SPM	STPM/ Matricula tion/ Diploma	Bachelor Degree	Master Degree	PhD	Others	
Duration Marriage 0-5	Count	9	17	22	12	9	18	87
	Expected Count	14.9	16.6	19.5	12.3	10.8	13.0	87.0
6-10	Count	10	20	24	13	19	10	96
	Expected Count	16.4	18.3	21.5	13.5	11.9	14.3	96.0
11- 15	Count	18	14	23	15	9	12	91
	Expected Count	15.6	17.3	20.4	12.8	11.3	13.6	91.0
>15	Count	25	18	12	11	8	14	88
	Expected Count	15.1	16.8	19.7	12.4	10.9	13.1	88.0
Total	Count	62	69	81	51	45	54	362
	Expected Count	62.0	69.0	81.0	51.0	45.0	54.0	362.0

The cross-tabulation indicates the information on the duration marriage and level of education. Based on the cross-tabulation, majority of the duration of marriage of the respondents for various level of education is 6 – 10 years. Those are PhD holder indicated more than 15 years in marriage.

REMINDER: one chart/plot/table for one variable (at least two types of chart)

- B. suitable numerical measures (measures of central tendency, measures of dispersion, measures of position, measures of coefficient of variation, measures of skewness)

Example:

		Number of Siblings	Current CGPA
N	Valid	10	10
	Missing	0	0
Mean		3.40	3.0700
Median		3.50	3.0050
Mode		2	2.35 ^a
Std. Deviation		1.647	.40056
Variance		2.711	.160
Skewness		.127	-.074
Std. Error of Skewness		.687	.687
Minimum		1	2.35
Maximum		6	3.67

a. Multiple modes exist. The smallest value is shown

Based on the descriptive statistics table, the mean of number siblings is three. On average, the students manage to gain 3.07 for their CGPA. It clearly indicates, the shape of distribution of the number of siblings skewed to the right. This finding depicts majority of the respondents having more than three siblings. Based on the same finding, the shape of distribution for CGPA skewed to the left. In other words, most of the respondents gained less than 3.07.

3.2 Inferential Analysis

- The steps included the output (as indicated in below) and conclusion.

- Example:

Hypotheses

H_0 : The duration of marriage (year) is not correlated with the level of education

H_1 : The duration of marriage (year) is correlated with the level of education

$\alpha=0.05$

Test Statistic

$p\text{-value} = 0.034$

Chi Square Tests

	Value	df	Asymp. Sig. (2 sided)
Pearson Chi Square	A^a	15	.034
Likelihood Ratio	26.057	15	.037
Linear-by-Linear Association	5.601	1	.018
No of Valid Cases	362		

a.0 cells (0%) have expected count less than 5. The minimum expected count is 10.81

Decision Rule

Reject H_0 if $p\text{-value} \leq \alpha$

Since $p\text{-value} < 0.05$, reject H_0

Conclusion

At the 5% level of significance, the duration of marriage (year) is correlated with the level of education.

4.0 CONCLUSION

- Any reasonable conclusion.

6. FORMATTING

- Font : Arial, 11
 Spacing : 1.5
 Language : English Language
 Length report : Report **AT MOST 20 pages** including cover page and report content
 File Form of Written Report : PDF

7. DETAILS OF DATE SUBMISSION

- Please check your completed group project must include:
 - a) Softcopy of written report in PDF file send via email to: @uitm.edu.my **BEFORE OR ON WEEK 13.**
 - b) Written Report Evaluation Form (attach this form in the report).
 - c) Sample Questionnaire (if necessary) attach with the report.

SOME SUGGESTED GUIDELINES IN SELECTING STATISTICAL METHODS

Objective	Suggested Statistical Method
Mean	
To determine the average of BMI of UiTM students	<i>One Sample t-test</i>
To gauge the average of BMI of UiTM students between gender	<i>Independent t-test</i>
To determine the effectiveness of attending the gym towards on BMI	<i>Paired Sample test</i>
To gauge the average of BMI of UiTM students among faculties	
Relationship	
To determine the association between gender and level of education	<i>Chi-Square Test of Independence</i>
To gauge the relationship between CGPA and number of siblings	<i>Simple Regression</i>

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ORIGINAL