Lesson 3 -Market Structure

**Question 1**

**Automobile City is a multilevel complex housing around 50 used car dealers that display up to 2000 cars for sale at any time.**

**Compare the price and output decisions of firms in monopolistic competition and oligopoly market structures. [10]**

Introduction

In the imperfect market structure, the firms are under the condition where there is imperfect market information about price and production condition and immobility of resources where some firms may not be able to access certain resources. In this imperfect market condition, the firm in the monopolistic competitive and oligopolistic market structures will abide to the notion of profit maximization to determine the price and output level where production equilibrium is attained.

Main Body

For the oligopolistic market structure, there are few firms with high market concentration ratio as there is high degree of barriers to entry to prevent the entry of new firms, enabling the firms to have a higher degree of market power. The product can either be differentiated or homogeneous and the firm can either face a collusive or non-collusive market for price-setting. Conversely, the firm in the monopolistic competition face many firms as there are low barriers to entry, implying that the firms have limited market power since the firms derive market power based on the differentiated products.

Regardless of the types of market structure, the firms will abide to the notion of profit maximisation in setting price and output which is at the level of output where marginal revenue (MR) is equal to the marginal cost (MC) as the firm will increase production when MR is greater than MC since additional net profit is attained or decrease production when MR is less than MC where additional loss is incurred.

P0

Price

Qty

Q0

MR

AR

MC

AC

As seen from the diagram, it can be observed that MR and AR are downward-sloping while MC is upward-sloping as there is high rate of utilization of resources. The production equilibrium is set at the quantity level Q0 while the price level is at P0. The production equilibrium suits the condition for collusive oligopolistic firms as these firms have price-inelastic MR and AR, since they abide to the price level set by price leaders in the barometric leadership, dominant firm, or least cost price-leadership as a cartel that have strong market power. Consequently, the price will be set higher and output is at a lower level as compared to the firms in a monopolistic competitive market structure.

However, when the market structure is non-collusive and competitive, there will be high degree of mutual interdependency which gives rise to a kinked MR and AR condition. This will contribute to a condition of price rigidity as there is no advantage for the firm to increase or decrease price. Although the price and output decision is still based on the notion of profit maximization where MC=MR, the firms in this collusive oligopolistic market structure will not adjust the price but rather conduct non-price competition to raise market demand.

Lastly, for the firm in the monopolistic competitive market structure, the price-elastic MR and AR will contribute to a lower price level and higher output level as the firms have limited market power since their source of market power is based on product differentiation. Although the price and output is still set on the basis of profit maximization at the level of output where MC=MR, the price set will be lower and output will be at a higher level.

Conclusion

In sum, it can be seen that firms in these two types of market structures will base their price and output decisions on the notion of profit maximization but they will differ due to the differences in the MR and AR which are affected by the degree of market competition and market power.

**Essay Question 13**

**Singapore Airlines, caught between the rapid emergence of airlines from the Gulf countries (for example, Emirates) and low cost Asian rivals, is attempting to revive growth by cutting prices.**

**Source: CNBC**

**(a) Using appropriate examples, explain the various internal economies of scale enjoyed by an airline company. [10]**

Approach

* + Explain what it means for an airline company to expand.
  + Followed by this, explain 3 sources of IEOS, using examples, which can result from such an expansion.
  + Explain using a diagram how LRAC is lowered when there is such an expansion.

Introduction

Internal economies of scale (IEOS) are the cost savings a firm experience as it increases its scale of production/operation. Thus, as the scale of production/operation increases, the long run average cost will fall (as the total cost is spread over a larger range of production/operation).

Main Body

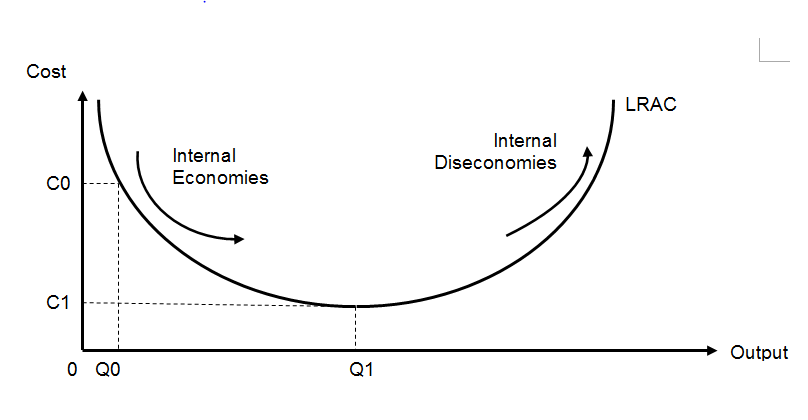
There are different types of IEOS that an airline company can enjoy when they expand their scale of operation. Expansion of scale of operation in this case may refer to the number of passengers they carry, the number of flights they operate or even the number of airports they serve/fly to.

There are IEOS from organizational administrative economies. As an airline company grows its operation, there is greater flexibility to employ specialists to be in-charge of customer service management, sales and advertisement, human resource management, training of the crew, finance etc. This will help the airline company to achieve higher managerial efficiency and lower average cost of operation.

There are technical IEOS from spreading overheads and indivisibilities. As an airline embarks on R&D for more fuel efficient planes or better quality of in-flight experience, they will incur significantly large costs of embarking on such investments. Similarly, for each airline company the fleet of aircraft constitutes a huge fixed cost. An airline company also has to incur high start-up cost in terms of the technology required, routes to be chosen and setting up of the facilities (especially in terms of logistics) at different airports. Thus, all these investments in fixed costs tend to be viable and cost efficient only with a large scale of operation (such that the long run average cost is lowered with increase in scale of operation).

There are financial IEOS that can be enjoyed by an airline company. An airline company may have to obtain funds from financial institutions to carry out their operations and research projects. The larger the scale of operation (for example, SIA or Emirates which not only have aircrafts with large (passenger/seat) capacity but also serves many airports), the lower is the interest rate on loans. This is because the scale of operation directly affects their credit worthiness as a borrower (less risk of default). Thus, a lower interest rate will help to lower the average cost of the firm. Similarly, the administering of the interest rate can be spread over a large scale of output which will lower long run average costs.

An airline company may enjoy commercial EOS by enjoying cost cutting form advertisement to attract many tourists and gain market share both in the domestic market as well as the international market. As the advertisement cost can be considered to be a fixed cost, the average cost of advertising will be lower for SIA which has large scale of operation over long run.



As seen from the diagram, the IEOS enjoyed by a firm can be shown using a LRAC curve. As the airline company expands/has a higher scale of operation from Q0 to Q1, the long run average cost falls from C0 to C1.

Conclusion

Thus, an airline company will enjoy different IEOS from large scale of operation and move down along the LRAC. However, the assumption is that the company will choose to operate on the LRAC at any given level of operation. It is important to note that as the airline company keeps expanding their scale, they may incur higher long run average cost after expanding beyond a certain scale of operation (i.e. internal diseconomies of scale).

**Essay Question 2**

**Singapore Airlines, caught between the rapid emergence of airlines from the Gulf countries (for example, Emirates) and low cost Asian rivals, is attempting to revive growth by cutting prices.**

**Source: CNBC**

**(b) Given the market structure Singapore Airlines is operating in, discuss if the business strategy used is the best way to survive the threats in the airline industry. [15]**

Question Approach

* Identify and justify the market structure that Singapore Airlines is operating in and analyse the current threats
* Identify the ‘business strategy’ based on preamble as price competition
* Set criteria to decide what is ‘best’
* Thesis: Given the market structure, price competition is a good strategy to survive the threats based on the criteria – show how the strategy helps Singapore airlines to meet the criteria and respond to the threats
* Anti-Thesis 1: Given the market structure, price competition is not a good strategy to survive the threats based on the criteria- show how the strategy may actually worsen the problems for Singapore Airlines
* Anti-Thesis 2: Given the market structure, other strategies are better to survive the threats based on the criteria- show two other relevant strategies that can be used by Singapore Airline

Introduction

The market structure that Singapore Airlines (SIA) is operating in is oligopoly. This is due to the high BTE in the form of huge start of cost especially, in terms of investing in the fleets of aircrafts. This results to very few dominant firms in the market who capture a significant market share. This allows the firms to enjoy long run supernormal profit.

However, with the entry of new competitors in the market as mentioned in the preamble, the market share of Singapore Airlines may fall and due to the availability of substitutes including the low-cost carriers (budget airlines), PED>1 [AR may fall and become more price elastic]. Thus, with this new threat of competition, over time, SIA may face a declining profit level. To revive their growth and profit, SIA is engaging is price-cutting strategy which is a form of price competition. Profits can be defined as the excess of total revenue over total costs. (reduction in profit – leads to the need of a strategy to counter this loss of profit)

It is important to examine if this strategy is the best strategy for SIA, assuming that their main goal is to effectively revive and sustain their profit levels.

Note: identification and explanation of the industry as a monopolistic competition market structure is also accepted but the analysis must match the identification

Main Body

**Thesis: Given the market structure, price competition is a good strategy to survive the threats based on the criteria set**

SIA can give discounts to attract more customers to avail their services. The fall in price should increase the quantity demanded of their services. This is especially if SIA is engaging in predatory pricing to keep threats of competition from Emirates and low cost carriers at bay.

It is important to note that given that PED<1 in the oligopolistic market structure that they are operating in, the total revenue may fall initially as quantity demanded rises less than proportionately, however, as they reduce substitutability and regain their market share, they can increase price to increase total revenue. Temporarily, they may be earning sub-normal profit, but as they may have accumulated long run super normal profit, they may be able to survive the short run fall in profit levels. Moreover, the IEOS enjoyed by SIA is significantly large as mentioned in part a, thus, they may still be able to break even while charging lower prices.

(lower price will increase total revenue as dd is now price elastic / cost saving from IEOS allows them to lower price)

Thus price-cutting strategy may be effective for SIA especially to preserve market share and revive profit. This is true assuming that the price cuts are not matched by the rivals.

**Anti-Thesis 1: Given the market structure, price competition is not a good strategy to survive the threats based on the criteria**

SIA is operating under oligopolistic market structure as explained before. This means there is existence of mutually interdependent behavior. Thus, a price-cut by SIA may be followed by Emirates for the long haul flights and by low cost carriers for the short haul flights, especially on routes served by both of these airlines. They can do so by announcing special offer price or discounts. Due to the presence of few dominant firms, there is a presence of very high degree of rival consciousness, whereby, an increase is price is not followed by rivals but a reduction in price will make the rivals to follow suit. This makes the PED<1 below the price-output combination decided in the market. And a fall in price will only increase quantity demanded less than proportionately as competitors are also offering lower prices. (not advisable for the SIA to decrease when the demand becomes price -inelastic)

Thus, as SIA cuts price and other rivals follow, there will be an aggressive price war which ultimately results to lower total revenue of all firms [as fall in price leads to less than proportionate rise in quantity demanded, total revenue falls]. Assuming total costs don’t change, this will lower the profit level of SIA.

Due to the characteristic of mutual interdependence, prices tend to be stable in oligopoly and so, it may not be a prudent decision for SIA to engage in price-cutting as it is not a sustainable policy and may not be effective in reviving growth/profit.

**Anti-Thesis 2: Other strategies (non-price competition) may be better for SIA to revive their growth and profit.**

Advertising (or product differentiation by adding in-flight services like free WiFi etc.) could be a better alternative. SIA is already very well known for its safety, on-time arrivals and departures as well as comfort. However, they can still continue engaging in advertising to create brand loyalty among the customers. (Kris flyer) This helps to increase AR and make PED<1 (and XED<1 as well) such that they can charge higher price to increase TR. Assuming that the rise in TR exceeds the advertisement costs, profits will increase. Such brand loyalty will also increase the BTE making PED even more inelastic, and help them to preserve market share and long run profit. This is also a feasible strategy considering the accumulated long run super normal profit.

Business partnership with other airlines and expanding regional network to tap on to the growing economics in the neighbouring economies may be a possible solution (for example, AirVistara in India). This will help them to increase AR and increase profit (Assuming rise in TR > rise in cost). It is safe to assume that expanding into the regional markets, especially the developing ones, will help them to also enjoy lower labour cost required to run the various services of an airline company. Thus, overall profit levels will increase.

Introducing low cost services especially for short-haul travels [to compete with the low cost airlines] like Scoot or Silk Air to achieve market share even in the low cost segment and increase AR to increase profit. By such diversification, they can also ensure that they are more equipped to at least maintain their profit level, even if demand falls in the market they have traditionally served.

Cost Reduction can also be a feasible strategy. Considering the dominance that Singapore Airlines has had, it is expected that they have past supernormal profits that they can use to invest in more fuel efficient aircrafts. This will help them to lower the fuel cost and as Profit= TR- TC, lowering of their total costs, will also help them to increase profit. However, as TR is already expected to fall because of the threat of competition in the market, the lowering of TC may not lead to a rise in profit, but may only allow to at least not reduce the profit significantly or maintain the current profit levels.

Conclusion

Price-cutting is not the best strategy over long run as it may lead to a price war, given the nature of the industry. However, if they really want to engage in price war temporarily, they may have to cut cost simultaneously to be able to survive the price-war. Given their IEOS, it may be feasible for SIA to use price-cutting as a strategy for a short period of time. However, due to the nature of the industry non-price competition may be more preferred over the long run.

**Essay Question 4**

The importance of embracing digitalization and innovation to stay competitive has become a priority for Singapore Companies. Companies not need to search for growth opportunities outside of Singapore but also to transform themselves from within.

1. Explain how the size of firm relative to the market, influences the price and output decisions of firms. (10)
2. Discuss the key factors influencing the profitability of the firms. (10)

Part a)

Introduction

**Meaning of the notion of price and output decision**

* Setting price and output decision based on profit maximization

State that the size of the firm will affect the price and output decision as it affects the cost and revenue and this will affect the price and output decision.

Main Body

1. Explain the features of firms in Singapore based on imperfect market structure – in the real world, the market is imperfect – immobility of resources and imperfect market information
2. Explain how the size of firms will differ based on different forms of market structure

MC – small firms, Oligopoly and monopoly – big firms – size of market power – create barriers to entry – affect the slope of MR and AR

1. Explain how the price and output decision is determined based on profit maximization rule

MR = MC, must also explain MR > MC and MR <MC

1. Draw diagram and describe
2. Evaluation of this price and output process

* Based on the market of monopoly, the price set by the firm will be high while the output level is low
* MR and AR are price inelastic – high degree market power – no degree of substitution – 100% market share – the firm is very big and have great control over the price

1. Explain and evaluate how this price and output decision will change under the monopolistic competitive market

* Price set by the firm will be low while the output set by the firm will increase
* MR and AR are price elastic – low degree of market power – high degree of substitution – many firms – as the size of the firm is small

1. Explain and evaluate how the price and output decision will be affected under the oligopolistic form of markets structure

Size of the firms in the oligopolistic market structure is large – dominated by few firms – high degree of mutual interdependency – price rigidity but still based on profit max – kinked demand curve

Large size of firm and very few firms – very reactionary – no advantage and disadvantage to change price and the price and out level will be determined by this high degree mutual interdependency due the large size of the firm

Large size of the dominant firm and few firms also make it easy for the few large firms to collude and set a high price to control market

1. Explain other conditions that will affect the price and output decision based on the size of the market

Size of firms also enable them to conduct price discrimination and there fore influencing price and output decision

Size of the firm will affect the size of production – reap EOS – lower Ac and MC – therefore affect the price and output level

1. Evaluation:

* The size of the firm will affect the cost and revenue and affect the profit maximization condition – affect the price and output level
* It also affects the market share and this will affect the price strategy as seen in price discrimination

Conclusion

**The price and output decision is based on profit maximization rule and the size of the firm is an important factor that will determine the price and output. It affects the cost and revenue condition and nature of the market structure which are the main areas that determine the price and output level.**

(b)Discuss the key factors influencing the profitability of the firms. (10)

**Introduction**

**Meaning of profitability**

State the the value of profit depends on the cost and revenue and thus the factors affect the cost and revenue condition will be the factors influencing the profitability of the firms

**Main Body**

1. **Explain how the profit level is derived – total revenue less total cost**

* **Different types of profit level**

1. **Factors that will affect the revenue of the firm**

* **Price of the goods – set based on the market power – high price or low price**
* **Price strategy – PED is price inelastic – increase price / PED is price elastic – decrease price – increase total revenue**
* **Value of the market – income and size of the consumers**
* **Types of market structure – market share – determines your revenue / depends your price setting behaviours – determine market revenue**
* **Price discrimination as a way to raise the total revenue**

1. **Factors that will affect the cost of production of the firms**

* **Capacity of the firm in reaping EOS**
* **Cost of machinery and resources like wages**
* **Efficiency of production – productivity of workers**

1. **Analysis – which factor is most important for from the revenue and cost perspective? – cost perspective – efficiency of production, revenue perspective – nature of the market affected by the size of the firm**

**Conclusion**

Other questions

1. Discuss the extent to which government intervention is the main determinant influencing firms’ profits in a country.   [25]

2. The successful exploitation of new ideas is crucial to a business being able to improve its processes, bring new and improved products and services to market, increase efficiency and, most importantly, improve its profitability.

(a) Explain how innovation may affect efficiency in a market.   [10]

(b) Discuss whether a firm’s  decision to innovate is dependent solely on the barriers to entry in the market.   [15]

3. More Singapore companies had expanded their international footprint in 2017, with 83% of businesses currently engaged  in overseas business activities, up from  56% in 2016. The top two challenges were understanding dynamics of market competition and regulations to better deploy the various pricing strategies, and sourcing for local suppliers.

Source: Singapore Business Review, 11 January

(a) Explain why the level of competition faced by a firm might increase over time, and how this increase in the level of competition will affect consumers in different ways.   [10]

(b) Discuss the various factors that Singapore companies would consider when deciding on the choice of pricing strategy to deploy in an overseas market.   [15]

4. In 2018, the Competition and Consumer Commission of Singapore (CCCS) fined Grab and Uber over their merger. On the other hand, CCCS cleared the merger of two food court operators. Foodfare and Kopitiam as even with the merger, other strong competing operators remain in the market for the sale of cooked food.

(a) Explain the likely market structure that is consistent with the behaviour of firms in the ride-hailing industry and the market  for the sale of cooked food before the merger.     [10]

(b) Discuss the factors that CCCS considers when they decide on whether to allow firms  to merge.     [15]