



(NAME OF FACULTY)

INTRODUCTION TO PROBABILITY & STATISTICS
STA116

RESEARCH TITLE:
eg: *Buying Groceries Pattern Among Melaka Residents*

PREPARED FOR:
(LECTURER'S NAME)

PREPARED BY:

STUDENT NAME	STUDENT ID

SUBMISSION DATE:

ACKNOWLEDGEMENT

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PICTURE TEAM MEMBERS

CHAPTER 1: INTRODUCTION

(In this topic, student should briefly describe/ explain about their topic chosen.)

EXPLAIN WHY THE TOPIC IS IMPORTANT

1.1 Objectives of the study)

*(**Do in list, not in paragraph**)*

The objectives of the study as follow:

1. To study the profile of the respondents.
2. To determine the central tendency for money spent on groceries monthly.
3. To determine the type of groceries that always bought by the respondents according to frequently times they bought it.
4. To study the medium of shopping that are more consistent in the amount of money spent on groceries.
5. To determine how frequent the respondent shopping for groceries.

CHAPTER 2: METHODOLOGY

2.1 Population

explain about your population.

2.2 Sampling technique

Describe sampling technique that you use in your study. Explain the technique correctly. Draw pictures if necessary. Example: SYSTEMATIC SAMPLING

*(*You should explain how to use this sampling method according to your case study. DO NOT explain in general**)*

2.3 Data Collection method

Put a sample of your questionnaire. EXPLAIN HOW YOU COLLECT THE DATA then proceed to description of the data.

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Table 2.1.2: Description of the data

No.	Name of Variables	Type	Scale of measurement
1.	Gender 1: Male 2: Female	Qualitative	Nominal
2.	Amount of money spent each time to purchased groceries. (Estimated amount)	Quantitative	Ratio
4.	Types of groceries that always bought by the respondent (Choose 4 only) 1: Wet food (eg. Meat/seafood/chicken/vegatables) 2. Bakery & Bread 3. Rice 4.Pasta/ Noodles 5. Frozen food/ Cans Foods/ Item in jars or bottle 6. Breakfast item/ cereal 7.Milk/Dairy products 8.Egg 9.Chocolate 10.Spices/Dry goods (eg. Onion/dry chilli)	Qualitative	Ordinal
5.	Frequently times the respondent shopping for groceries. 1: Once in a month 2: Every 2 weeks 3: Every Week 4: when the groceries are out of stock at home	Qualitative	Nominal
6.	Medium of shopping for groceries 1: Online/Personal Shoppers 2: Go to the store/supermarket	Qualitative	Nominal

2.3 Data Collection method

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2.4 Method of data analysis

Table 2.2.1: Summary of methodology

Objectives	Variables	Methodology
1. To study the profile of the respondents.	Gender	Frequency distribution table Graph- Pie Chart
2. To determine the central tendency <i>for money spent on groceries.</i>	<i>Amount of money spent each time to purchase groceries.</i>	Mean – use grouped data to get the value of mean. Median-based on grouped data, draw an ogive and estimate the median. Mode- based on grouped data, draw a histogram, and estimate the mode.
3. To determine how frequent the respondent shopping for groceries according to the gender.	<i>Frequently times the respondent shopping for groceries & Gender</i>	Contingency table Graph: Multiple bar chart/ Stacked bar chart
4. <i>To study the medium of shopping that are more consistent in the amount of money spent on groceries.</i>	Medium of shopping & <i>Amount of money spent each time to purchase groceries.</i>	Coefficient of variations (CV)
5. To determine the type of groceries that always bought by the residents.	<i>Types of groceries that always bought by respondent.</i>	Graph- Simple bar chart

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CHAPTER 3: DATA ANALYSIS AND RESULTS

(**Answer all objectives-depends on your method mentioned in Table 2.2.1)

Objective 1: To study the profile of the respondents.

Table 3.1: Frequency distribution table for respondent's gender.

Gender	Number of respondents	Percentage of respondents
Male	23	46%
Female	27	54%

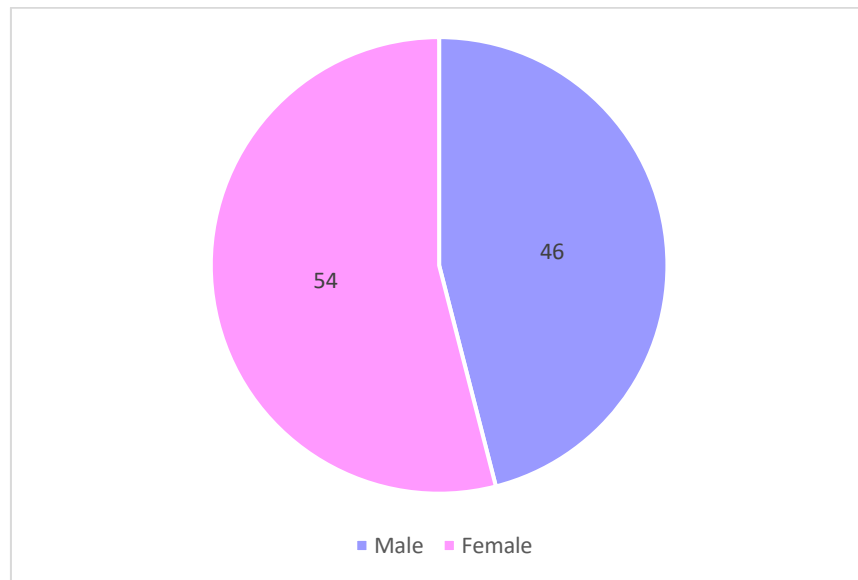


Figure 3.1: Pie chart for respondent's profile

Based on *Figure 1*, it shows that 46% of the respondent are male while male is 54%.

Objective 2: To determine the central tendency *for money spent on groceries*.

➤ **Mean**

Table 2: Frequency table for amount of money spent to purchased groceries.

Amount of money spent (RM)	Number of residents	Midpoint (x)
100-150	5	125
150-200	5	175
200-250	11	225
250-300	3	275
300-350	8	325
350-400	5	375
400-450	6	425
450-500	7	475

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$$\text{Mean} = \frac{\sum x}{n} = \frac{15150}{50} = \text{RM } 303$$

➤ **Median**

Table 3: The cumulative frequency table for amount of money spent to purchased groceries.

Money spent for buying groceries (RM)	Number of residents	CF (Number of respondents)
less than 100	0	0
100-150	5	5
150-200	5	10
200-250	11	21
250-300	3	24
300-350	8	32
350-400	5	37
400-450	6	43
450-500	7	50

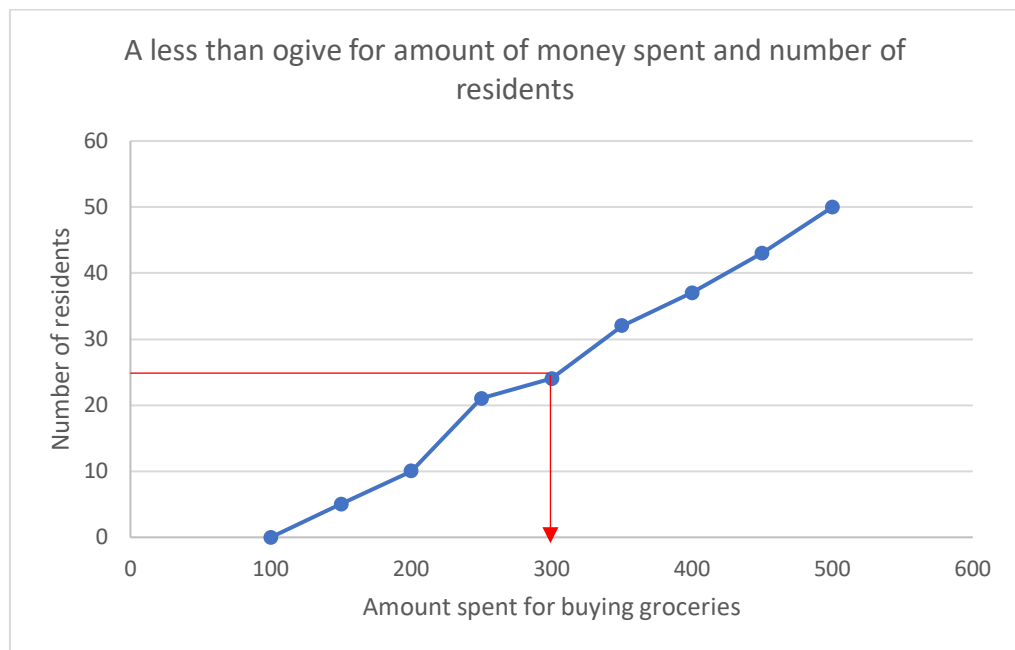


Figure 3.2: A 'less than' ogive for amount of money spent for buying groceries.

Based on Figure 2, it shows that the median for amount of money spent for buying groceries is RM300.

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➤ **Mode**

Table 3: The frequency table for amount of money spent to purchased groceries.

Money spent for buying groceries (RM)	Number of residents
less than 100	0
100-150	16
150-200	28
200-250	31
250-300	26
300-350	23
350-400	20
400-450	27
450-500	29

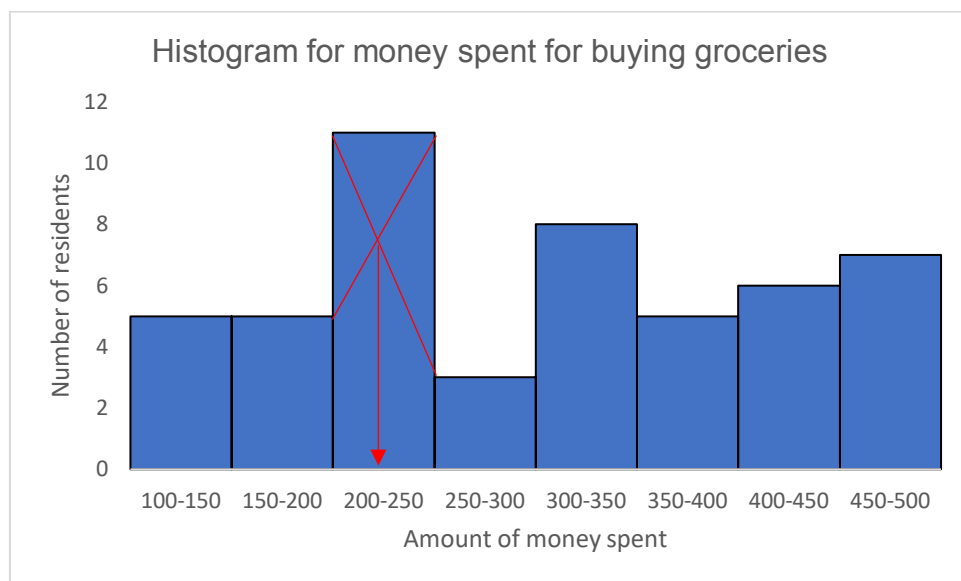


Figure 3: Histogram for amount of money spent for buying groceries.

Based on *Figure 3*, it shows that the mode is RM 225.

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Objective 3: To determine how frequent the respondent shopping for groceries according to the gender.

Table 5: Contingency table for gender and their frequently of buying groceries.

Gender	Frequently of buying groceries			
	Once in a month	Every two weeks	Every week	When groceries are out of stock
Male	5	3	8	7
Female	5	6	9	7

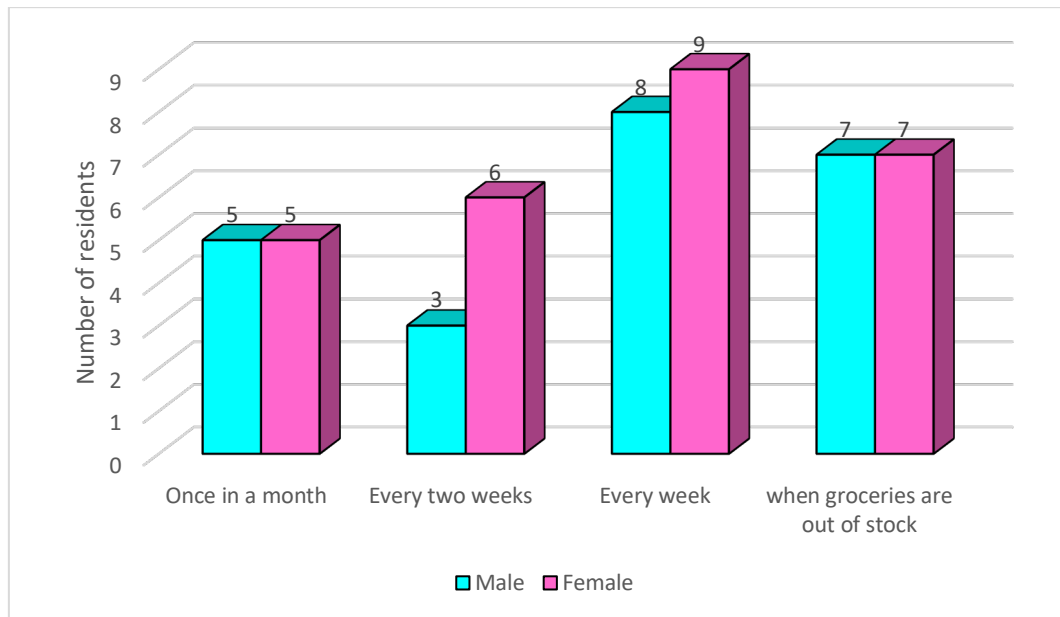


Figure 5: Multiple bar chart for gender and their frequently of buying groceries.

Based on Figure 5, equal number of male and female residents that bought groceries once in a month and when groceries are out of stock. Meanwhile, for 6 female residents and 3 male residents bought their groceries every two weeks. However, 9 female and 8 male residents bought their groceries every week.

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Objective 4: To study the medium of shopping that are more consistent in the amount of money spent on groceries.

Medium 1: Online shopping/ personal shoppers

141	114	451	475	499	340	142
240	168	329	219	214	188	244
247	155	268	451	220	385	226
344	444	341	208	435	208	

Medium 2: Go to the store/ supermarket.

414	367	321	410	335	148	399	166
470	270	244	358	426	317	300	164
223	385	255	107	496	452	446	

Online shopping/ personal shoppers	Go to the store/ supermarket.
<p>Mean ; $\bar{x} = \frac{\sum x}{n}$</p> $\bar{x} = \frac{7696}{27} = RM285.04$	<p>Mean ; $\bar{x} = \frac{\sum x}{n}$</p> $\bar{x} = \frac{7473}{23} = RM324.91$
<p>Standard Deviation</p> $s = \sqrt{\frac{1}{n-1} \left[\sum x^2 - \frac{(\sum x)^2}{n} \right]}$ $s = \sqrt{\frac{1}{27-1} \left[2544836 - \frac{(7696)^2}{27} \right]}$ $= RM116.21$	<p>Standard Deviation</p> $s = \sqrt{\frac{1}{n-1} \left[\sum x^2 - \frac{(\sum x)^2}{n} \right]}$ $s = \sqrt{\frac{1}{23-1} \left[2702137 - \frac{(7473)^2}{23} \right]}$ $= RM111.61$
<p>Coefficient of Variation</p> $CV = \frac{s}{\bar{x}} \times 100$ $CV = \frac{116.21}{285.04} \times 100 = 40.77\%$	<p>Coefficient of variation</p> $CV = \frac{s}{\bar{x}} \times 100$ $CV = \frac{111.61}{324.91} \times 100 = 34.35\%$

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Objective 5: To determine the type of groceries that always bought by the residents.

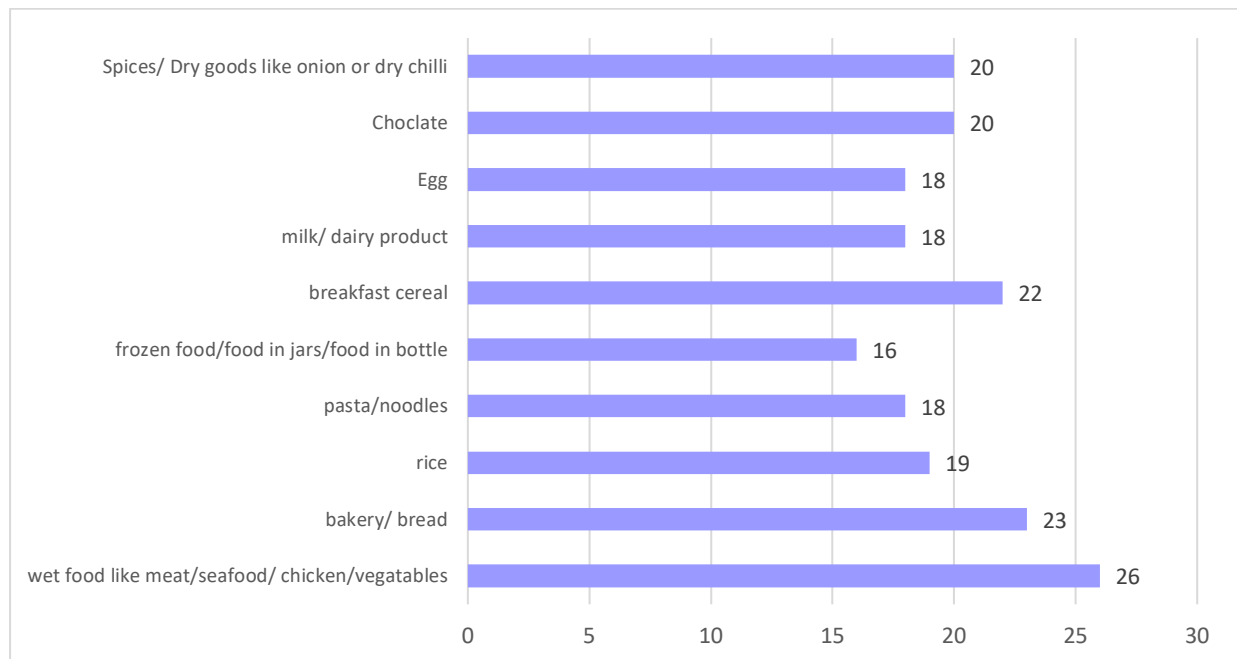


Figure 6: Horizontal bar chart for type of groceries that always bought by the residents.

Explanation

****Present any relevant graph/ chart (must follow the sequence of the objectives stated and each graph should have an explanation) ****

CHAPTER 4: CONCLUSION.

Objective 1 is to study the profile of the respondents. Based on the analysis in Figure 3.1, it shows that majority of the respondent is female with 54% while male is about 46%.

For objective 2, we are going to study the central tendency for money spent on groceries. The mean is RM303. That means, on average the amount of money spent for buying groceries is RM303. The median is RM300 which means, 50% of the residents spent more than RM300 to buy groceries while another 50% of the resident spent less than RM 300 to do that. Meanwhile, majority of the residents spent RM225 for buying groceries at one time.

Objective 3....

Objective 4...

Objective 5...

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REFERENCES (Use A.P.A style)

APPENDICES – (Please attached your data / questionnaires that used for this study)

Standard Format: Times New Roman (12)/ Arial (11)

Align: Justify

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