

## **4.0 ANALYSIS OF THE COMPANY**

### **4.1 GENERAL EXTERNAL ENVIRONMENT ANALYSIS**

Some organizations survive solely because they recognize and take advantage of external opportunities. The increasing complexity of business today is evidenced by more countries' developing the capacity and will to compete aggressively in the world markets. One must be willing to learn, adapt, innovate and invent to compete successfully in the marketplace.

The purpose of this external environment analysis is to develop a finite list of opportunities that could benefit Sumatec and threats that should be avoided. It is not aimed at developing an exhaustive list of every possible factor that could influence Sumatec. Rather, it is aimed at identifying key variables that offer actionable responses. Sumatec should respond either offensively or defensively to these factors by formulating strategies that take advantage of external opportunities or that minimize the impact of potential threats. The process of performing this external analysis had involved interview with many managers and employees in Sumatec.

#### **4.1.1 ECONOMIC FORCES**

Economic factors have a direct impact on the potential attractiveness of various strategies (David, 1997). The recent economic turmoil in Malaysia has rendered many companies in a difficult situation today. However, Sumatec's revenue had not been affected significantly by the economic turmoil as it is actively involved in the construction of petrochemical plants that is more prone to the economic crisis in Malaysia. Moreover, Petronas as the major client for Sumatec and major player of petrochemical industry in Malaysia, has been able to sustain through

the crisis and continued to implement many new petrochemical plant projects focused in East Coast of Peninsular Malaysia. While Sumatec was one of the active main contractors to Petronas, the effects can be seen from Sumatec's pattern of total revenues in 1996, 1997, 1998 and 1999 (please refer to Appendix A). It had been able to achieve total revenues of RM 48 million in 1996, RM 101 million in 1997, RM 167 million in 1998 and RM 96 million in 1999. Indeed, Sumatec achieved its all time high revenue of RM 167 million in year 1998.

The hike of interest rate before the crisis and the slide of it during the crisis due to change of monetary policies by the government have eased Sumatec's burden to repay the bank loans. Based on the records of revenues shown, a lot of additional manpower and construction equipment has to be acquired due to huge number and magnitude of projects awarded to Sumatec during the crisis and Sumatec has to get additional financial aids from bank in order to execute the projects. The reduction in interest rates during the crisis has resulted in Sumatec paying less interest to banks for all its bank loans and hence improves its cash flow capabilities.

Also, due to the economy crisis, many companies have to sell or rent their equipment with an extra-ordinary low price and Sumatec had captured these opportunities to rent or buy the used equipment with the much lower than market prices.

Nevertheless, generally, many other foreign countries were badly hit by the economy crisis. This has caused some major petrochemical projects to be shelved especially those belonged to the government. As such, the global demand for construction of petrochemical plant has been retarded for a short period during the crisis.

Low oil prices and consolidation within the international oil and gas industry in 1999, combined with a lack of attractive exploration acreage in the mature

producing countries combined to produced only limited drilling, licensing and activity in South East Asia at the close of the millennium. However, the tide now appears to have turned and foreign interest is increasingly focusing on exploiting the region's gas reserves (Petroleum Review, 2000). In fact, this becomes one of the major forces that have kept Sumatec to survive with its core business in the construction of petrochemical plants.

In the decade since 1989, total regional gas production has more than doubled on an annual basis, whilst Malaysia and Thailand lead the way with annual production more than trebling in the last ten years. Although Malaysia is a major LNG exporter – primarily to Japan and South Korea – its domestic gas market became focus of attention following the signing of a JDA (Malaysia / Thailand Joint Development Area) gas sales agreement on 1 November 1999 (Petroleum Review, 2000). Besides, future projects include the Exxon / Mobil / Petronas Angsi gas field, Nippon Oil Exploration's Helang gas field and Shell operated Jintan gas field have also suggested a bright prospects for construction of more petrochemical plants in Malaysia within these few years time.

This is further spurred by the news that Petronas has submitted the proposal for the increase of 20% in the price of Liquidified Natural Gas (LNG) to the Malaysian government and it is anticipated that the government would approve it soon. It would definitely encourage Petronas to construct more LNG plants and hence increase the demand for the construction works in line with it. It would also helps in Petronas cash flow situation and indirectly this would benefit its suppliers or contractors, as they would hardly have any payment collection problems or find any bad debts from Petronas.

#### 4.1.2 SOCIAL, CULTURAL, DEMOGRAPHICS AND ENVIRONMENTAL FORCES

Social, cultural, demographics and environmental changes have a major impact upon virtually all products, services, markets and customers. Almost all organizations in all industries are being staggered and challenged by the opportunities and threats arising from changes in these variables.

The continuous research and development in the oil and gas industries have invented various new downstream products such as MTBE, PVC, ultra-low sulfur petrol, new generation synthetic fuel etc. The demand for these downstream products is increasing yearly. This factor has indirectly spurred the growth of construction of new petrochemical plants such as gas-to-liquid conversion plant, ammonia syngas plant etc.

The sheer complexity of petroleum products' demand according to geographical areas is strikingly illustrated in Appendix B and Appendix C, derived from the latest annual compilations of world energy statistics published by IEA. The data displayed three key aspects of inland demand, viz., (a) the rapid growth of demand for gas / diesel in all regions except for Federation of Soviet Unions (FSU), in contrast to the sharp decline of demand for heavy fuel oils, (b) the rapid growth of demand for natural gas which is partly due to ousting heavy fuel oil, and (c) the strong persistence of demand for motor gasoline, still the oil industry's biggest market. It is clearly shown that the growth of demand for petroleum products is rapid and hence the demand for construction of various petrochemical facilities and plants is anticipated to be high as well.



#### 4.1.3 POLITICAL, GOVERNMENTAL AND LEGAL FORCES

Changes of government policy such as patent laws, antitrust legislation, tax rates, and lobbying activities can affect firms in the construction sector of oil and gas industry significantly.

In Malaysia, almost all of the petrochemical plant's owners are Bumiputra status companies. It is also one of the mandatory requirement imposed by these owners that the construction works of their petrochemical plants are to be performed by Bumiputra status contractors. Sumatec, being a 61% Bumiputra owned company, naturally positions itself to stand an excellent chance of winning the contracts for construction of petrochemical plants in Malaysia.

In today's turbulent political environment the next armed conflict or humanitarian disaster is hard to predict. Anywhere and at anytime the armed forces may be asked to deploy to some foreign shore to provide assistance, to keep the peace, or to fight to make peace. In order to ensure the support infrastructure is in place, this factor has contributed to the need in constructing many supportive fuel system consists of bulk storage, pipeline and hydrant re-fuelling equipment at various military strategic locations worldwide. Indirectly, it demands for the construction of many of these infrastructures worldwide and it creates more opportunities for Sumatec to explore into these areas.

#### 4.1.4 TECHNOLOGICAL FORCES

The revolutionary technological changes and discoveries are having a dramatic impact on most organizations (David, 1997).

The petrochemical plants have to be designed to suit the latest technology and processes as well. Due to the rapid growth in technological changes, products manufactured by petrochemical plants are changing rapidly too. Consequently, the demands for the construction of new petrochemical plants are high.

On the other hand, rapid growth of technology also resulted in changes in methods of construction. Many modern methods of construction are introduced and they are indeed resulting in relatively low construction costs. Traditional ways of construction would no longer be competitive and profitable. Today, contractors, especially those involved with the construction of petrochemical plants, are frequently forced to change to adopt these methods of construction in order to be prepared for the increasingly stringent quality and safety requirement imposed by clients.

Porter (1990), argued that what drives and sustains competitiveness is innovation. He was of the view that companies gain competitive advantage from having strong competitor, aggressive suppliers and demanding customers. Being one of the biggest oil and gas contractors in Malaysia, Sumatec has never stopped in investing in new methods of construction. This is one of the major forces that have kept Sumatec to be sustainable in the highly competitive market today.

#### 4.1.5 COMPETITIVE FORCES

The collecting and evaluating information on competitors such as their strengths, weaknesses, capabilities, opportunities, threats, objectives, strategies etc. is essential for successful strategy formulation (David, 1997).

Competition in the construction services of petrochemical industries can be described as intense within Malaysia. Besides Sumatec, the other major oil and

gas contractors for construction of petrochemical plants are Dialog Group Bhd., Technip Geotechnical Production Sdn. Bhd., Muhibbah Engineering Bhd., Ho Hup Corporation Bhd., Chip Ngai Engineering Bhd., PS Pipelines Sdn. Bhd. etc., all of which are very well established construction companies in Malaysia.

The situation has become worsen due to many small players like Pentagon Engineering Sdn. Bhd., KNM Steel Sdn. Bhd. etc. tried aggressively to penetrate into the construction sector of oil and gas industry. The profit margin has seen to drop badly from the previous 20% to less than 10% now due to the competition from these small players. However, big companies, such as Sumatec, are still having the competitive edge, as the clients will normally look for reputable and established companies as the contractors for their petrochemical plants, in order to ensure that the quality and safety standards are well accorded.

There are also numerous oil and gas main contractors worldwide, such as Indian Oil Co. Ltd., Schlumberger Pte. Ltd., Murphy Oil Incorporated Ltd., Mott MacDonald Ltd. etc. To compete with all these established and well-known giant companies in the global market is actually a real tough task and challenge for Sumatec.

However, Sumatec may be possible to compete in some strategic locations, for instance the Third World countries or those after-war countries. Main reason could be due to the difference in price of construction quoted between these giant companies and Sumatec. Third World countries normally could not afford to pay very high construction costs as quoted by these established giants and it forced them to look for cheaper alternatives. The assumption was proved to be true when Sumatec was awarded the contract for the engineering, procurement, construction and commissioning of Field Surface Facilities, Phase 1 & 2, for Muglad Basin Oil Development, Republic of Sudan. The total contract sum awarded is approximately RM 130 million. It is considered to be one of the major

oil and gas projects in the world with a total length of 3,000-km pipelines from various oil wells to the Sudan Seaport.

## **4.2 GENERAL INTERNAL ENVIRONMENT ANALYSIS**

In order to obtain more reliable information and data, the internal environment analysis has been facilitated by interviewing with various managers and experienced employees in the Accounts Department, Human Resources Department, Procurement Department, Contract Services Department, Quality Assurance Department, Business Development Department, HSE (Health, Safety & Environmental) Department and Project Department of Sumatec Corporation Sdn. Bhd.

### **4.2.1 RESOURCES**

Generally, I have divided the analysis of Sumatec's resources into two major categories, i.e. tangible resources and intangible resources. Tangible resources are further categorized into financial, physical, human resources and organizational whereas intangible resources are further categorized into technological, innovation and reputation. It is simply "what Sumatec has" within the organization.

In terms of its tangible resources, Sumatec believes that people is its most important asset. Presently, Sumatec is employing a total number of 176 permanent employees, whereby 46 are degree holders, 52 are diploma holders, 45 are certificate holders while 33 are general workers, i.e. more than  $\frac{3}{4}$  (or 81.25%) of the employees are of professional academic qualifications. Out of the 46 of degree holders, 31 are engineering degree holders; and out of these 31

engineers, 12 are Professional Engineer (PE) registered with The Institute of Engineering Malaysia (IEM).

Sumatec also employs about 46 contractual staff at the time the study was conducted, in which most of them are engineers from Philippine and India. It serves as one of the strategies to control and manage company overhead in low season time, while on the other hand these labors are cheaper than Malaysia labors.

One of the policy of selection and recruitment of managers in Sumatec is that the suitable incumbents, besides having to be a degree or diploma holders, must also have the working experience of at least 3 years in oil and gas industry.

Financially, Sumatec has obtained a total of approved credit facility line of RM 70 million from various financial institutions (please refer to Appendix D). As at 30.06.2000, it has utilized approximately RM 32 million only, i.e. less than ½ of its credit facilities available.

Organizational wise, Sumatec Corporation Sdn Bhd has organized its company structure as shown in Appendix E. Basically, it has established the Project Department as the major profit center coupled with various supporting departments of Procurement, Human Resources & Administration, Contract Services, Quality Assurance, Business Development, HSE and Accounts.

Besides, it also has set up various subsidiary companies as listed in the preceding Section 2.1 and Section 2.4 of this paper. By having these subsidiaries, It has adopted the backward integration strategies in order to be more prepared in today's highly competitive market. For instance, it has acquired Tri-Steel Engineering Services Sdn. Bhd. as its fabrication arm, Translift Sdn. Bhd. as its site construction arm and set up Calinex Sdn. Bhd. as its materials suppliers.

In terms of its intangible resources, Sumatec has earned high reputation in the construction sector of oil, gas and petrochemical industry through its successful project management and implementation achieved in many huge oil and gas projects previously. Sumatec also achieved numerous numbers of Safety Awards (a total of 1,200 million recorded safe man-hour approximately from year 1986 without any lost time injuries and accidents) and Quality Assurance Awards from various reputable clients, e.g. Stone & Webster, Technip Geoproduction, Shell, Caltex, BP Amoco and Petronas.

The Human Resources and Administration Department has always emphasized and encouraged in promoting staff training program and hence shaped its employees to be well trained and innovative. Employees are sensitive to technological changes as well. These intangible values helped to reduce employees' mistakes and save time in executing tasks given.

#### 4.2.2 CAPABILITIES

Capabilities could determine Sumatec's capacity or ability to integrate its individual's resources to achieve its objectives.

Over time, as a result of complex interactions of its interrelationships between tangible and intangible resources, Sumatec has been able to manage and implement various projects successfully within the allocated budget and time schedule. This could be due to the effective development, transmission and efficient exchange or sharing of information and knowledge as carried out by its experienced and well-trained employees, aided by the advanced equipment and established management system in the previous years.

Sumatec has first obtained the certification of ISO 9002 in year 1994. It affirmed Sumatec's continuous efforts in the construction, development and fabrication of industrial plants and it measured Sumatec's worth of quality processes in solid terms. The established quality system helps to ensure that the management of all projects are well documented and recorded. Employees are consistently trained to accord to the procedures as stipulated in the ISO 9002 Quality Manual in their day to day operation.

With its current experienced manpower and financial capability, Sumatec is capable of handling all construction phases of design, engineering, procurement, construction, testing, commissioning and guarantee of any single project size of up to RM 200 million without any problem.

Over the years, Sumatec has also built up a strong capability in handling total integrated multi-disciplinary construction packages involving all phases of construction work encompassing civil and building construction, heavy structural and steel fabrication and erection, piping fabrication and installation, equipment erection, refractory, insulation, painting, electrical and instrumentation works. This has helped reduce the number of contractors on site and also reduce interface among contractors at the work site, resulting in lighter workload for the owner and helped shorten the construction time.

For many huge projects, e.g. Petronas-Shell JV Klang Valley Distribution Terminal (KVDT) and Field Surface Facilities for Muglad Oil Field in Sudan, Sumatec has formed the joint ventures with Nam Fatt Bhd. (a public listed company in Malaysia), in order to better manage the cash flow capability of these projects. Sumatec has also formed the joint venture with one of its regular client, Technip, in its project of Cambodia Shore Protection, due to the good relationship established between Technip and Sumatec.

Sumatec's capability in executing huge projects abroad is also undoubtedly, where it has successfully implemented the Jet-A1 Aviation Fuel Expansion & Upgrading Project in Maldives worth RM 25 million and the Oil & Gas Field Surface Facilities Project in Sudan worth RM 130 million recently.

It has also participated actively in many overseas tenders recently and looking forward now to having more projects from abroad, especially those in the Middle East countries where its price is found to be extremely competitive as compared to many big players from other countries.

#### 4.2.3 CORE COMPETENCIES

Core competencies are the sources to gain sustainable competitive advantage. It is created when capabilities are combined in unique combinations that have strategic value. It is simply "what Sumatec does" that is regarded as strategically valuable.

One of Sumatec's core competencies is found in its human resources with their ability to complete the project in schedule and within the allocated budget. Currently, Sumatec has 8 experienced Project Managers to execute various projects. All of them have got a minimum of five years working experience in the construction of petrochemical and industrial plants.

Due to its proven track records, Sumatec has gained a good reputation in the construction of petrochemical plants in Malaysia and it also begins to gain its reputation from abroad as well based on its successful implementation of projects in Maldives and Sudan.

Sumatec's strategic action to acquire the pre-fabrication arm of Tri-steel Engineering Sdn. Bhd. is also regarded as one of its brilliant strategies to cope



for the operation of the construction industry. This has helped to reduce the dependency on suppliers or outsourcing for the fabrication works. Indirectly, this will help to expedite the completion time of future projects as it can provide quick response to any of its project needs.

Besides, it also has established a good quality management system of ISO9002. All matters related to projects are well documented, recorded and stored. Indirectly, this would enhance the confidence of clients towards Sumatec in its quality management and works produced.

### **4.3 SWOT ANALYSIS**

This study has identified the following strengths, weaknesses, opportunities and threats of Sumatec Corporation Sdn. Bhd. in the construction sector of oil and gas industry worldwide, and within Malaysia specifically.

#### **4.3.1 STRENGTHS**

##### *a) Experienced and Well Trained Employees*

Sumatec's consistent human resources policy in recruiting and hiring the right, competent and experienced personnel for the oil and gas industry has spurred its ability to excel in the construction sector of the oil and gas industry.

Sumatec has a total of 176 permanent employees as at December 2000. Among these employees, 143 (or 81.25%) are executive level while 33 others (18.75%) are general workers. As such, it is very crucial to have experienced and well-trained employees, so that these employees are capable of making the right

decisions in their daily works, as it would have a chain effect on the works of the following downstream workers, such as sub-contractors.

Sumatec's continuous efforts and emphasis on encouraging and providing staff training program helps to equip its employees with the necessary tools and sufficient knowledge in executing the tasks given. It also helps to keep the employees informed of the latest development and changes in the technology and industry and it directs the employees to be sensitive to the environmental changes.

#### *b) Proven Track Records And High Reputation*

The high reputation earned by Sumatec in the construction industry of petrochemical plants based on its success and good records in previous projects have gained the respect and confidence from both its suppliers and clients.

On the clients' side, the high reputation would give Sumatec the competitive advantage when it comes to project tendering matters. Inherently, all clients would look for reputable contractors to execute and complete their projects. This would also means that Sumatec would have the price advantage as compared to other unknown or little known contractors, especially in the construction of petrochemical plants, where it required the performance of high safety and quality standards of work.

As on the suppliers' side, the high reputation would ensure the suppliers trust on Sumatec, especially on its financial situation, as this would ensure that the suppliers or sub-contractors get paid for what they have supplied for. A good payment records to suppliers or sub-contractors would also means that the suppliers would consider to give special discounts on items supplied as they would not have to worry about collection of payment or accumulated bad debts.

This would, on the other hand, create another competitive advantage to Sumatec as it can get materials with a cheaper than market price as compared to its competitors.

*c) Good Rapport With Clients*

Sumatec always emphasize on the importance of its clients and it believes that it is the clients that keep Sumatec alive. Over the years, Sumatec has established good and strong rapport with its clients, especially with Petronas in Malaysia. These phenomena can be seen from many of the projects that are being awarded by Petronas to Sumatec. This is one of the most important factors as it assures that Sumatec could have continuous supports from its clients for their future projects.

A good rapport with the clients would also means easier execution of the project as any argument arise during the implementation stage could be brought forward to the discussion table and solved peacefully. Most of the issues are often related with project costs and if this could be compromised by clients, it would ensure a better profit margin for Sumatec. This is also one of the competitive advantage that Sumatec has over its rivals.

*d) Fully Equipped Workshop*

Through its subsidiary, Tri-steel Engineering Sdn. Bhd., Sumatec is capable of fabricating items like heavy steel structures, tanks, pressure vessels etc. It supports Sumatec in all stages of the construction activities and more importantly it ensures timely response to the needs of its member company's ongoing projects.

The situation would be different and would not be as convenient anymore if Sumatec were to get outsiders to execute the all fabrication works (or outsourcing), cause it is inherent for the construction industry whereby the needs of fabrication would arise frequently and unexpectedly. Currently, Tri-steel has a maximum output capacity of equivalent to 500 metric ton steel products per month.

*e) Financially Stable*

Sumatec is known for its financial stability in the construction industry. The well-planned cash flow by its Accounts Department has contributed to its strong cash flow position. This is one of the most important factors in the industry as it could enhance clients' and suppliers' confidence in Sumatec.

A strong cash flow would also ensure that projects could be carried out smoothly and continuously without much stoppage time as a lot of unanticipated site expenses or costs could incur during the course of construction. If the cash fund is insufficient, it could cause stoppage and it would mean serious losses in terms of profitability, as the site overhead would still be running although there is stoppage due to lack of fund, e.g. delay in delivery of certain construction materials or consumables.

*f) Established Quality Management System*

The ISO9002 Quality Management System established since 1994 by Sumatec stated all the company procedures that should be accorded by the employees. It provides the guidelines for all employees and reduces errors or downtime especially for new employees.

The quality system also provides confidence to clients that all projects' matters would be properly recorded, documented, retrievable and stored. This factor is extremely important for the oil and gas industry, as it demands for high quality and safety standards to ensure that the built petrochemical plants are safe for operation.

*g) Excellent Safety Records*

The construction for petrochemical industry in Malaysia demands for very high safety standards during all phases of construction. It is among the most stringent safety standards in the Asia Pacific region, e.g. clients' safety standards like Petronas, Shell, Esso etc. are to be fully complied with.

Sumatec's excellent achievement of 1,200 million safe man-hour without loss time injuries or accidents since its establishment until year 2000, proves that it is one of the safest contractors in petrochemical industry in Malaysia that could comply with the high safety standards requirement of clients. This is also one of the important factors as it could uplift Sumatec's reputation in the construction of petrochemical industry based on its excellent records.

*h) Possess Sufficient And Variety of Construction Equipment*

The variety and wide range of construction equipment that was acquired and accumulated over the last 16 years is more than sufficient for Sumatec to execute any projects smoothly.

With the aids of its wide range of construction equipment, Sumatec site construction team is able to mobilize within one week after the contract's award by clients for any projects in Malaysia. This implies one of its competitive

advantages over its rivals, as Sumatec is able to react to the requirement of any projects within a short time. It also imposes an entry barrier to the small players who are not well equipped with wide range of construction equipment.

#### *i) Competitive Price*

In terms of pricing strategy, Sumatec always place its price at the competitive level as compared to many others contractors within Malaysia. Sumatec needs not to place its price at the lowest among the tenderizers as it has the advantages of proven track records, high quality & safety standards and financial stability, that are among the important factors besides price to be considered by the potential clients in the Malaysian petrochemical industry.

Sumatec's global pricing strategy, especially those in the Third World countries, e.g. Sudan, Nigeria, Lebanon etc., is to place its price as low as possible. This is one of the important marketing strategies to get participation in the projects, as Sumatec is still a new and strange company to oil and gas industry abroad. The strategy is first to penetrate into these Third World's markets as it is understood that price is among the important factors that would be considered by the potential clients. As compared to many foreign contractors, Sumatec's price is still very low yet profitable. It is the hope of Sumatec's management that by winning these contracts, it will be able to establish some good track records while eyeing for new projects abroad.

#### 4.3.2 WEAKNESSES

##### *a) Financial Constraints*

As a private limited company, somehow Sumatec Corporation Sdn Bhd is financially limited, whereby one of the important factors that most financial institutions would consider in approving any of the project's financing loan is its paid up capital.

Generally, based on Sumatec cash flow capability, a project of above RM 100 million in size would require special project financing loan from banks in order to be executed smoothly. This is definitely a disadvantage to Sumatec as compared to its rival, e.g. public listed companies like Ho Hup Bhd., Chip Ngai Engineering Bhd. etc.

##### *b) Middle Management Problem*

One of the major problems faced by Sumatec internally is that it has got severe layers of middle management in its organization. The middle management, e.g. Deputy General Manager, Assistant Procurement Manager, should be demolished, as it would hinder or delay the decision making and approval process.

If the decision making process is slow, it would affect the workflow of the whole organization. It would also jeopardize the smooth progress of the projects, as there are too many layers of decision making. Consequently, it is very difficult to complete the project in time, as it involves a lot of decision making process during all phases of construction work. Indirectly, it would affect Sumatec's

reputation in the market, as it would no longer be able to complete the projects within the time allocated.

### *c) High Company Overhead*

Sumatec has got a very high company overhead of approximately RM 1.4 million per month. This is relatively high as compared to its rivals. A simple calculation here shows that, if the gross profit margin is assumed to be 10% for the industry, Sumatec would be required to secure at least RM 14.0 million worth of contracts per month in order to achieve the break even condition. In other words, it would be required to secure RM 168 million per year in order to achieve break even condition! Do not forget that the highest record of annual turnover that Sumatec has achieved thus far is only RM 167 million.

The high company overhead is truly a major problem in Sumatec. The high company overhead would mean that either Sumatec needs to have considered higher gross profit margins during tendering stage of the projects or it would need to cut down its overhead otherwise. One of the major contributors of the high company overhead could be attributed to the high numbers of middle management.

The other significant contributor to the high company overhead might be due to its wrong move to acquire Translift Sdn. Bhd. as the installation arm. This would not be a problem if Sumatec could secure projects continuously during peak season. However, most of its competitors opt to outsource the installation works to sub-contractors in order to have a better control on the company overhead during low season.



#### *d) Lack of Engineering Department*

The trend of petrochemical industry nowadays is that clients are looking for the contractors that can provide total integrated construction solution, i.e. they would like to have only one or two main contractors for the project that can provide everything for them. It is understood that the clients are looking for a 'less headache' solution, as they can better control and manage the project by having minimum numbers of contractors on site. If they were to control numbers of main contractors, it would mean a lot of interfaces and co-ordination works to be done by clients themselves, which they obviously would not like to do it.

The recent years of development in the construction of petrochemical plants have seen that many projects were awarded to contractors in the "EPCC" package format, viz., a) engineering, b) procurement, c) construction and d) commissioning. It is clearly the trend nowadays.

There is no doubt that Sumatec has been able to cope with the trend to complete numbers of these EPCC projects as proven from its track records, yet it does not have its own design and engineering team to really look into the first aspect of these contracts. Sumatec has opted to outsource the design and engineering work for the past few years. This is definitely a disadvantage for Sumatec as the sub-contractors for these design and engineering work would not be able to provide immediate response to its needs most of the time. Moreover, this kind of contracts would generally require severe changes and frequent updating on the design and engineering drawings.

### 4.3.3 OPPORTUNITIES

#### *a) International Market*

Sumatec's price quoted to client is still relatively low as compared to many big contractors in the international market of construction of petrochemical plants. It has got a huge potential to explore and win a lot of contracts abroad. Overseas market, especially in the Third World countries, e.g. Sudan, Nigeria etc. and those countries to be re-constructed after war, e.g. Vietnam, Cambodia, Lebanon etc., has seen for rapid growth in the demand of construction of petrochemical plants.

Besides, Sumatec has set up its branch offices in a few strategic locations worldwide, such as those in Middle East, Sudan and Cambodia. It is ready to take off for handling more projects and serve the clients in more efficient manner overseas from these strategically located offices. It also has the competent personnel to execute the projects overseas as proven by its success in the Maldives and Sudan projects recently.

#### *b) Opportunities For Diversification In Other Business Areas*

Besides construction of petrochemical plants, Sumatec already looked into other areas of industries such as construction of general industrial plants and backward integration such as the acquiring of Tri-steel as its fabrication arms and Calinex as its construction materials suppliers.

There are definitely more areas of business that Sumatec can look into such as forward integration, for instance, to joint venture with clients in the operation of the petrochemical plants rather than just constructing the plants for them.

#### *c) More Joint Ventures And Strategic Alliances*

Technically, Sumatec has got all the necessary expertise and equipment to execute the project. Restricted by its financial capabilities somehow, and due to some demographic and political reasons, Sumatec could yet have plenty of opportunities to explore new global market by having joint venture or strategic alliances with other big contractors companies, such as Nam Fatt, Technip, Esso, Shell etc. By having these joint ventures or strategic alliances, Sumatec can abolish the barriers of entry to new market and many conservative countries such as Sudan.

#### *d) Booming And Fast Growing Petrochemical Industries*

The latest figure published by Institute of Petroleum, United Kingdom shows that the world oil and gas market is poised to grow at a much faster rate in future. The booming petrochemical industry worldwide, especially in Asia Pacific region (please refer to Appendix B & Appendix C), provides plenty of new opportunities to be explored by the contractors of petrochemical plants following the rapid growth of demand in petroleum products such as diesel, gasoline etc.

#### *e) Cash-rich Clients*

Due to the strong demand for petrochemical products, the price of these products is also growing at a much faster rate than any other products in the world. As Malaysia's leading petrochemical plants operator, Petronas is set to be among the most cash-rich companies due to the increase in price of petrochemical products. A strong cash flow position of the cash-rich Petronas would help to ease the cash flow situation of its contractors and suppliers too.

Sumatec, being one of Petronas's major contractors in Malaysia would definitely be benefited from Petronas strong cash flow position, whereby it can get its payment in time for the works executed. This would save and enhance the opportunity costs of Sumatec, whereby the money received from Petronas could be invested into other projects' financing, and hence would create huge opportunity to take up more projects simultaneously.

#### 4.3.4 THREATS

##### *a) Threats of Small Players In The Industry*

Small players or contractors could afford to penetrate into the local market with cheaper price or lower gross profit margin as they have a relatively low company overhead as compared to Sumatec. Their numbers are increasing rapidly, giving tough and cutthroat competition to Sumatec and other major players as well.

##### *b) Competitors' Activities*

Competitors' activities such as backward or forward integration may impose threats to Sumatec, for instance, Dialog Group Bhd. recent forward integration activity to have joint venture with Petronas in the Kerteh Land Reclamation and Jetty Operation Project.

#### *c) Risk of Loss of Major Client*

There is too high dependency by Sumatec on one client only, i.e. Petronas, due to Petronas being the major player or operator in the petrochemical industry of Malaysia. Hence, if Petronas were no longer be interested in giving contracts to Sumatec, it might render Sumatec in deep trouble. It is definitely not a healthy way of conducting the construction business.

#### *d) Change of Personnel In-charge At Client's Side*

Although Sumatec has established good rapport with many of the Petronas's personnel in-charge, there is no guarantee that these personnel in-charge would keep on staying in Petronas forever. There might be change of personnel in-charge in Petronas in future. If this happens, Sumatec would have to try all over again to establish these hard-built individual relationships.

One of the barriers in promoting a good individual relationship with Petronas new personnel is that there may be a lot of unethical and corruption practices being conducted by various parties to its new personnel in-charge, especially those from its competitors. This is quite a common practice everywhere especially in the construction industry.

#### *e) Risk of Bad Debts*

Contractors in the construction industry are often paid according to the progressive term of payment that is based on its actual progress monthly. Besides, there is also practice of retention sum against the works done by the contractors; normally it is 5% of the value of work done. Due to the nature of these terms of payment in construction industry, there are always risks of some

arguments at the ending phase of the projects, especially on verification of all the change orders.

The value of change orders is sometimes quite substantial and this may create problem in cash flow for the contractors if the verification process by clients takes long time to be settled. Worst scenario is that contractors may not get paid for what they have actually done as this is depended on justification of the clients. The argument may then take a long time to be settled down.

Some clients are even worst, whereby they simply withhold the retention sum with some very weak reasons, for instance on the subjective and arguable issue of quality of work. The retention sum may take a long time to be fully released by the clients and it may again create cash flow problem for the contractors.

#### **4.4 INDUSTRY ANALYSIS - PORTER'S FIVE FORCES MODEL**

##### **4.4.1 THREATS OF NEW ENTRANTS**

Whenever new firms can easily enter a particular industry, the intensity of competitiveness among firms increases (Kotler, 1996).

However, there are many barriers to entry for any company to become a contractor for the construction of petrochemical plants in Malaysia. The first barrier is being imposed under the Government's New Economic Policy, i.e. only company with Bumiputra status can register to become a 'contractor' with oil and gas companies such as Petronas.

Nevertheless, nowadays, many people know that a company with three persons can easily be recognized as a Bumiputra status company, viz. by having 2 Bumiputra in it, it would make the company a 66.7% Bumiputra company.

Hence, there are many small players that are eligible to be registered as contractors for Petronas nowadays, provided they have the good connection or relationship with Petronas. This has created a situation whereby the intensity of price competition among the contractors has been escalated. Many of these small players are throwing price at cutthroat level and it is imposing one of the major threats to the profitability of Sumatec, who has a high company overhead to be taken care of.

The second barrier to entry is the requirement of highly competent and experienced personnel within the organization in order to be eligible for registration with Petronas as contractor. The move is to ensure high professionalism to be performed by contractors. This requirement acts as a filtering mean to many small contractors, which are eyeing for the construction sector of the petrochemical industry, as these small contractors would not have this kind of expertise in their organization normally.

Besides, the construction sector of petrochemical industry also demands for high quality and safety standards during all phases of works. Those companies without much experience or in-depth knowledge in the construction sector of petrochemical plants would find it very difficult to cope with these stringent requirements as imposed by the clients. They may have to spend unnecessary costs to overcome this problem and hence could lower down their profitability.

#### 4.4.2 THREATS OF SUBSTITUTE PRODUCTS

In many industries, firms are in close competition with producers of substitute products in other industries. However, in this case study, the issue of threats of substitute products does not arise as there is virtually no any other ways than construction that a petrochemical plants could be expanded, upgraded or built before it could be put into operation.

#### 4.4.3 BARGAINING POWER OF SUPPLIERS

The bargaining power of suppliers affects the intensity of competition in an industry, especially when there is a large number of suppliers, when there are only a few good substitute raw materials, or when the cost of switching raw materials is especially costly.

In this case, the construction sector of the oil and gas industry, there are obviously a large number of suppliers available in the market for majority of the raw materials, such as pipes and fittings, valves, structural steels etc., as required for construction. Hence, under normal circumstances, provided Sumatec cash flow position is fine, the bargaining power of suppliers is considered to be low in the industry. However, the bargaining power of suppliers would increase if Sumatec does not have good payment records to the suppliers. The suppliers in the whole market would then know that Sumatec's payment is not good and they would start asking for better payment terms, such as Letter of Credit etc., or they might increase the price of materials on the other hand. Consequently, all these would impose higher construction costs to Sumatec.

Also, for some special materials such as Denso wrapping tape for underground piping, or special contractor's services such as sacrificial cathodic protection system, there are only few major suppliers available in the market only. In these areas, bargaining power of suppliers is definitely higher than any other ordinary construction materials.

Today, many firms have started to pursue backward integration strategy to gain control or ownership of the suppliers, especially those belong to the special materials or services groups. One of the major advantages of doing so is that they can gain the competitive advantage in terms of raw materials costs or construction costs as compared to its rivals. As such, Sumatec's strategic moves



to acquire Tri-steel Sdn. Bhd. as its fabrication arm and Calinex Sdn. Bhd. as its construction materials suppliers are well regarded to be some of its most brilliant strategies to gain competitive advantage over its competitors.

#### 4.4.4 BARGAINING POWER OF BUYERS

When customers are concentrated, large, or buy in volume, their bargaining power represents a major force affecting intensity of competition in an industry.

In this case, the trend of oil and gas industry in Malaysia is that it is going to be dominated by Petronas in future, in fact it has been dominating for the last decade. We have seen Petronas involvement in every big petrochemical plant project in Malaysia nowadays. Undeniably, it has created a huge bargaining power of the buyers, especially for Petronas, in the construction sector of oil, gas and petrochemical industry in Malaysia.

#### 4.4.5 RIVALRY AMONG COMPETING FIRMS IN THE INDUSTRY

Rivalry among competing firms is usually the most powerful of the five competitive forces. The strategies pursued by one firm can be successful only to the extent that they provide competitive advantage over the strategies being pursued by rival firms.

In this case, Sumatec possesses the core competencies of having re-structured to be a Bumiputra status's company, established the quality management system of ISO9002, employ the most competent and experienced expertise in the industry, established good rapport with clients (especially Petronas) and suppliers, and enjoyed high reputation in the industry. All these core

competencies have given the sustainable competitive advantages to Sumatec against its rivals.

As such, although the construction sector of Malaysia's thriving oil and gas industry is populated by many participants and tend to be characterized by intense rivalry, Sumatec stands a better chance to submit highly competitive tenders for any projects. A distinguished record of oil and gas projects successfully completed over Malaysia, Cambodia, Singapore, Maldives and Sudan have been achieved through Sumatec's ability to provide unrivaled multi-disciplinary construction expertise. With construction capability backed by invaluable resource of manpower, equipment and home-system and technique, Sumatec is able to offer the successful implementation of projects irrespective of location at minimum budget and in the shortest time.

#### **4.5 VALUE CHAIN ANALYSIS**

The Value Chain Analysis is divided into two main categories in this case study, i.e. 'Primary Activities' and 'Support Activities'.

'Primary Activities' consist of, a) inbound logistics, b) operations, c) outbound logistics, d) marketing and sales and e) service; whereas 'Support Activities' consist of, a) firm infrastructure, b) human resource management, c) technological development and d) procurement (David, 1997).

The activities are examined relative to the activities that are practiced by most of the competitors in order to identify the value creating activities for Sumatec.

#### 4.5.1 INBOUND LOGISTICS

Sumatec's activities, such as materials handling, warehousing and inventory control, used to receive, store and disseminate the raw materials are clearly stated in its ISO9002 Quality Manual. The quality system is uniquely designed to suit the requirement and operation of inbound logistics of Sumatec. All incoming materials and inventories are properly recorded and documented.

This system has helped to reduce the time of materials handling, warehousing and inventory control as all procedures and formatted documents are readily defined and retrievable. It also serves to better manage the inventory, especially those balance or left over materials from previous completed projects. The balance materials are well controlled and properly stored. Indirectly, it helps to save project's construction costs as these balance materials could be used for future project's needs.

#### 4.5.2 OPERATIONS

Sumatec has all the necessary resources, experience, skills, professionalism and effective management expertise to perform all the necessary construction activities of any petrochemical plants irrespective of its location.

Its daily operation in each individual department and inter-department are also governed by the quality management system of ISO9002 whereby its employees practice to have every matter well recorded, documented and stored, especially those matters pertaining to the implementation of projects. One of the advantages of doing so is that all document are easily retrievable and this could avoid any argument and confusion in future, that might be due to change of

project personnel in-charge (whether it is from the client's or Sumatec's side) and any other unforeseeable reasons.

Nevertheless, Sumatec does not have its own engineering department to take care of the design and engineering activities. It has been doing this by outsourcing the activities to others all the time since its establishment in 1985. This is definitely a disadvantage as compared to many of its rivals who has got their own design and engineering department to cater for internal needs.

#### 4.5.3 OUTBOUND LOGISTICS

Sumatec's activities involved with collecting, storing, and physically distributing the final product, in this case the completed construction works, are all governed by its quality management system ISO9002.

All construction activities, especially those concerning inspection, testing, commissioning and hand-over-to-clients' activities, are well planned, organized and documented according to ISO9002.

#### 4.5.4 MARKETING AND SALES

Sumatec's Business Development Department provides means through which clients can purchase the construction services and can induce them to do so. Presently, the Business Development Department is headed by an ex-Project Manager of Petronas. This has created an advantage as compared to its competitors, whereby Sumatec could have a good relationship with the major client, i.e. Petronas, through the unofficial networking of its Business Development Manager.

All activities concerning pre-qualification and tender bid submission are well taken care by the Business Development Department too. As such, the project teams could concentrate fully in the implementation of projects awarded.

#### 4.5.5 SERVICE

Sumatec also recently decided to set up the Service & Maintenance Department in order to provide better after sales service to its clients. This would help to enhance or maintain the value of construction works. Its aims were to provide total customers' satisfaction and excellent after sales service image to clients. This is also a good strategy as it could attract repeat orders from its existing clients.

#### 4.5.6 FIRM INFRASTRUCTURE

Firm's infrastructure includes activities such as general management, planning, finance, accounting, legal support and governmental relations that are required to support the work of the entire value chain.

In Sumatec, the support activities provided by firm's infrastructure are significantly important and have contributed heavily to its success in the past. These include:

- a) It has many owned subsidiaries that can become major suppliers in terms of construction materials and services to Sumatec.
- b) It has its owned office premise in Shah Alam, that it does have to worry about rental payment and re-possession from landlord.

- c) It has a fully equipped workshop that can cater for the needs of any prefabrication works as frequently arise and required in the course of construction activities.
- d) As compared to its rivals, it has obtained sufficient reserves in bank credit facilities that were well managed and only partially been utilized currently.
- e) The quality management system of ISO9002, designed uniquely to suit Sumatec's cultures and needs, has contributed significantly by providing means of all the company standard procedures in its daily operation to be performed by its well-trained employees.

#### 4.5.7 HUMAN RESOURCE MANAGEMENT

Sumatec's activities involved with recruiting, hiring, training, developing and compensating all personnel are managed by the Human Resources / Administration Department.

It is the policy of the Human Resources / Administration Department to consistently provide staff training program in order to create employees' awareness of any latest change and development in the construction sector, particularly of the petrochemical industry. This policy also tends to equip the employees with all the necessary tools to execute their daily tasks.

It is the policy of the Human Resources / Administration Department to recruit and hire the most competent and experienced personnel in the construction sector of oil and gas industry to work for Sumatec. This would ensure the high quality and safety standards of work are performed to the satisfaction of its clients in the oil and gas industry.

It is also the policy of Human Resources / Administration Department to design the rewarding and competitive rewards packages for all its employees. For instance, a special 'Project Bonus Scheme' has been implemented to encourage costs saving by projects team, whereby the rewards are merely based on how much costs could the project team save as compared to its original allocated budget for the projects.

#### 4.5.8 TECHNOLOGICAL DEVELOPMENT

The support activities of technological development includes activities completed to improve a firm's product and the processes used to manufacture it, such as process equipment, design, both basic research and product design, and servicing procedures.

Sumatec believes that the support activities is primarily essential to its success and has always been sensitive to the latest technological development. For instance, it has an IT Coordinator specially assigned to take care of all the information technology and communications matters such as computer networking system, Internet system etc. This is important to ensure that all information are conveyed and stored in the most efficient and cost effective ways.

Sumatec also emphasize in purchasing the latest tools and construction equipment for its project team in order to ensure time efficient and cost effective construction methods are being practiced at all time. This is an important factor as it could improve on the project completion time as compared to its competitors who may still using the traditional methods.

#### 4.5.9 PROCUREMENT

Sumatec's activities involved to purchase the inputs needed to produce the products are managed by its Procurement Department. In this case, the inputs refer to the materials, equipment, tools, labor and consumables, whereas the products refer to the completed construction services or works.

Sumatec has practiced a unique purchasing system as stated in its ISO9002 procedures. Any purchases need to be made must be initiated by a so called 'Purchase Requisition Form', which is to be signed by the initiator, followed by the Project Manager, Deputy General Manager, General Manager and Managing Director or Executive Director.

This purchasing system itself is good in the sense that it provides systematic control to the purchases, but its weakness is that it is incapable to provide immediate response to project's purchasing needs due to too many layers of management involved in its verification, decision making and approval process. This poses a disadvantage to Sumatec, as time is the essence in implementing any projects.