



ZIMBABWE EZEKIEL GUTI UNIVERSITY

FACULTY OF LAW, BUSINESS INTELLIGENCE AND ECONOMICS

DEPARTMENT OF ECONOMICS, MARKETING AND ENTREPRENEURSHIP

EXAMINATION PAPER

COURSE CODE : CEC 404/414
COURSE TITLE : Managerial Economics
SPECIAL REQUIREMENTS :
DURATION : 3 Hours
LEVEL : 4.1
DATE : 14 FEB 2024

INSTRUCTIONS TO CANDIDATES:

1. No cell phones are allowed in the examination venue
2. Use of silent, non-programmable calculators is allowed
3. Answer ALL questions in both Section A and Section B.
4. Begin each question on a new page in section B.
5. The number of marks for each question or part question is shown in brackets []

SECTION A

Question 1: Are market dynamics in favour of M&S?

One of the most famous retailer Marks & Spencer's big store in London's Kensington High Street has just had a re-fit. Instead of the usual drab M&S interior, it is now Californian shopping mall meets modernist chrome and creamy marble floors. Roomy walkways and designer displays have replaced dreary row after row of clothes racks. By the end of the year M&S will have 26 such stores around Britain – the first visible sign that the company is making a serious effort to pull out of the nose-dive it has been in for the past two years.

Things have become so bad that M&S, until recently a national icon, is in danger of becoming a national joke. It does not help that its advertisements featuring plump naked women on mountains – the first-ever TV ads the company has produced – have met with an embarrassed titter; nor that, last week, the BBC's Watchdog programme savaged M&S for overcharging and poor quality in its range of garments for the fuller figure. As the attacks grow in intensity, so do the doubts about M&S's ability to protect its core value: a reputation for better quality that justified a slight price premium – at least in basic items, such as underwear. It is a long time since any self-respecting teenager went willingly into an M&S store to buy clothes. Now even parents have learned to say no. Shoppers in their thirties and forties used to dress like their parents. Now many of them want to dress like their kids.

M&S's makeover comes not a moment too soon. Compared with the jazzy store layouts of rivals such as Gap or Hennes & Mauritz, M&S shops look like a hangover from a bygone era. The makeover aims to bring it into the present. People tended to join M&S straight from college and work their way slowly up the ranks. Few senior appointments were made from outside the company. This meant that the company rested on its laurels, harking back to 'innovations' such as machine-washable pullovers and chilled food.

Worse, M&S missed out on the retailing revolution that began in the mid-1980s, when the likes of Gap and Next shook up the industry with attractive displays and marketing gimmicks. Their supply chains were overhauled to provide what customers were actually buying – a surprisingly radical idea at the time.

M&S, by contrast, continued with an outdated business model. It clung to its 'Buy British' policy and it based its buying decisions too rigidly on its own buyers' guesses about what ranges of clothes would sell, rather than reacting quickly to results from the tills. Meanwhile, its competitors were putting together global purchasing networks that were not only more responsive, but were not locked into high costs linked to the strength of sterling.

In clothing, moreover, M&S faces problems that cannot be solved simply by improving its fashion judgments. Research indicates that overall demand for clothing has at best stabilised and may be set to decline. This is because changing demographics mean that an ever-higher share of consumer spending is being done by the affluent over-45s. They are less inclined than youngsters to spend a high proportion of their disposable income on clothes.

The results of M&S's rigid management approach were not confined to clothes. The company got an enormous boost 30 years ago when it spotted a gap in the food market, and started selling fancy convenience foods. Its success in this area capitalised on the fact that, compared with clothes, food generates high revenues per square metre of floor space. While food takes up 15% of the floor space in M&S's stores, it accounts for around 40% of sales. But the company gradually lost its advantage as mainstream food chains copied its formula. M&S's share of the British grocery market is under 3% and falling, compared with around 18% for its biggest supermarket rival, Tesco. M&S has been unable to respond to this competitive challenge. In fact, rather than leading the way, it has been copying rivals' features by introducing in-house bakeries, delicatessens and meat counters. Food sales have been sluggish, and operating margins have fallen as a result of the extra space and staff needed for these services.

- a. Identify and explain three factors affecting the demand for M&S products. [6 Marks]
- b. Analyse the one weakness and one threat on the demand side of M&S. [6 Marks]
- c. The inverse demand curve for M&S food is given as:

$$P = 200 - 0.4Q$$

- i. Determine the level of willingness to obtain food without paying in this market. [5 Marks]
- ii. Comment on the total revenue (TR) when 200 units are sold. [8 Marks]

SECTION B

Question 2

- a. Pepsi estimates that its demand function is as follows:

$$Q = 150 - 5.4P + 0.8A + 2.8Y - 1.2P_c$$

(5.88) (1.29) (0.25) (0.12) (0.17)

$$R^2 = 0.68 \quad SEE = 786 \quad F = 21.25$$

The variables are

Q : Quantity demanded per month (in '000)

P : Price of Pepsi (in \$)

A : Advertising expenditure (in '000 per month)

Y : Per capita disposable income (in '000)

P_c : Average price of a leading competitor's drink (in \$)

- i. During the next five years, per capita disposable income is expected to increase by \$2,500. What impact will this have on the firm's sales? **[5 Marks]**
- ii. Following your answer in (i), if Pepsi wants to raise its price by enough to offset the effect of the increase in income, by how much must it raise its price? **[5 Marks]**
- iii. If next year Pepsi intends to charge \$1.5 and spend \$10,000 per month on promotion, while it believes per capita income will be \$12,000 and P_c price will be \$2. What is the relationship between Pepsi and P_c ? **[15 Marks]**

Question 3

A firm sells phone batteries for \$2 per unit in a highly competitive market. The firm produces output using capital (which it rents at \$75 per hour) and labor (which is paid a wage of \$15 per hour under a contract for 20 hours of labor services).

- a. Complete the following table and use that information to answer the questions that follow

K	L	Q	MP _K
0	20	0	
1	20	50	
2	20	150	
3	20	300	
4	20	400	
5	20	450	
6	20	475	
7	20	475	
8	20	450	
9	20	400	
10	20	300	
11	20	150	

[10]

- b. Identify the fixed and variable inputs. [2 Marks]
- c. What are the firm's fixed costs? [2 Marks]
- d. What is the variable cost of producing 475 units of output? [2 Marks]
- e. Over what range of the variable input usage do increasing marginal returns exist? [2 Marks]
- f. Over what range of the variable input usage do decreasing marginal returns exist? [2 Marks]
- g. Over what range of input usage do negative marginal returns exist? [2 Marks]
- h. In the long-run, the firm has identified the following production model:

$$Q = 3K^{\frac{1}{4}}L^{\frac{3}{4}}$$

- i. What type of returns to scale does the model exhibit? Prove. [2 Marks]

Question 4

- a. Explain two conditions that make a price discriminating monopoly can be successful.

[5Marks]

- b. Suppose short-run inverse demand in a monopolistically competitive market is represented by:

$$P = 18 - 0.2Q$$

Cost is given by:

$$TC = 300 + 2Q + 0.05Q^2 + 0.01Q^3$$

Given these demand and cost conditions, what price, output, and profits result in the short run?

[20 Marks]

Question 5

The market strategic activities can be modelled as a dynamic game with imperfect information. Two players can aim to strategically merge but not willing to declare interests outright, this can result in a battle of sexes as simplified below:

A young girl (player 1) and her boyfriend (player 2) are out on Saturday night, driving in their own cars, on their way to meet each other for a night date. Tragically, both their phones ran out of power so they cannot communicate with each other. There are two options that they had talked about previously: a cinema for movies and the 'hot'-restaurant in the city centre. But they had not concluded on which one. They like each other very much, and both would hate to spend the evening without the other. The young girl likes the 'hot'-restaurant much better than the cinema because of the eats, but her boyfriend likes the 'dark' cinema better than the 'hot'-restaurant. If the girl ends up at the 'hot'-restaurant with her boyfriend, her payoff is 3. But her payoff is 0 if she ends up at the 'hot'-restaurant without him. If the girl ends up at the cinema with her boyfriend, her payoff is 1. But her payoff is 0 if she ends up at the cinema without him. Similarly for the young man, if he ends up at the cinema with her, his payoff is 3; if he ends up at the 'hot'-restaurant with her, his payoff is 1; and if he ends up at either place without her, his payoff is 0.

- a. Why is it particularly important to be the party who sets the agenda in situations involving tacit negotiation?

[2 Marks]

- b. Given that, the rows of the table are the boy's possible strategies, and the columns are the girl's, present the matrix of pay-offs for this game.

[8 Marks]

- c. What is the difference between this game and the prisoner's dilemma? [5 Marks]
- d. What is the dominant strategy of this game? Explain/ Prove. [5 Marks]
- e. Is there a Nash equilibrium in this game? Explain/ Prove. [5 Marks]

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