



UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER I
SESSION 2021/2022**

COURSE NAME : RESEARCH METHODOLOGY
COURSE CODE : MPE 10503
PROGRAMME CODE : MPE
EXAMINATION DATE : JANUARY 2022
DURATION : 2 HOURS
INSTRUCTION :
1. ANSWER ALL QUESTIONS
2. THIS FINAL EXAMINATION
IS AN **ONLINE ASSESSMENT**
AND CONDUCTED VIA
CLOSED BOOK

THIS QUESTION PAPER CONSISTS OF **FOUR (4)** PAGES

Q1 Working as a management consultant in the Energy industry you are hired by a company, POWERInc. POWERInc is an Energy provider and thereby invests in various energy sources in order to provide their customers with a reliable source of electric energy. You are now hired by their top management team in order to help them during their strategic acquisition process.

POWERInc currently has 3 business areas with independent business units using different energy production technologies (Water, Coal and Nuclear). In addition POWERInc has a small headquarter that is co-located to one of the business unit offices. However, as the energy industry is transforming the management team are considering adopting and investing in additional sources of Energy production. The company is currently evaluating acquiring 3 small firms with new promising technologies who all of them claim to be more environmentally friendly alternatives than the ones currently used by POWERInc.

Your task is now to provide the management team with solid evidence and scientifically based arguments of investment. The turn has thus come to scrutinise the investment alternatives, which as always, is a risky and sensitive issue. This is why they have hired you, with profound knowledge in business research methods.

- (a) Propose the appropriate research paradigm to perform the above study to identify if these companies and their technologies are indeed environmentally friendly.
(10 marks)
- (b) Suggest the appropriate research design to identify the best way to integrate the small firms into the main organization after they have been acquired.
(10 marks)
- (c) Forecast **TWO (2)** difficulties that will occur from a research perspective in your suggested research design in **Q1(b)**.
(8 marks)
- (d) Elaborate **TWO (2)** mitigation plans to lower the risk of the suggested design.
(7 marks)

Q2

Amara is a software engineer based in Kuala Lumpur. Kuala Lumpur is a city with many options for lunch and dinner. Many people walk around during the lunch and dining hours and try to choose a restaurant on a daily basis. Amara has developed a smartphone app in order to better serve this need. The app alerts the user when the mobile is 20 meters away from a restaurant. The user then can click and see the menu of the day or another daily offer that the restaurant wants to promote. In order to market the idea she presents the business plan to an entrepreneur who can market and sell the app to restaurants and or smartphone users. The business plan suggests a pilot commercialization in Kuala Lumpur centre the first year. There are different business models in order to commercialize this product. One is to charge the restaurant owners with a standard fixed fee and have the application free for the smartphone user. Another business model would be to have the subscription for restaurants free of charge and charge the smartphone users for downloading the app instead. In the first business model, in order to cover the initial development cost and reach break-even, the price per unit can go down to RM200 if 100 restaurants subscribe. In the second business model the price per unit can go down to RM10 if 2000 people download the app. The entrepreneur hires you, working as a consultant, to make a quantitative analysis in order to decide if the business can be profitable.

- (a) Outline **TWO (2)** research objectives from the above case. (4 marks)
- (b) Discuss the most suitable population in this case. (6 marks)
- (c) Propose the measurement type that can be used for the above case. (7 marks)
- (d) You are going to use a survey to estimate the potential customers within the population.
Suggest **ONE (1)** sampling technique that you choose to get maximum samples for the study. (8 marks)
- (e) Develop **FIVE (5)** survey questions which your survey should include to answer your research questions in **Q2(a)**. (5 marks)
- (f) Justify the practicalities of using survey methods for the data collection especially for you to reach your estimated samples and minimum response rate you need for the study. (10 marks)
- (g) (i) Discuss **ONE (1)** issue of reliability that you can predict in your survey.
(ii) Propose plan to reduce the reliability issue mentioned in **Q2(g)(i)**. (10 marks)
- (h) There are three measures of central tendency: the mean, the median, and the mode. Measures of dispersion include the range, the standard deviation, and the variance

(where the measure of central tendency is the mean), and the interquartile range (where the measure of central tendency is the median).

Explain which of these measures you would use to provide an overview of different measurement types below;

- (i) nominal (5 marks)
- (ii) ordinal and (5 marks)
- (iii) interval data (5 marks)

-END OF QUESTIONS-