

Assessment Details

Theory of the firm, introduced by the economist Joe Bain (1959) in the course Prices and Markets, argues that a firm's objective is profit maximization. The theory gives explanations of how a firm works and what drive the firm's profit. Firstly, a firm aims to lower costs of resources used in its production processes. The firm should realize the importance of enhancing productivity in its production for the cost minimization. Secondly, a firm determines to gain revenues either by the choices of types of products, output levels and price levels of its products. The firm should realize the degree of competition in the market for the product choices and pricing strategies which in turn affect its revenues.

***Reference:** Bain, Joe S., Industrial Organization, New York: John Wiley and Sons, Inc., 1959, Third printing 1967.

This assignment 2 is designed for students to demonstrate their understanding of the core concepts of the theoretical framework above by: explaining the core concepts and measurements in hypothetical examples, defending for the economic arguments and doing research of real-life examples for the illustration of the theory of the firm.

Assignment Questions:

Question 1: Price elasticity of demand in relation with firms' revenue (11 marks, suggested word count: 400 words)

Scenario:

A taxi service in Vietnam considers increasing the price from 24,000 vnd to 30,000 vnd/km in the ending months of the year 2021. It is because the costs of their company's business operations are rising under the prevailing Covid circumstance, and they are tempting to pass on the cost increases by increasing price to the consumer. The company's director wants to consult a marketing staff about the effect of the increase in price to the company's revenue. He expects the revenue is high enough to cover the increasing costs.

The director has the only information of current quantity of his service demanded about 250 trips a day. The marketing staff's job is to anticipate the price elasticity of demand and use the data to inform the company director for the pricing decision.

Requirement:

a) [6 marks] If you were the marketing staff, you need to give the estimation of a change in quantity demanded for this company's taxi service responding to the price increase. How would the quantity demanded of this company's service change if the price increases? Would it increase or decrease? would it change relatively at high or low rate compared to price? (i.e. would the price elasticity be high or low?) Discuss **at least two** determinants of the price elasticity of demand, which make you confirm your estimation.

You are required give hypothetical numbers and calculations to illustrate your estimation of the price elasticity of demand.

Instruction: About the determinants of price elasticity of demand, you can have your own assumptions (pure theoretical reasonings), for example: would you argue the taxi service as necessity or luxury? What would be the price elasticity of the type of the necessity versus luxurious product? There are other theoretical discussions of the determinants of price elasticity of demand that you need to refer to in lecture of topic 2.

Or do desk research for the relevant market information regarding to the determinants of the elasticity of consumers' demand to price.

b) [5 marks] Based on your estimation of the price elasticity in question (a), discuss the effect of the increase in price to the revenue of the company. What do you suggest to the company’s director regarding to the pricing decision? Make sure you explain your suggestion by relevant theoretical formulas of price elasticity and firm revenue and the calculation with hypothetical numbers. Graphs are recommended, but not compulsory.

Question 2: Thought experiment of law of diminishing marginal returns and marginal costs (11 marks, suggested word count: 400 words)

In the lecture of topic 3, there is a hypothetical case of cake production in which labor is assumed to be a variable input and perform their tasks in a fixed capital factory. The lecture introduces the law of diminishing marginal returns, the argument of diminishing labor productivity in the production process with fixed capital. This is viewed as a “law” in the theory of production in classical economics given the assumption that firms do not have sufficient time to divert all of resources (inputs) and hence they have some existing fixed input in production (so-called “short-run production”). In addition, the law of diminishing marginal returns helps to explain the marginal costs in production of the cake business, which in tun would affect firms’ profits in short run production.

One student finds it interesting to do an experiment of this law of diminishing marginal returns in the services provided in his university. He wonders whether the problem of diminishing marginal returns is applied in different activities in the university, such as: is the law applied for library services? applied for a food store in the canteen area? Or for the services at recreation and entertainment center (REC) of the university?

The student is also curious about the marginal costs in the production of the services in campus. He is concerned whether the marginal costs of the additional service unit served affects the service providers’ businesses.

Requirement:

a) [7 marks] Demonstrate one sample experiment, settings, hypothetical numbers and calculations, for the student to learn from you.

Instructions for steps to develop the experiment:

Firstly, you imagine a service provider in a school as “a firm” and its service as “output” of the firm’s production process. Then determine the possible inputs in the service production. Assume the service production in short run, which input is likely variable? And which input/s are likely fixed ones? (so called “settings” of the experiment).

Secondly, come up with some hypothetical numbers and calculations of inputs and outputs of the service production. Determine what input/s of the service are set to increase or be fixed, what the relative output rate compared to the inputs is, what measure be calculated to illustrate diminishing marginal returns.

Note: you need to provide assumption/s of your experiment for the diminishing marginal returns to hold true.

b) [4 marks] Give an explanation for clarifying the student’s concern about the relation between diminishing marginal returns and marginal costs of a service production. Hypothetical numbers and calculations are required in the explanation.

Make sure you do not duplicate the hypothetical case in the lecture slides. Each individual student needs to show their original experiment of one of the services in a university campus suggested in the question.

Question 3: Reading comprehension - Economies of scale in farming in Vietnam (6 marks, suggested word count: 300 words)

Read the following journal article, an academic research on scale and scope economies in small household rice farming in Vietnam (Hoang, et al., 2021), as cited below. You can find this article in RMIT library – in ScienceDirect database. For your convenience, the pdf file of the article is attached [HERE](#). ↓

- *Reference:* HOANG, V.N., Nguyen, T.T., Wilson, C., Ho, T.Q. and Khanal, U., 2021. Scale and scope economies in small household rice farming in Vietnam. *Journal of*

This is an academic research article which is long and advanced about complex economics problems. For the sake of this assignment 2, you are only required to read section 1 – Introduction, paragraphs 1 and 2; section 3.2 – Estimated Economies of Scale and section 4 – Conclusions.

Read for the evidence of economies of scale in the farming activities in Vietnam, and answer the following questions.

a) [4 marks] Would economies of scale be applied for farming households cultivating specific-crop types or for the ones doing multiple crops? What are the main reasons of the economies of scale reviewed in the literature of farming production in Asia?

b) [2 marks] Based on the empirical data of farming households in Vietnam, what is the suggestion of the empirical results for the type of farming households to gain scale economies? What production areas are suggested for each type of crops for the scale economies?

Question 4: Perfect competition and firms' pricing power (12 marks, suggested word count: 400 words)

In the lecture of topic 4, perfect competition, it is argued that firms in perfectly competitive markets are price-takers.

What would you respond to this theoretical argument?

Explain your position by a brief theoretical review for what characteristics of a perfectly competitive market are related to the argument of firms as “price-takers”.

Then provide your observations whether this argument holds true in a real-life market that you have experience with. Make sure you provide a specific example observation of a market with the product prices of the existing firms and discuss what assumptions of the perfect competition and price-taker concept have been violated in the real-life example.

Proper citations of the reference sources for your real-life example are required.