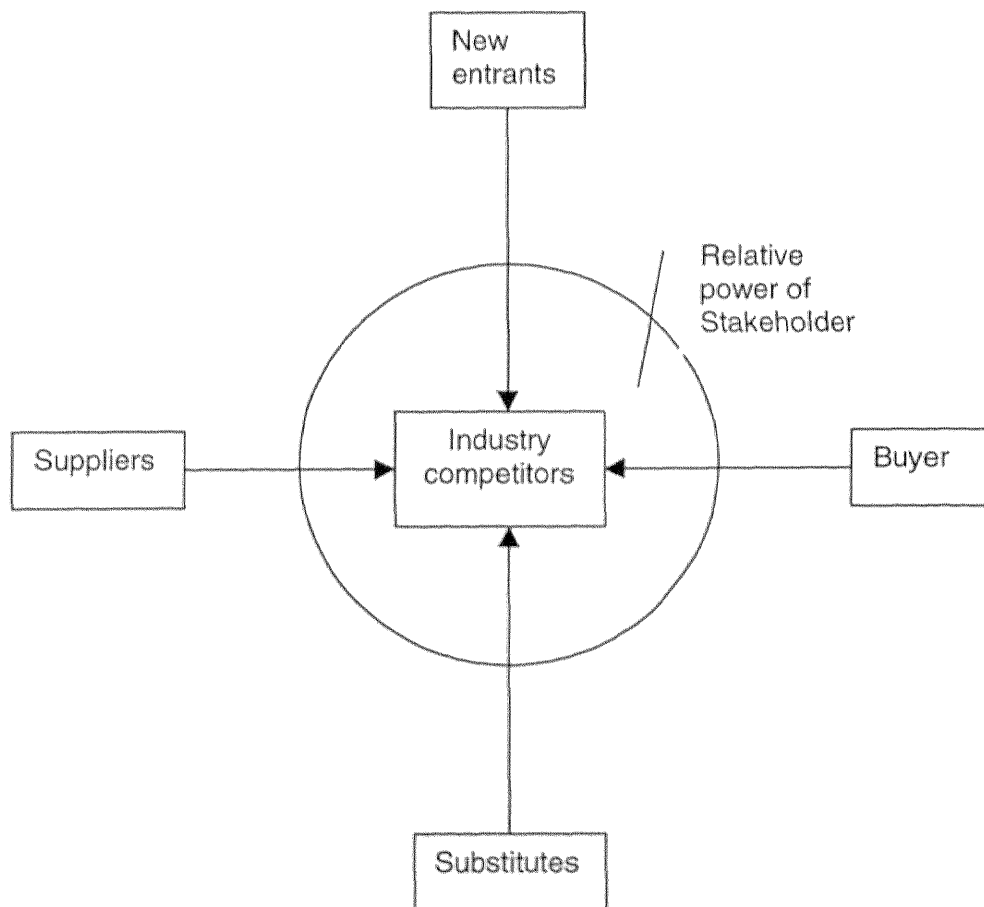


# Chapter 4

## Competitive Analysis

In this chapter, we shall use Michael Porter's Five Forces model to examine the competitive position of the various stakeholders in the injection moulding sector in Selangor. In addition, the relative power of stakeholders is discussed.

Figure 8 : forces driving industrial competition



## 1. Threat of New Entrants

The number of Plastic injection moulding companies in Selangor had been growing every year since 1988 until 1997. After mid 1997, it is understandable that the number of injection companies will not increase for the time being, due to sudden economic downturn. During an ITM exhibition in Kuala Lumpur, May 1988, I checked with some reputable machine and accessories suppliers. They confirmed that the demand for their products had drop substantially. Most of the moulding companies had frozen their investment plan for the time being. There was no establishment of new injection moulding company in Selangor as far as they know.

Looking at the present economic situation, most of the moulding companies are no longer running 3-shift production as they used to be. Own product manufacturers are also effected by current economic slowdown but not as bad as the custom moulder. The reason is that plastic household products produced by our plastic company are relatively cheap. Furthermore, plastic company can use promotion to induce demand. In the custom moulding sector, the moulding companies are depending on derived demand.

The economic impact on the custom moulding was differed from one industry to the other. On the one hand, companies that provide moulding service to construction industry and automotive were in the worst situation; 70% drop in production in the first half of 1988. On the other hand companies that provide moulding services to the electrical & electronic industry were considered the lucky group, but they also suffered about 20 - 30% drop in production.

Under the present situation, the injection moulding capacity available in the industry is more than the demand for moulding services. There is no good reason to add new moulding capacity into the industry. As a matter of fact, should there a new demand for moulding services exist, the existing companies could easily supply at competitive price, as the supply now exceeds the demand. Beside,

under the present situation, MITI normally will not give approval for manufacturing license to foreign companies. Exception will be given only if a certain moulding technology is currently not available in Malaysia and no local company is interested for the new investment.

In general, high capital is not required to start a plastic moulding company. The normal paid-up capital is about RM 200,000 for a small company, and the large scale injection moulding company could be in the range of a few million Ringgit Malaysia.

In the short term the threat for new entry is at its minimum level. Local company still enjoy some 20 – 40% import duty protections on the plastic household products.

In the long term, especially after 2003 (AFTA), regional players may export their products or services to our country if the locals are not competitive. Regional players may establish local manufacturing facilities and take over the market share in custom moulding services.

The present injection moulding companies are quite diversified in the sense that they are manufacturing their own products and providing custom-moulding services to various industries for various applications which required different skill and technique. Custom moulders tend to focus on a certain industry, for example, there are companies specialising in injection moulding for automotive application. Some are specialising in the audio industry. Others are specialising in high precision moulding for electronic components. Look at the plastic moulding industry as a whole, the industry has made available special moulding technique, example, 2-colour injection moulding, ultra thin wall moulding technique, and gas-assisted injection moulding processes. These kinds of specialised injection moulding processes could bring new business opportunities across industry, e.g., 2-colour injection moulding is applicable for automotive

industry as well as the electrical and electronic industry. Big scale injection-moulding company was able to provide a full range service. In this way they were able to reduce the number of competitors by reducing the transaction cost for their customers.

Considering the plastic injection moulding in Selangor is well established and the demand for injection services is less than what the current capacity can supply, it is reasonable to assume that the threat for new entrant is at its minimum level.

## **2. Threat of Substitute Products or Services**

The first commercial thermoplastic was manufactured in the 1930's and introduced in the Europe market in the same year. Since then more commodity thermoplastics i.e. polyethylene, polypropylene, styrene co-polymer were introduced to the Europe and the United State markets in the 1950's and 1960's.

In the 1960's, engineering thermoplastics like polyamide and polyacetal were commercialised in Europe and United State markets. Today, these materials are produced in large scale plant and have successfully replaced conventional engineering materials like metal, i.e., steel, aluminium, zinc, copper etc.

In 1970s, polyether sulfone and polyphylene sulphide were introduced to the market. In 1980s, polyaryl etherketone and liquid crystal polymer were commercialised. In 1990s, metallocene polyolefine was commercialised. These new engineering plastics created the new opportunities to replace more conventional materials, which was not possible with the early generation of engineering plastics.

The world consumption of thermoplastic is increasing every year since 1930. (Jan, 1998.) In 1996, plastic companies in the world consume more than 150 million metric ton of thermoplastics. Within 60 years of history, more

thermoplastic materials had replaced conventional materials like glass, metal, wood etc. The world demand for thermoplastic is still growing by 7 – 8 % every year. In the United State and the Europe, the growth rate is just about 3 % per annum because plastic application in these countries has already reached its maturity stage. However a new range of engineering plastic will provide hope for new plastic application. On the other hand, In the last 10 year, most of the countries in Asia recorded double digit growth rate.

In 1997, Malaysia's per capita consumption of plastics was about 50kg, the average growth rate for the last 10 years was about 20% per year. In develop country like Japan, USA and Europe, the per capita consumption of plastic is in the range of 80kg – 150kg and this figure is still growing. All these statistics indicate plastic application in Asia and particularly in Malaysia is still at its early stage of development. There are a lot more potentials for plastic applications. The future potential of plastic industry will remain good. Since plastic raw materials need to be converted into usable products like plastic crates or plastic bumpers by injection moulding process. The future demand for injection moulding services will remain as good for custom moulders and plastic product manufacturers.

Although there was much talk about the relationship between environment problems and plastic products, so far there was no new invention that could substitute plastics. The majority of the world consumers still prefer plastic products. In addition, injection moulding process produces mainly durable goods for the electrical & electronic industry, or the automotive industry, or household products like plastic chair which last for many years. At the end of product life, technically the plastic product can be re-processed into another plastic parts. With a proper recycling program, plastic gives minimum environment problem. In sum, the threat of substitution by new material is not significant.

### **3. Bargaining Power of Buyers**

Plastic injection moulding is a versatile process. One could make use of the same injection-moulding machine to produce various kinds of plastic products by changing the mould and plastic raw materials. In Selangor, various kinds of consumer products like kitchenware, household wares, plastic furniture etc. were produced with injection moulding process. Own product manufacturers sell their products to many retailers. In this way, they are not overly dependent on few outlets.

In Selangor, there are about 49 companies (52% of total injection moulding companies) providing custom moulding services to various industries. Their customers are mainly Japanese multinational companies like Matsushita, Hitachi, Sony, etc. The multinational companies are capable of setting-up their in-house moulding facilities. In fact, some of them like Matsushita, Hitachi and Sony have their own in-house moulding facilities in Selangor.

In the late 80's, Malaysia government approved the setting up of moulding facilities by some Japanese companies. Under such a situation, the custom moulding business in the multinational sector became very competitive.

In the last 10 years, some of the established custom moulders developed their own products to reduce their dependent on purely providing custom moulding service. In the same period, there were more new companies established to provide moulding service to the multinational companies.

In Selangor, custom moulders are very much dependent on Japanese multinationals for moulding business. The industry practice in Japan is normally adopted by Japanese MNC in Selangor. According to a study in Japan (Sept 1997, H. Shimada, JSBRI ), the number of companies having their own in-house production is currently increasing and the trend was expected going to be maintained. Under a closed examination, plastic moulding was considered a complicated process and therefore it continues to be out-sourced while other

process like processing of parts, assembly of parts and assembly of finished products are being brought into in-house process by major companies. This information indicates that Japanese multinational companies prefer to out-source plastic moulding services as long as it is competitive.

#### **4. Bargaining Power of Suppliers**

Currently, Malaysian government is imposing 20 – 30% import duties for the commodity materials imported from other than ASEAN countries. With the government protection (20% import duty), the local raw material suppliers are usually command slightly higher premium (5 – 10% higher than international market price) from the local moulding companies. On the other hand, no import duty was imposed on engineering plastics, which are not manufactured locally.

Since the currency crisis started mid 1997, MITI released a “temporary exclusion list”. As a result PE and PP materials can enjoy ASEAN CEPT rate of 15% while PS and PVC is 8% ASEAN CEPT rate. This move reduced the power of plastic raw material suppliers and ensured that local moulders were able to obtain competitive raw materials.

In Malaysia, at least 30 – 40 international plastic raw material suppliers from Japan, United State, Germany, Korea, Taiwan, etc are marketing their raw materials in Malaysia. With high number of suppliers plus market transparency, the raw material business in Malaysia is always very competitive.

## **5. Rivalry among existing firms**

In early 1998, Government had revised the GDP growth rate to 2 – 3 %. In early June 1998, Bank Negara announced that the first quarter GDP growth was – 1.8%. The real GDP growth for manufacturing sector was –2.4%. One week later, the weakening of Japanese yen attracted everybody's attention. The slowdown in Japanese economy may bring another crisis to the Malaysian economy. The region also expects China to devalue its currency to maintain competitiveness. On 13/July, our Finance Minister announced the new revised GDP growth 1998 as negative 1 – 2 %. Under this kind of economic development, consumers are cautious in spending, corporate CEO are cautious in their investment plan, bankers are selective in lending fund. The economic slowdown results in lower demand of plastic products in the domestic market as well as lower demand in the regional markets. Under such a situation, rivalries among the existing firms are expected to intensify. Only established companies with sufficient financial resource are expected to survive under this crisis.

Fortunately, the demand from export markets like the Europe and the USA for electrical products had increased due to the weak Ringgit. This was helpful to minimise the decrease in derived demand on custom moulding services.

## **6. Relative Power of Stakeholders**

Under the present situation, there is ample supply of labour from domestic market as well as regional market. The labour cost is expected to maintain at reasonable level. The weakening of the Ringgit against major currency had made Malaysia labour cost more competitive than before. This helps to improve the competitiveness in our labour intensive industry e.g. electrical & electronic industry and automotive industry.

Malaysian government offers various kind of financial incentives to the small and medium industry, for examples are pioneer status, investment tax allowance



(ITA), industrial technical assistance fund (ITAF). The injection moulding companies may apply for these incentives.

As a summary, the threat from new entrants is not significant in the short term, however, the threat of new entrants may intensify in the long term. There are great opportunities for injection moulding companies to tap the material technology and develop new business opportunities. With the present economic downturn, the buyers have greater bargaining power and custom moulders may not be able to fetch premium prices for their services. With import protection, the bargaining powers of the local plastic producers are always greater. For non-protected item, such as engineering plastics, suppliers have lower bargaining power as the world's supply of plastic resin is more than the demand. Market prices in Asia are always among the lowest in the world. In 1998, the labour supply will exceed demand, and labour cost will decline rapidly. Thus, the injection moulding sector is expected to be competitive in the global market.