



**UNIVERSITI PUTRA MALAYSIA**

**CHEMASIA ENGINEERING SDN. BHD.**

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**CHEMASIA ENGINEERING SDN. BHD.**

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## ABSTRACT

Mr.Chen Yew Seong 75 years old, is facing one of the most remarkable decision of his career profession. His ambition to public listed the company ChemAsia Engineering Sdn. Bhd. (CAE) a water treatment company, was shaken when Krofta offer to buy 75% of the company's share accounting to USD900,000. Mr.Chen targeted high sales turnover in the near future by using government projected growth rate which is 8%, but deep in his heart it is not realistic. On top of that, he is facing financial problem to support his water treatment projects.

Strategic audit was carried out for CAE, it analyze the company current situation that included performance and strategic posture, external and internal environment scanning by using S.W.O.T. Study on international strategic alliances includes benefits, pitfalls, scope, and the management of alliances. Several alternatives has been proposed and selection criteria are used to judge the appropriate solution.

The recommended strategy was to sell 49% of CAE share to Krofta. This option enable CAE to solve it's problem while it remain the authority power in the

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# CHEMASIA ENGINEERING SDN. BHD. [ CAE ]

## CHAPTER 1

### INTRODUCTION

Since graduation, Mr.Chen Yew Seong became one of the water treatment chemists in Malaysia and remain committed to this profession. For almost 50 years he built up his organization of water treatment. Today is he already 75 years old and facing one of the most remarkable decision of his career profession. As the sole owner of ChemAsia Engineering (CAE), Mr.Chen Yew Seong intend to public listed the company on the year 2002 and retire. However, the dilemma came in when Krofta offer to buy over 75% share of CAE. Krofta need the reply from Chen by December 1998 which is 6 month from now. This is the second attempt by Krofta, in 1997 Mr.Chen rejected their offer because he was very confident with CAE future by that time . “ What will I do? ” This question keep turning in the mind of Mr.Chen. His dream was to be the major shareholder of his water treatment firm. He want the name of CAE founder and the ownership be carried forward to his junior. By looking at current economy situation, he is not confident about CAE. Although Malaysia government still showing 6.9% growth for 1998, deep in his heart these may not be realistic. He is wondering how long will it take for his dream to come true.



Currently CAE depend very much on Mr.KP.Ooi, the technical director of the company, he is in charge of overall activities including technical, marketing and financial aspect as well. He serve as the company General Manager, and a few others who has proven unquestionably efficient and loyalty. However, Mr.Chen has to reconsider the whole idea. To reject Krofta might possibly cause big losses to the company if the economic situation get worse. On the other hand, if he accept the offer, he totally lost his opportunity to achieve what he had dream for almost 50 years, along with the people who shared his ambition and dreams for many years, or fight in the hope of better future for his own company.

ChemAsia Engineering Sdn.Bhd.[CAE] was formed in September 1994 after taking over all the engineering personnel from United ChemAsia [UCA]. In 1987 United ChemAsia [UCA] was setup by a group of business partner to target boiler water treatment, cooling tower services and chemical sales. Boiler is used to generate steam to run specific job in the plant, while cooling tower is another engine to cool down the certain process in the operation chain. UCA major business is to give both service maintenance and chemical sales for boiler and cooling tower.

The company's shareholders are listed hereunder:

DIRECTOR	SHARE
Ann Way	25%
Tai Ern	21%
Chen Yew Seong	20%
K.P.Ooi	10%
H.H.Ooi	9%
Alex Chong Chee Chui	5%
Loke Ah Seng	5%
Yeoh Boon Leong	5%

The business competition was getting tougher especially on boiler sector due to simplicity of operations, small companies and big competitors like Nalco, Salcon, CSC Kemico came into the business, and price war occurred, and caused extremely low profit margin. Under Mr.K.P.Ooi guidance UCA established engineering division, solely in charge of water treatment project. The job involved a wide range of design to suit the different process such as waste and raw water treatment.

Krofta was one of the major foreign suppliers to support both machinery and technical service to UCA. For instance Dissolved Air System [DAF] is one of the successful system that Krofta used to dissolve air to up-float all the suspension solids and scrap it out later. UCA expand its engineering division through selling the modern and advance technology equipment.

At that time, UCA was facing a very tight financial problem, and short of capital to support both operation of chemical sales and engineering projects. Hence, the Board of Director of UCA decided to offer Chen Yew Seong, one of the director, to take over the business of engineering projects. Thus, CAE was formed. UCA then concentrated and devoted more time on chemical and equipment sales on the other hand, CAE took over all the engineering projects business.

CAE adopted a low paid up capital approach in the beginning and utilized bank facilities of RM 1 million and later 2 million for business operations, backed by personal collateral guaranteed by Mr.Chen Yew Seong. The paid up capital stood at RM 100,000.00 up to 1996 financial year. In the following year 1997, the paid-up capital is raised to RM 500,000.00.

## CHAPTER 2

### CHEMASIA ENGINEERING SDN. BHD.

#### 2.1 MANAGEMENT TEAM

##### **Mr. Chen Yew Seong**

Took over the engineering project business from UCA and formed CAE, act as the Group Chairman and Managing Director of the company. Mr. Chen graduated with a degree in Chemistry from University of Malaya, has then pursued to obtain various professional recognition from many Engineering Association. Began his career as a technologist in Cressionite Industries in Singapore in 1953, he then became chemist in Singapore City Council. Later he hold the position of Chief Chemist in National Electricity Board in Singapore. When he return to Malaysia, he formed a company, CSC Kemico Sdn Bhd. Prior to form CAE, he was the CEO of SALCON Engineering Sdn Bhd and concurrently director of Kumpulan Emas Bhd and United ChemAsia (UCA).

### **Mr.Ooi Kok Ping**

Is the Technical Director of CAE, and has 10 years experience in the similar field. As a chemist, he is in charge of technical detail of the company. His job include design of treatment plant, costing, project planning, marketing and project presentation. He also help out chemical division to formulate chemical program for treatment systems. With his years of service under UCA and CAE, he had train a team of Chemistry Engineers, Technicians and Sales Personnel for the company operations. Today, he is the key person in charge of CAE operations , reporting directly to Mr.Chen Yew Seong. He is responsible for the company's profit, sales turnover, overhead expenditures, technical development, finance etc.

### **Mr.Lee Hoong Khai / Mr.David Ng Kam Meng**

Mr. Lee Hoong Khai, the Brand Manager and Mr. David Ng Kam Meng, Assistant Manager are in charge of the whole operation of the Kuala Lumpur and Penang office respectively. Acting as an immediate assistant to Mr.Ooi Kok Ping, they liaise with the clients, contractors and suppliers, project teams and company management team for day to day operations, sales follow-up with potential client is their main responsibility.

### **Mr.Ooi Beng Guan**

Is the Senior Process Engineer, a biology chemist. He is in charge of technical development and biological process, physio-chemical process, detail project design and calculation. Plant commissioning and training are his main activities. He is also responsible for laboratory activities.

### **Mr.Teh Kai Joo**

Is the Senior Project Engineer. He is in charge of engineering division of the company. He is responsible for the selection of pump/equipment, mechanical installation and piping works. Liaise with process design from Mr.Ooi Kok Ping and Mr. Ooi Beng Guan, he plans for piping, installation and project drawing. He also assists Mr.Ooi Kok Ping to prepare detail project cost for both tender purpose and actual job implementation.

(Please refer to Appendix 1 for the company organization chart)

## 2.2 EXPERIENCES AND EXPERTISE

For the past 5 years, CAE [previously UCA] have completed more than 50 jobs in various industries [refer to appendix 2]. These jobs involved a wide range of designs to suit the different processes that market required. Today CAE are expert in screening, pre-treatment, physical treatment such as, sedimentation/ flocculation, biological systems [activated sludge], extended aeration process, sequential batch reactor systems, aerated lagoon system, anaerobic digestion process, tertiary treatment, such as conventional sand filter or multimedia filter, Krofta Sandfloat technologies and sludge handling systems etc.

CAE has successfully penetrated the following markets:-

- Pulp and Paper Industries
  - ~ white water recycle and waste water treatment
- Palm Oleo Industries
- Rubber Glove Industries / Latex Dipping Industries
- Heavy Metal Industries / Electronic Industries
- Food Industries
- Potable Water Treatment

The Department of Environment [D.O.E.] has established rules and regulation to control the discharge for a variety of pollutants, including conventional, non-conventional and toxic pollutants.

- Conventional pollutant include fecal coliform, biological oxygen demand (BOD), total suspended solids (TSS), fats, oil and grease (FOG), and pH.
- Non conventional pollutants include ammonium and phosphate.
- Toxic pollutant include certain organics and metal (such as arsenic, cadmium, chromium, copper, lead, nickel, silver, gold and zinc. The organics incorporate several general classes of organics including volatile organics (such as 1,1,1 trichloroethane, benzene, ethylbenzene...etc).

CAE thus help industry to setup water treatment plant to conform to the D.O.E. regulations and take care of environment.

( Refer appendix 3 for the D.O.E. standard)





Discharge of industrial wastewater or contaminate storm water to a sanitary sewer are referred to as indirect discharges and are regulated by industrial pretreatment limitations. A typical municipal treatment plants uses biological treatment to remove biological oxygen demand [BOD] and total suspended solid [TSS] from the wastewater. Some industrial pollutants interfere with biological activity and may cause a treatment process failure or may pass through the treatment plant. Some pollutants may harm collection and treatment system workers or may damage equipment. Therefore, a discharge permit or authorization may be required depending on the characteristics of the discharge.

Today , CAE is accepted as one of the most reputable company in waste water consultancy. Working as a team, they have made the following achievements:

1. Most competitive water treatment consultant and contractor, and offering the best technologies and quality works.
2. Record shows that they have never failed to comply on final treatment quality.

3. Implemented DAF systems for potable water in Teluk Bahang and Bukit Panchor had open up the potable water market for CAE. Today, Malaysia had less than 8 of such installation, of which two plants and another one on drawing board are being prepared by CAE.
  
4. A young and energetic team with an average age of 28-30 and prepared to work hard, learn the new concepts and to accept the new technologies. Under the guidance and support of Mr.Chen the company overall performance has improved over the last few years.

## **2.3 CAE PHILOSOPHY - BEST VALUE**

### **Best Value for Customers**

- CAE seeks to improve the profitability and process performance of their customers' operations and assure a return on their investment.
  
- On-site problem-solvers as they bring technical, innovative solutions to their customer's operations.
  
- The goal is customer satisfaction in the most efficient and economical manner.

### **Best Value for Employees**

- Their employees are the strength behind their customer focus.
- They strive to add value through their quality process and through an environment of opportunity, challenge, trust and reward so that employees may effectively satisfy their customers, contribute to their goal and enjoy personal growth and fulfillment.
- They teach each other with respect and dignity.
- All employees should be able to work in an environment that is safe, healthy, free from discrimination and fair in all aspects of work, pay, benefits and career opportunities.

### **Best Value for Communities**

- In accordance with the law, act ethically and with integrity, be responsible and with due respect to the environmental rules and regulations, and be active and interested in civic and community affairs.



- Safety, Product Stewardship and Responsible Care are essential ingredients of their Best Value commitment. It is an important part of the chemical industry's to assure that their products are developed, manufactured, distributed, used, and disposed of in a safe and responsible manner.

## **2.4 CAE APPROACH**

At present CAE had taken steps to develop and implement an effective water treatment system, by:

- Characterize the waste stream, determine the contaminants and their concentration, determine the rate of waste generation and waste volumes.
- Determine the waste management requirements especially the sewer discharge regulations, the solid waste, hazardous waste disposal, air pollutant control and other pertinent regulations. Different area will have different type of standards. Housing are subjected to stricter rules compared to industrial area.

- Develop waste management options, identify applicable treatment technology, consider changing the process to reduce or eliminate the waste stream and segregating waste streams to reduce volume and allow effective treatment.
- Evaluate the alternative capital and operating costs versus benefit, effectiveness, reliability and flexibility of the system, disposition of waste treatment residual, quality of technical support from equipment suppliers, check and take the time to conduct production an treatbility tests.
- Prepare the system design and select the best alternatives based on the customer needs, obtain the necessary permits, provide spill containment structures and comply with building and fire codes regulations.
- implement the wastewater treatment system, prepare operating and maintenance manual, train customer personnel, install the equipment, startup and evaluate the system finally document system performance.

Today, CAE are recognized by Department of Environment [ D.O.E.] as one of the most competent waste water consultant. With the help from Krofta, their installation in Public Water Authorities [PBA] made an impact on the local water supply industry, awakening them to the need of automatic treatment and remote control system. The forthcoming Trengganu job with complete remote monitoring and control systems will become a model for future water plants in this region.

## **2.6 BENEFITS TO STAFF PERSONNEL**

CAE had implemented a profit sharing scheme for all regular staff. The basic rules are:

- 20% of net profit derived from projects shall be equally shared by all personnel after deducting all direct costs, overhead and all indirect maintenance expenses.
- Profit Sharing Scheme are meant to be an incentive and motivate all staff to give their best to the company. This benefit should induce the staff to be more united and self-motivated as a team to give maximum production output.

## CHAPTER 3

### CURRENT MARKET SITUATION

#### 3.1 CAE POSITION

Traditionally, CAE do not maintain marketing team within the company. They used the following marketing resources instead:

1. It is their policy to maintain good relationship with client. In certain cases, they do extra works for the client to keep them happy, and create confidence through CAE professional work performance. Most activities are centered around Baxter, Safeskin,, Kajang Paper Mill, Nibong Tebal Paper , Nastah Industries, Palm Oloe etc. CAE usually have repeat orders from these companies.
2. Jobs through associated company, such as UCA. Apart from percentage of sales commissioning, also benefit from chemical sales every after completion of the project. Their chemists help them to develop the chemical program.

3. Recommendation from DOE based on regulation compliance, DOE have included CAE in their recommendation list.

As the company grows, they foresee the need to maintain own strong sales forces to handle end market, which is becoming more competitive.

### **3.2 ENVIRONMENT IN MALAYSIA**

The mission statement of Department of Environment [D.O.E.] is “ To promote, enhance and sustain sound environmental management in the process of nation building. In the promotion of environmental sound and sustainable development, the Government of Malaysia has established the necessary legal and institutional arrangements such as that, environmental factors are considered at the early stages of project planning. Environmental assessment is an important technique for ensuring that the likely impact of proposed development on the environments are fully understood and taken into account before such development is allowed to go ahead in Malaysia.



National environmental policy in Malaysia will continue to give greater emphasis on the following objectives :

- To maintain a clean and healthy environment
- To maintain the quality of the environment relative to the needs of the growing population
- To minimise the impact of the growing population and human activities relating to mineral exploration, deforestation, agricultural, urbanisation, tourism and the development of other resources on the environment
- To balance the goals for socio-economics development and the need to bring the benefits of development to a wide spectrum of the population against the maintenance of sound environment conditions.
- To place more emphasis on prevention through conservation rather than on curative measure, inter alia by preserving the country's unique and diverse cultural and natural heritage.