

MARKING SCHEME

ATW 202 BUSINESS RESEARCH METHODS

Part 1 Objective Answers

1	D
2	D
3	E
4	D
5	B
6	A
7	C
8	C
9	B
10	D
11	B
12	E
13	B
14	B
15	B
16	B
17	A
18	B
19	E
20	C

21	A
22	B
23	A
24	B
25	B
26	A
27	B
28	A
29	B
30	B
31	A
32	B
33	A
34	A
35	B
36	B
37	A
38	A
39	B
40	B

Question 2

- a. **Descriptive study** as the consultant will only profile and describe the current situation.
- b. **Ex-post facto**, the consultant will not manipulate any variable.
- c. **Field Study** as it is done in the normal setting of the company with no manipulation.
- d. **Cross sectional** as data will be collected only once.
- e. **Individuals**, the consultant will try to profile the employees and elicit information why they leave.

2 Marks for each section
1 Mark for the **bold** answer
1 Mark for the **explanation**

Question3

Based on the explanation given above, answer the following questions.

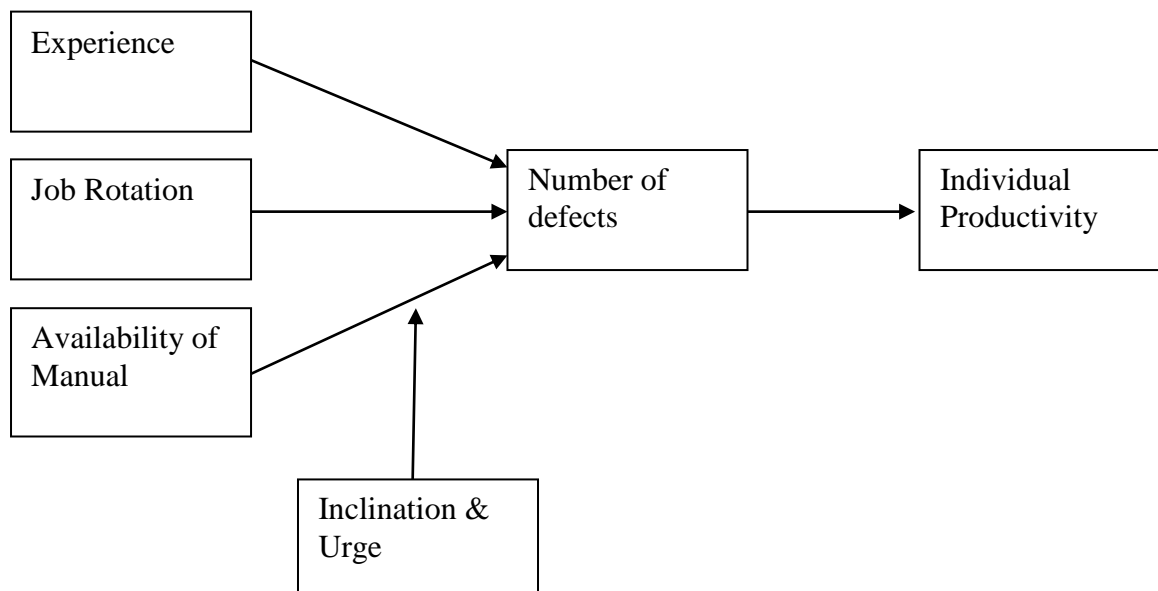
- (a) What is the research problem?

What are the factors influencing individual productivity?

[2 markah]

- (a) Bentuk satu kerangka teori yang bersesuaian.

[4 markah]



(c) Develop 4 hypotheses to be tested.

[4 marks]

H₁ Experience has a negative relationship with number of defects.

H₂ Job rotation is positively related to number of defects.

H₃ Availability of manual is negatively related to number of defects.

H₄ The higher the number of defects the lower is the individual productivity.

H₅ The negative relationship between availability and number of defects will be stronger when inclination or urge is higher

Question 4

Please use your judgement

By giving *suitable examples*, explain each of the following:

- (a) *Discuss 4 sources of information that can be utilized when making decisions.*

[4 marks]

Intuition
Experience
Authority
Research

- (b) *Distinguish between theory and model by giving appropriate examples.*

[4 marks]

Theory is a set of concepts, definition and propositions that are inter related systematically which is forwarded to explain or predict a phenomenon. A model is the presentation of a system that is developed to study part of the system or the whole system of relationship. The difference between theory and model is that the role of theory is for explanation whereas the role of the model is for representation.

- (c) *What is a focus group and when is it suitable to be used?*

[4 marks]

Focus groups are widely used in business research. They are led by a trained moderator and typically include 6-10 participants and ranges from 90 minutes to 2 hours. Mini-focus groups with just 3 people are increasingly common. The facilitator uses group dynamics principles to focus or guide the group in an exchange of ideas, feelings, and experiences on a specific topic. Focus groups can take place in a variety of settings, but many take place in a focus group room equipped with one-way window and recording devices.

- (d) *Explain what criterion related validity is and how it can be assessed?*

[4 marks]

Criterion related validity is to assess if the measure differentiate in a manner that helps to predict criterion variable. They can be divided into concurrent and predictive validity.

The researcher must ensure that the validity criterion used is itself valid. Any criterion measure must be judged in terms of the four qualities:

- A criterion is **relevant** if it is defined and scored in the terms the researchers judge to be the proper measures.

- **Freedom from bias** is attained when the criterion gives each unit of interest an opportunity to score well.
- A **reliable** criterion is stable or reproducible.
- Finally, the **information** specified by the criterion must be **available**.

(e) *Why is sampling preferred over census?*

[4 marks]

Sampling is preferred to census because:

- Saves Cost
- Saves Time
- When it involves the destruction of Test unit
- It is more accurate

Question 5

Based on the output given, answer the following questions.

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(a) *Can we develop a regression equation based on the results of the analysis?* [2 marks]
Yes, the $F = 164.532$ and $\text{Signif of } F = 0.000 < 0.01$ so we can conclude that all the 4 variables together can significantly explain the variation in INTENTION.

(b) *Determine the best fitting regression equation.* [2 marks]

$$\text{INTENTION} = 0.217 + 0.273 (\text{PU}) + 0.450 (\text{PEU}) + 0.235 (\text{PBC}) - 0.055 (\text{RISK})$$

(c) *Develop and test these 4 hypotheses at the 1% level:* [8 marks]

- *There is a positive relationship between **PU** and **INTENTION***
- *When **PEU** increases the **INTENTION** will also increase*
- *There is a positive relationship between **PBC** and **INTENTION***
- *When **RISK** increases then **INTENTION** will reduce*

Variable	t-value	p value		Decision
H₀ b₁ = 0				
H₁ b₁ > 0				
PU	5.949	0.000	p < 0.05	Reject H₀
H₀ b₂ = 0				
H₁ b₂ > 0				
PEU	8.501	0.000	p < 0.05	Reject H₀
H₀ b₃ = 0				
H₁ b₃ > 0				
PBC	4.883	0.000	p < 0.05	Reject H₀
H₀ b₄ = 0				
H₁ b₄ < 0				
RISK	-1.377	0.169	p > 0.05	Accept H₀

(d) Interpret the coefficient of determination.

[2 marks]

$R^2 = 0.625$. We can conclude that 62.5% variation in INTENTION can be explained by all the 4 variables; about 37.5% variation cannot be explained.

(e) Has all the assumptions of the analysis been met? If not explain how they can be assessed.

[3 marks]

- There is no multicollinearity as $VIF < 10$ and Tolerance > 0.1 also Conditional index is LESS than 30
- The histogram indicates normal distribution with mean = 0 and SD = 1
- P-P plot shows the errors are normally distributed
- Partial plots indicates the variables are linearly related to Y
- There is no outlier cases
- Constant variance can also be ascertained as the plot of studentized residual and INTENTION is given
- No autocorrelation as the DW value is 1.692. It is in the region of 1.5 to 2.5.

(g) Write a short report on how the Syarikat Telekom Malaysia Berhad can interpret the results.

[3 marks]

Based on the results all 3 variables are significant, PU, PEU and PBC. Based on the Standardized Beta values, PEU has the most influence ($\beta = 0.405$) followed by PU ($\beta = 0.252$) and PBC ($\beta = 0.239$) indicating that PEU and PU are the most crucial factors in predicting INTENTION. To increase INTENTION, Syarikat Telekom Malaysia Berhad needs to enhance the ease of use of the broadband services and also highlight the usefulness of the services through campaigns so that usage will increase.