

5. Structural Analysis of Industry

Industry Analysis can be done via Porter's structural analysis of industries (Porter, 1980).

It is also known as Porter's five forces model of competition. The five competitive forces are shown in Figure 1 below.

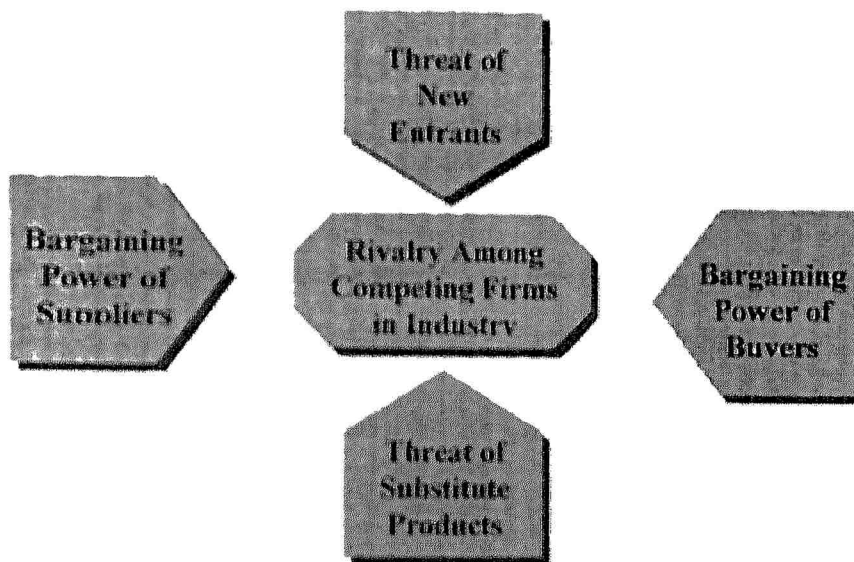


Figure 1: Porter's 5 Forces Model of Competition

5.1 Threat of New Entrants

New entrants to an industry bring new capacity, the desire to gain market share, and often substantial resources. Prices can be bid down or incumbents' costs inflated as a result, reducing profitability. Companies diversifying through acquisition into the industry from other markets often use their resources to cause a shake-up. Thus acquisition into an industry with intent to build market position should probably be viewed as entry even though no entirely new entity is created.

The threat of entry into an industry depends on the barriers to entry that are present, coupled with the reaction from existing competitors that the entrant can expect. If

barriers are high/or the new comer can expect sharp retaliation from entrenched competitors, the threat of entry is low.

The following subsections analyse factors that affect the threat of entry. Most of the factors are related to entry barrier, which is of utmost importance to this competitive force.

5.1.1 Economies of Scale

Economies of scale refer to declines in unit costs of a product as the absolute volume per period increases. Economies of scale deter entry by forcing the entrant to come in at large scale and risk strong reaction from existing firms or come in a small scale and accept a cost disadvantage., both undesirable options.

Wireless communications industry has high entry barriers even though technology has driven the cost down significantly in recent years. Operators build radio base stations quickly to cover as much geographical areas as possible, to provide service national wide, and hence create economies of scale that deter new entrants from entering the industry.

5.1.2 Product Differentiation

Established firms have brand identification and customer loyalties, which stem from past advertising, customer service, product differences, or simply being first into the industry. DiGi.com was the first to launch a digital wireless services network (GSM1800) in the country in 1995.

Based on the products and services reviewed in the Literature Review, for 2.0G GSM services, there is not much to differentiate in product features. Hence, operators in the industry differentiate themselves by promotion packages, advertising and distribution.

Operators spend substantial amount of marketing effort in advertising in TV, newspapers and magazines to create brand identity.

5.1.3 Capital Requirements

The need to invest large financial resources in order to compete creates a barrier to entry.

Large capital resources (billions of Ringgits) is required:

- To setup an operational wireless communications network – sophisticated hardware and software are required which are very costly.
- To cover up startup losses before subscriber number reaches a profitable level
- To maintain and enhance the network in order to manage the network effectively and cope for the growth in subscription base
- To fund mass advertising that creates brand identity
- To subsidize promotional packages and mobile handsets in order to increase customer base

5.1.4 Switching Costs

A barrier to entry is created by the presence of switching costs, that is, one-time costs facing the buyer of switching from one supplier's product to another's. Switching costs may include training cost, cost and time in qualifying a new source, and physic costs of severing a relationship.

In Malaysia, the regulator does not enforce number portability. Therefore, when mobile subscribers decide to switch from one service provider to another, they have to abandon a number that is well known by their contacts. The switching cost of losing their number for subscribers is high, especially numbers used for business purposes.

5.1.5 Access to Distribution Channels

A barrier to entry can be created by the new entrant's need to secure distribution of its product. To the extent that logical distribution channels for the product have already been served by established firms, the new firm must persuade the channels to accept its product through price breaks, cooperative advertising allowances, and the like, which reduce profits. New entrant has to persuade the retailers of mobile phones to give it a space or otherwise its products might not be placed at a visible location in the retailers' shop, or setup new retail channels which incur higher cost.

5.1.6 Cost Disadvantages Independent of Scale

Established firms may have cost advantages not replicable by potential entrants no matter what their size and attained economies of scale.

Existing providers may have cornered favourable locations before market forces bid up prices to capture their full value, e.g. rooftop at good radio visibility to erect radio base stations and achieve good radio coverage. They might have gain substantial experience in dealing with the regulator and operating the wireless network efficiently, e.g. in maintaining, radio/cell planning, troubleshooting and expanding the network.

5.1.7 Government Policy

Government limit entry into the wireless industry with licensing requirements and limits on access to the radio resources, i.e. operating frequency and bandwidth. This is probably the strongest barrier as it effectively limits the number of providers in the industry to the number of issued licences.

More subtle government restrictions are controls such as product safety regulations. In Malaysia, radio base stations are not allowed to be erected in a way that affects the health of the residents around the area.

Malaysian government has announced that there will only be three 3G licences issued. It is expected that there would be some merging and acquisition happen in the industry, or operators that fail to bid a 3G licence to operate would have to become Mobile Virtual Network Operator (MVNO), to offer services over infrastructure of their current competitors. This model is used by Virgin Mobile of the UK and is so far seems to be successful as Virgin Mobile is actively looking for opportunity to enter and operate in foreign markets.

Government policy is a strong contributor to entry barrier.

5.1.8 Expected Retaliation

The potential entrant's expectations about the reaction of existing competitors will influence the threat of entry. If existing competitors are expected to respond forcefully to avoid the entrant's stay in the industry, it creates barrier to entry.

With the highly illiquid assets employed in the wireless communications industry (e.g. radio and switching equipment and cables), the strong financial resources established firms have, and leveraged with distribution channels and existing customers, it is likely that established firms will retaliate the entrant strongly and hence creates barrier to entry.

5.1.9 Overall Analysis of Threat of Entry

From the above analysis, the threat of new entrant is very low due to the high entry barriers created by government policy and economies of scales.

Although it is not easy for local firm to enter the market, the barrier to entry may be relatively low to foreign operators with much stronger financial resources. They can overcome the limit of licensing by acquiring market share of existing providers, e.g. Telenor has 61% of DiGi.com (www.digi.com.my). In addition, these operators are more experienced to operate in highly competitive market. When the market is open, it is expected that local operators would face strong competition.

5.2 Rivalry among competing firms in the industry

Rivalry among existing firms takes the familiar form of jockeying for position – using tactics like price competition, advertising battles, product introductions, and increased customer service or warranties. Rivalry occurs because one or more firms see the pressure or opportunity to improve position. In the wireless communications industry, competitive moves by one firm have noticeable effects on its competitors and thus may incite retaliation or efforts to counter the move. Competition drives down the price and profit margin.

Factors that increase rivalry among firms are diverse competitors, slow industry growth, high fixed costs, lack of differentiation and high exit barriers.

5.2.1 Equally Balanced Competitors

The wireless industry is highly concentrated to only 5 firms, close to an oligopoly. No firm can make moves without being noticed and without thinking about the retaliation from its equally resourceful competitors. This reduces rivalry in the industry.

5.2.2 Industry Growth

The wireless communications industry growth is high. It reduces the extent of rivalry in the industry. Firms can improve results just by keeping up with the industry, where all their financial and managerial resources may be consumed by expanding with the industry.

5.2.3 High Fixed Cost

High fixed costs create strong pressures for firms to fill capacity which often lead to rapidly escalating price cutting when excess capacity is present.

Fixed cost is high in communications industry, and the product (capacity) cannot be stored. Time dotCom with excess capacity (with least customer in Table 7) has cut the price of subscription from RM60 to RM10 for some promotional programs to gain more subscribers. DiGi.com was the first to introduce Prepaid service which do not require subscription charges and proven to be successful in boosting up its subscription base.

5.2.4 Lack of Differentiation or Switching Cost

Second generation mobile services (2.0G) do not have much product differentiation, despite of the effort of providers in advertising. The service is perceived more as a commodity or near commodity, and decision of buyers is largely based on price.

Although there is a pressure for intense price competition, local providers try to differentiate their services by promotional packages, advertising, improved coverage and signal quality, and customer service.

With introduction of enhanced SMS and 2.5G services such as GPRS, products can be further differentiated, and may create layers of insulation against competitive warfare

because buyers have preferences and loyalty to particular providers. Rivalry in the industry may be reduced then.

Switching cost has the same effect of product differentiation. High switching cost to subscribers reduces rivalry, as it is more difficult for competitors to jockey positions. Although switching cost is high, it is possible to woo targeted subscriber groups from competitors by attractive promotional packages.

5.2.5 Capacity Augmented in Large Increments

Where economies of scale dictate that capacity must be added in large increments, capacity additions can be chronically disruptive to the industry supply/demand balance. As communications equipments are added in large increments, e.g. switching and transmission equipment, the industry may face recurring periods of overcapacity which may result in price cutting.

5.2.6 High Exit Barriers

Exit barriers are economic, strategic, and emotional factors that keep companies competing in business even though they may be earning low or even negative returns on investment. This is created by the highly specialised assets in wireless communications. As exit barriers are high for the industry, excess capacity does not leave the industry. Providers that lose the competitive battle do not give up, and may cut the price and lower the profitability of the industry.

5.2.7 Overall Analysis of Intensity of Rivalry

Based on the above analysis, although there is high fixed cost, lack of differentiation (currently at 2G with enhanced SMS) and high exit barriers in the industry, the intensity

of rivalry is medium in the industry, due to the high industry growth and equally balanced competitors factors that reduce the rivalry.

5.3 Threat of Substitute Products

All firms in an industry are competing, in a broad sense, with industries producing substitute products. Substitutes limit the potential returns of an industry by placing a ceiling on the prices firms in the industry can profitably charge.

Fixed line (PSTN) services, public pay phones, calling card and voice over IP (VoIP) are among the substitutes of mobile phone service. Although the substitutes are substantially cheaper, they are lack of mobility and hence do not constitute substantial threat to the industry. In addition, none of the substitutes is able to provide international roaming capability, which is very important to business travellers.

When GPRS or 3G are introduced, more services will be available through the mobile service, e.g. location service to retrieve a map, and it would be even more difficult for substitute products to take away the market share of mobile communications.

In summary, the threat of substitute products to the industry is low.

5.4 Bargaining Power of Buyers

Buyers compete with the industry by forcing down prices, bargaining for higher quality or more services, and playing competitors against each other – all at the expense of industry profitability.

Before the communications industry is open to competition from external providers, buyers do not have many choices to switch service providers, as the current mobile service is not differentiated as discussed earlier.

With the Malaysian government's commitment to GATS to open up its communications industry, it is likely that there would be increase in the supply and demand for communications services due to the increased in number of producers (lower market barriers). With increased supply, consumers will have a wider choice. When there are more choices to the buyers, they have more bargaining power as they can switch to a competitor offer. Churn (switching of subscription of service provider) happens when quality of service is not meeting customer expectation. However, as there is no number portability (higher switching cost), if all operators provide similar quality of service, it is unlikely for the customers to switch provider unless one service provider is significantly better than the others.

In addition, there is high switching cost in changing their mobile number when they churn. Other factors that reduce the bargaining power of buyers are low buyer concentration, no ability to integrate backward and lack of substitutes.

In short, the bargaining power of consumers is at the moment low in this industry but it would get stronger when more competition is introduced.

5.5 Bargaining Power of Suppliers

Suppliers can exert bargaining power over participants in an industry by threatening to raise prices or reduce the quality of purchased goods and services. Powerful suppliers can thereby squeeze profitability out of an industry unable to recover cost increases in its own prices.

Bargaining power of suppliers is low before they sign a deal with a provider as:

- There are many suppliers that provide hardware, software and services required to setup and operate a mobile network, e.g. Ericsson, Alcatel, Nokia, Nortel, Motorola, Siemens, Lucent, etc. This lowers the supplier power.
- Providers in the communications industry are important customers of the suppliers. This lowers the supplier power.
- Suppliers do not pose a credible threat of forward integration.
- If labour supplier is considered as a supplier, it is not powerful in Malaysia.

Professionals that operate the network are not unionised in Malaysia. The Malaysian labour regulations, Industrial Relation Act 1967 and Trade Union Act 1959, do not allow professionals to form labour union (Ayadurai). Therefore, labour supplier is not powerful in threatening the providers.

Once the equipment suppliers are selected (a deal is won), they will supply substantial amount of network equipment, software and services to the providers. This constitutes the high fixed cost and high switching cost to the providers, and increases the power of suppliers. If the supplier's product is an important input to the provider's business, for instance, an Ericsson only network depends solely on Ericsson's support, maintenance and upgrade, the supplier's bargaining is very higher.

In short, the bargaining power of supplier is high if a provider depends on it solely, and medium if the provider depends on a few suppliers. The latter is a more common scenario in Malaysia.

5.6 Summary of Industry Analysis

Figure 2 below summarises the five competitive forces of the industry. It is found that the rivalry among competitors and bargaining power of suppliers possess medium threat to the industry, and drain away some profitability from the service providers.

In the short term, bargaining power of buyers and threat of new entrants are low.

However, when the market is open and foreign operators are allowed to operate locally, the market will become more competitive. It is expected that these two forces will change from low to medium, or even high and reduce the industry profitability.

The threat of substitute is low in short and medium term. It is expected that the mobile business (voice and content) will grow continuously as no substitute has the mobility feature of mobile services. When 3G technology is implemented, more services would be delivered over a larger bandwidth. It is even more difficult to find substitutes for mobile services.

The industry is expected to remain attractive at least for medium term.

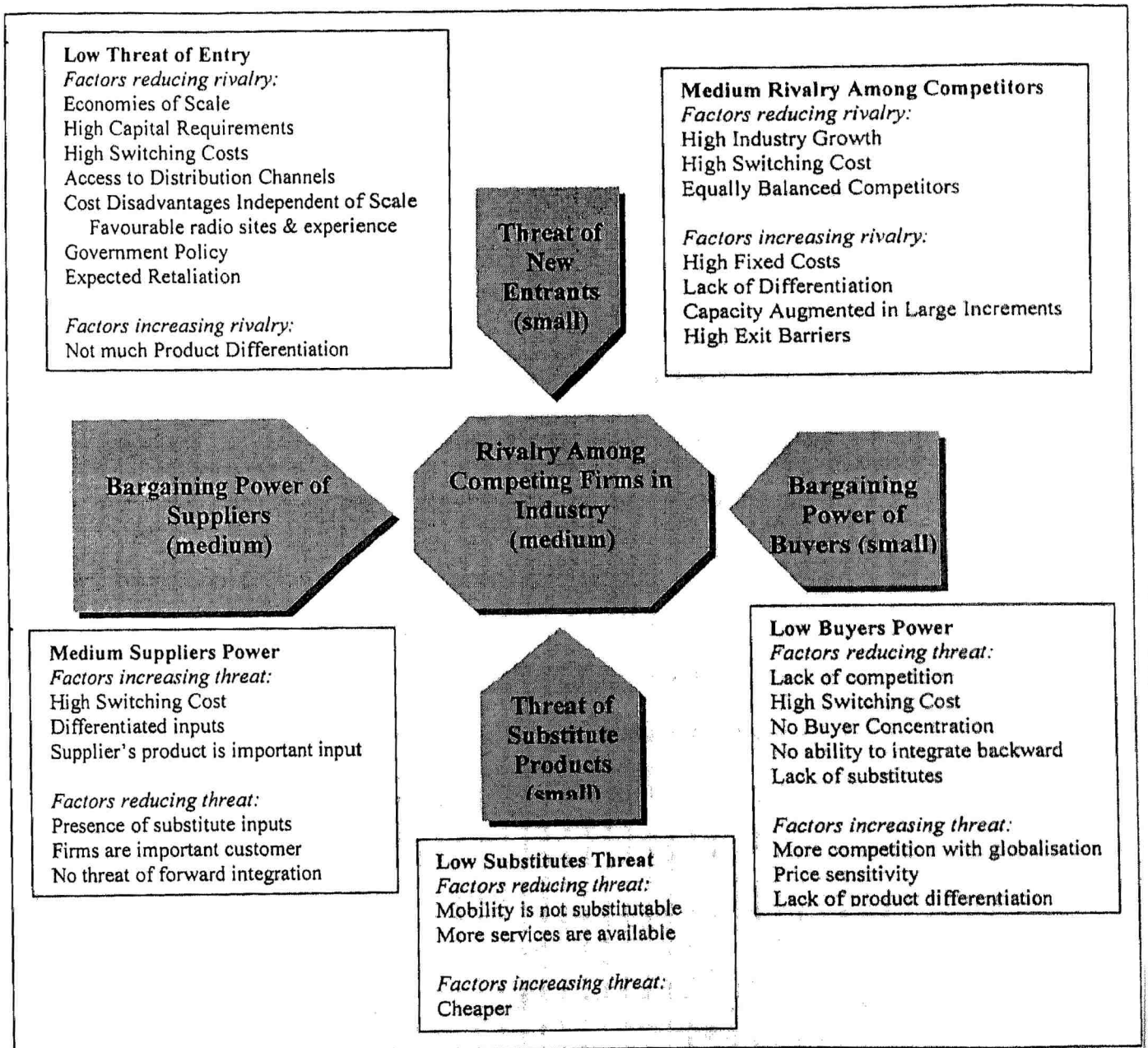


Figure 2 Summary of Industry Analysis

Due to people's needs for communication and mobility, the wireless communications industry has been growing with a high growth rate in the past decade. It is expected to be an attractive market place to operate and gain above average return in the medium term. In addition, as more and more countries joining WTO, the market is getting bigger and offers even more opportunities for established firms to explore the possibility of exporting their services, or operating overseas.

Although WTO offers some opportunities in bigger overseas market, it also increases the threat of new entrants, as foreign operators with stronger financial and technical resources could enter the market by acquisition or buying substantial stakes in a current provider.

A summary of opportunities and threats identified in the external environment as a result of the analysis in the last chapter and this chapter are listed in the following table.

Table 18: Summary of Opportunities and Threats	
Opportunities	Threats
Deregulation, technology and economic revolutions reduced entry barriers.	The market becomes more competitive.
Globalisation creates a larger market place for local providers to expand their operations overseas	Threat of entry from strong foreign providers.
Roll out of broadband technologies provide framework to offer diverged services and possibility to differentiate products, and create brand loyalty.	Competition model shift from facility to service based. Customer strategy, innovation and technology management are keys to success.
Reduced bargaining power of suppliers due to rapid technology change. More entrants to the supplier market who can provide solution on a wide range of technology.	Rapid technology change makes it difficult for management to make decision on technology investment.