



UNIVERSITY OF RUHUNA
FACULTY OF MANAGEMENT AND FINANCE

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BACHELOR OF BUSINESS ADMINISTRATION HONOURS DEGREE

4000 LEVEL FIRST SEMESTER END EXAMINATION - AUG/SEP 2023

Three Hours

MKT 41503 – Marketing Engineering

Academic Year 2022/2023

Instructions

- ➔ The paper consists of five (05) questions.
- ➔ Answer all questions.
- ➔ Use of calculator is permitted.

01.

- i. Hansen is a medical equipment provider which sells contracts to four (04) customer segments namely A, A-rebate, B and B-rebate. Using the Enginius software, the company performed a ‘Customer Lifetime Value Analysis’ at a discount factor of 15% for the next five (05) years. Answer the following questions using the generated output shown in Table 1 and Table 2.

Table 1: Individual Customer Lifetime Value per Segment

Segments / Segment description	Number of customers	Gross margins	Marketing costs, next period	Customer lifetime value
A accounts	360	LKR 75,000	LKR 7,000	LKR 124,429.35
A accounts -rebate	2400	LKR 41,500	LKR 4,500	LKR 90,054.35
B accounts	5440	LKR 34,000	LKR 2,250	LKR 55,956.52
B accounts -rebate	7800	LKR 22,800	LKR 1,200	LKR 47,304.35
Lost customers	0	0	0	0

Table 2: Number of Customers per Segment Over 5 Years

Segments / Periods	N+1	N+2	N+3	N+4	N+5
A accounts	360	198	109	60	33
A accounts-rebate	2400	1836	1397	1058	800
B accounts	5440	3155	1830	1061	616
B accounts - rebate	7800	5569	3961	2809	1988
Lost customers	0	5242	8703	11011	12564

- a) What do you mean by Total Lifetime Value of a customer? (06 marks)
- b) Why has Hansen used a 15% discount rate to calculate customer lifetime value? (02 marks)
- c) How many customers are there with the company now and how many customers will, still be with the company after five years? (02 marks)
- d) Compute the overall churn rate after 5 years. (02 marks)
- e) What is the total customer lifetime value in each of the four segments, in current LKR values? (04 marks)
- f) "In five (05) years, Hansen would still have 33 'A accounts', meaning that 327 accounts have switched to competitors". Discuss the validity of this statement. (04 marks)
- (Total: 20 marks)**

- ii. The XYZ organization is planning to optimize resource deployment using the judgmental approach for their 'call plan'. In the provided table, there are four main customer segments, each with corresponding marginal returns for a sales call, and a constraint that the cost of generating one sales call is Rs. 250.

Table 1: Call Plan

Customer Segments	Number of Calls					
		1	2	3	4	5
1		200	600	2510	975	750
2		1200	650	520	220	175
3		500	3000	450	182	256
4		200	100	212	85	105

- a) As a salesperson in the organization, you are tasked to select six (06) calls to make. Mention the six calls you would choose. (02 marks)
- b) Explain the rationale behind your selection of the six (06) calls mentioned in part (a). (02 marks)
- c) Your manager has suggested that you should reject customer segment 4. Do you agree or disagree with this recommendation? Justify your answer. (03 marks)
- d) Briefly explain three (03) main decision areas of Sales Force Management. (03 marks)
- (Total: 10 marks)**

02.

a) Briefly explain the Hysteresis Effect and Customer Holdout Effect. (05 marks)

b) "Positioning maps help businesses to understand the positioning of their offerings and their competitors' offerings in the minds of consumers." Briefly explain the benefits of using positioning maps. (05 marks)

(Total: 10 marks)

03.

a) Compare the difference between the 'Jury of Executive Opinion' method and 'Delphi' method. (05 marks)

b) Describe the behaviors of 'innovators' and 'imitators' explained in the 'Bass Model'. (05 marks)

(Total: 10 marks)

04.

a) List the steps involved in using 'choice models for customer targeting'. (05 marks)

b) Describe the 'ADBUDG response model' using graphical illustration. (05 marks)

(Total: 10 marks)

05.

a) What are the steps of the price optimization according to 'Gabor-Granger method'? (05 marks)

b) Briefly explain the two main activities of conjoint study design of a product. Use an example to elaborate the answer. (05 marks)

(Total: 10 marks)
