CHAPTER FOUR: Situation Analysis

4.1. The global economy environment

A global economy is one in which goods, services, people, skills and ideas move freely across geographical borders, relatively unfettered by artificial constraints such as the 30 percent export duty imposed on unfermented cocoa bean by the Indonesia government in 1999. The global economy significantly expands and complicates a firm's competitive environment. With the tremendous growth and innovation in telecommunication in recent years, which results in cheap, valuable and almost instant information. Thus, to achieve strategic competitiveness in the global economy, a firm must view the world as the market place.

Global competition has increased performance standards in numerous ways including those of quality, cost, productivity, product introduction time to market, and smooth, flowing operation. The required standards are dynamic. Thus it required continuos improvement from the firm and its employees. ISO 9000 systems qualification becomes the norm to the world. Products from firm with the said quality system are widely accepted by the consumers. The changing world, with better educational system and the care of the environment demand stringent quality system by the world. ISO 9000 with the incorporation of the environment issues, Good Manufacturing Practices (GMP) and Hazards Critical Control Point (HACCP) become the new quality platform for food industry. As a firm accepts the challenges posed by these external forces, the company has to improve its capabilities and its individual workers to sharpen their skills.

In the emerging economy with the effect of globalization, firms compete in the global market rather than just concentrating in the domestic market. Technology changes the explosion in information gathering and processing capabilities, which demand more timely and effective competitive actions and response. The rapid sociological changes occur in many countries affect labor practices and the

nature of products demanded by the increasing diverse consumers. Governmental policies and laws affect where and how firms choose to compete. Firms must be aware of the implications of these environmental realities in order to compete effectively in the global economy.

4.1.1. Political/Legal segment

The political and legal segment are the arenas within which firms and the interest groups compete for attention and resources from the body of laws and regulations guiding these interactions. The liberalization of the cocoa trade in Ivory Coast in the year 2000 and Ghana by 2006 forces the transaction of governmental control to a free market for cocoa bean. With the NAFTA and GATT agreement in place, the cocoa trade expected to be governed by the law of supply and demand in determining its fair price (Helferich, 1999).

Traditionally, farmers in the major cocoa producer countries are protected by the local governments. As Ivory Coast and Ghana produced 60 percent of the world production, the government controls of the cocoa bean supply enable to ensure a fair price to the farmers. Currently, the farmers get approximately 60 percent of the market price quoted in the world commodity exchange such LIFFO (London International Financial Future and Options). In the liberalization of the cocoa trade, the Ivory Coast expects the farmers to gain at 70 percent of the market price.

Industrialization became the latest trend in coco bean industry. Even agricultural activities have moved to high technology, such as the use of machinery in paddy fields. Cocoa cultivation, which is labor intensive have become uneconomical when farmers demand high wages. Changes in labor pool capability; educational levels and lifestyle lead to shortages of human resources in the agriculture sector.

The Clean Air Act identifies, defines and regulates the amount of air contaminants such as particulate emissions known as volatile organic compounds (VOCS), that when emitted into environment, contribute to the formation of ozone (N.E. Mitchell, 1999). The Act would create a distinct competitive disadvantage to cocoa industry. As cocoa processing requires a roasting process, contamination to the environment is unavoidable. It is a must for cocoa processing plants to treat the vapor before its release into the atmosphere in the European countries. The equipments for this treatment incur additional costs in the form of energy consumption and labor costs.

4.1.2. Economic segment

The health of a nation's economy affects the performance of individual firms and industries. Economic policies, trade deficit, and the balance of payment affect the health of a country's economy and also determine the competitiveness of the country. The free movement of short-term capital has ignited the economy crisis in Asia. For firm with significant assets in Malaysia, Thailand and Indonesia, the currency devaluation had significant negative effects to the economies. It restricts import of foreign goods and services to these countries. On the other hand, foreign investor may find significantly lower property and labor costs. For example, the devaluation of CFA (Ivory Coast's currency) by 50 percent against the French Franc in 1995 contributed to a sharp rise in cocoa production (McConnell, 1998). This enhances the value of cocoa as an export earner of foreign exchange and provided strong incentives to move all available cocoa from the farms to the ports. The same scenario happened in Malaysia, especially when the cocoa price shoot up to 6500 Ringgit in 1998.

A recent trend in commodity purchasing is the transformation of the role of the purchasing department from buyer to that of risk manager. This transformation recognizes the potential for generating competitive advantage through reducing

commodity risk in the free market. As the cocoa trade is an international trade, a buyer must able to identify the potential price risk, exchange rate risk and the interest risk. As the global competition intensifies for the world commodity market, the definition, understanding and management of the commodity risk imbedded in the operating and financial structures of the firm are essential to profitable growth of the companies. As risk managers buyers are increasingly hedging their risk using futures, options and others forward contracts. The trends became more intense in Asia as a result of the currency crisis in 1997.

4.2 The industry structure analysis.

An industry is a group of firms producing products that are closely substitute. By adopting the five-force model of competition (Michael Porter, 1980), the cocoa industry is analyzed.

4.2.1 *Threat of new entrants*

New entrants to an industry can threaten existing firms. New entrants bring additional production capacity and innovation into the existing market, which can reduced the market share of existing companies. Furthermore, new capacity will be subjected to the law of supply and demand, which results in lower market price. Hence, new entrants to the industry can reduce profitability and survival of certain companies when market price falls below its operating cost.

4.2.1.1 Capital requirement

Over the years, cocoa processing has become a very capital-intensive. A cocoa processing plant of 10,000 metric tonne annual capacity requires a minimum of 40 million Ringgit Malaysia for the physical facilities such as machineries, land and building. Another 20 millions Ringgit Malaysia required as working capital. The inventory turnover is about 30 days plus another 30 days for raw material *holdings.*

In the cocoa industry, the availability of the right type of cocoa beans at the right time determines the successfulness of the firms. With the high initial startup cost and high working capital, only large firms with strong financials are able venture to into this business. As the raw material is seasonable, storing huge stock of raw material is required during the low period of cocoa production. Normally it tight ups at least 3 three months holding of raw material requirements. Overall, the industry is highly capital intensive. Thus, raising the barrier of entry for potential new entrant.

4.2.1.2 Economies of scale

Economies of scale is defined as the benefits gain when the quantity of a production increase during a given period, which results in the cost of manufacturing each unit decline. In the cocoa industry, ten main processing companies produce 67 percent of the world cocoa (Vermaut, 1999). These companies offered a wide range of cocoa products and have processing facilities all over the world. Thus they possessed huge economies of scale.

New entrants face a major dilemma as 10 major global producers (Table 3) monopolize the cocoa business. In order for the new entrants to succeed, they must achieved economies of scale in order to offer a competitive price, which encourage existing customers to switch to their products.

Cocoa is a commodity. The products mainly are cocoa mass, cocoa butter and cocoa powder. Cocoa butter is treated as commodity as the price is quoted according to cocoa bean price. However, cocoa mass and cocoa powder are viewed as technological products. Customization of the coca powder and cocoa mass require special blend of cocoa beans and process know-how. This creates an entry barrier, as the new entrant must have the economies of scale to offer competitive price and the capabilities of customization to sustain the competitive edge.

Table 3:Major Cocoa Players In Cocoa Industry

Description	1989	1999	2008
Grinding capacity	50%	67%	75%
10 main processing companies	Nestle Grace Cocoa Barry Cargill Callebaut Hershey Cadbury EDF man Hamester Unicao	ADM Barry Callebaut Cargill Nestle Cadbury Hamester Blommer Chadler Philip Morris Unicao	ADM Cargill Barry Callebaut
Others	50%	37%	25%

(source:The Manufacturer Confectioner, 1999)

As the ten major cocoa producers captured 67 percent of world market, new entrants must customize their products for large numbers of small customer group. Capability to capture the niche market using new flexible manufacturing systems and employment of skilled labor will determine the success of these new entrants.

4.2.1.3 Switching cost

Switching cost is the one time cost customers incur when buying from different buyers. Switching cost is industry specific. For the public, understanding of coca flavor is low. Thus the switching cost is low. However for industrial buyers such as beverage, candy and confectionery industries the switching depend on the firm's market positioning. Backyard industries and SMI in Malaysia do not have brand loyalty and therefore they tend to switch to different supplies solely based on the lower possible cost.

Switching costs for the chocolate producers such as Nestle and Mars are high. Vendor's assessment, research and development are a must. For example, a particular Japanese buyer took 3 years to study and assess Cacao International Sdn. Bhd. before they started purchasing the products from Cacao International Sdn. Bhd..

Barrier entry is low as the switching cost is normally low for the new entrants in the cocoa industry. However the new entrants must anticipate challenges to position themselves against the market leaders and to earn above average returns by incurring high switching cost to its customers.

4.2.2 *Bargaining power of Suppliers*

4.2.2.1 The suppliers

The world cocoa production in West Africa was about 60 percent in 1998 and expected to contribute around 70 percent in 2008. There will be increasing crops in Ivory Coast and Ghana from new plantations while there will be continue crops decline in Brazil since it is not expected that the problem with witches' broom disease will be solved in the near future. Thus the supplies will be concentrate in West Africa. The capability to capture and control these supplies enable firm to gain competitive advantages.

The cocoa production in Malaysia is expected to further reduce to 92, 000 metric tone per annum, which is far below of the processing capacity of 100,000 metric tone. From the table 4, we noted that the reduction of the total land area from the peak of 414,236 hectare in 1989 to 1132,255 hectares in 1999. The downtrend is expected to continue due to poor yield and low profit from cocoa cultivation. As the country exports 60 percent of the total production, import of cocoa bean from Indonesia, Solomon Island and Papua New Guinness become intense. The shortage of local cocoa bean will worsen when one of the cocoa's grinding capacities will exceed 120,000 metric tones in 2000.

The local grinders are expected to switch to others sources of cocoa bean. Indonesia will be the substitution of local bean. By increasing the import activities, the inventory holding time will increase and leads to higher cost. The industry is expected foreseen to compete internationally with the world grinders, as the variability of the bean source narrow further coupled with increasing global trade.

4.2.2.2 Raw material price

Variability of cocoa bean price worldwide is expected to reduce further. The differential of Indonesia source and Malaysia source in December 1999 was 20

Table 4: Malaysia cocoa production, grinding, and cultivated area by region and sector

Year	Production				Grinding	Quantity Import	Area cultivated		
	Penisular Malaysia	Sabah	Sarawak	Malaysia			Estate	Small holder	Total
	tonne	tonne	tonne	tonne	tonne	tonne	ha	ha	ha
1,988	71,053	140,532	18,415	230,000	44,000	180	201,314	206,546	407,860
1,989	80,000	143,000	20,000	243,000	51,000	1,248	201,615	212,621	414,236
1,990	80,800	145,000	21,200	247,000	70,000	101	193,365	200,100	393,465
1,991	78,900	131,000	20,100	230,000	95,000	1,168	182,913	216,037	398,950
1,992	69,000	135,000	16,000	220,000	100,000	1,829	168,058	210,482	378,540
1,993	60,000	129,000	11,000	200,000	105,000	2,341	145,646	154,349	299,995
1,994	47,883	122,046	7,243	177,172	105,497	11,353	130,232	141,107	271,339
1,995	34,073	91,953	5,449	131,475	103,540	39,704	96,053	94,074	190,127
1,996	26,536	88,612	4,923	120,071	102,638	22,142	73,503	94,716	168,219
1,997	27,909	74,052	4,066	106,027	105,266	37,127	50,270	90,629	140,899
1,998	21,347	64,338	4,498	90,183	100,100	57,198	46,847	86,842	133,689
1,999	22,100	65,300	4,600	92,000	100,000	60,000	45,413	86,842	132,255

source: Malaysia Cocoa Board, 1999

sterling pound per tonne as compared to 60 sterling pounds per tonne traditionally. This is due to the shortages of cocoa bean in the market. The profitability of the cocoa processors is expected to be lower because of lower yield source bean being bought at a much premium price because of the reduced supplies.

Cocoa bean price is expected to be very volatile after the liberalization of cocoa trade in Ivory Coast. Poor price of the cocoa bean will definitely destroy the industry, when farmers are not able to make a living through cultivation of the cocoa tree.

4.2.2.3 Delivery

Cocoa bean is a commodity. Purchase of cocoa bean is specified at the contracted month. Thus the arrival of raw material is unpredictable. Just in time system cannot be implemented as the raw material is still subjected to incoming quality inspection. As a result, high inventory of raw material is required to ensure smooth production.

4.2.2.4 Liberalization of trade

The main threat for the industry is comes from the liberalization of cocoa trade in the Ivory Coast and Ghana, the transformation from government control to market forces. In the Ivory Coast, the government through the Caisse de Stabilization, had a grip on the country's largest source of income for the last 30 years. In the future, the cocoa business will be in the hands of a limited number of powerful international companies.

4.2.2.5The players

By the years 2008, ADM, Barry Callebout and Cargill are expected to handle 75 percent of world cocoa production. The bargaining power of the supplies will be lost as the control of the raw material price is in the hands of these major players.

4.2.2.6 Price risk and quality issue

Ivory Coast has been one of the most politically stable countries in Africa over the decades. The consistency of price paid to the farmers, assured by the Caisse de Stabilization, has been one of the most importance elements of this remarkable stability.

Under the liberalized system, the farmers will be paid based on the world markets prices, which are presently at a six year low, though they will probably receive a larger portion of the world price for their beans. These prices are expected to be more volatile hence affecting the stability of theirs income. Effect of the liberalization expected led to disruptions of supply and reduction in quality. Referring to Table 5, the quality of coca bean has been reduced over the years. The farmers try to maximize their profit at the expense of the quality of cocoa bean. The market standard for impurities is 3 percent. Most of the farmers manage the waste percent up to or slightly above the allowable limit. Furthermore, poorer post harvests treatment result high cocoa shell contents and moisture level. This leads to the overall resulting lower yields in the cocoa industry.

This creates an entry barrier to the new entrants when the scarcity of raw material is in the hand of a few players. The situation worsens in poor of quality of cocoa beans.

Table 5 : Cocoa bean quality 1996-1999

Malaysia	1996	1997	1998	1999	Aug-99	Jul-99	Jun-99	May-99	Apr-99	Mar-99	Feb-99	Jan-99
nibs fat	55.0	55.0	51.0	53.0	52.1	52.9	52.6	51.9	52.2	51.9	52.6	52.6
waste	2.0	2.5	4.5	4.0	3.3	3.9	3.8	3.5	3.5	3.1	3.3	3.3
moisture	7.4	7.3	7.8	7.8	7.8	7.8	7.9	7.9	7.8	7.9	8.1	8.1
bean count	99.0	102.0	117.0	105.0	110.0	105.0	109.0	108.0	105.0	112.0	105.0	104.0
shell content	14.0	14.5	16.5	15.3	14.8	14.0	14.5	14.5	14.5	15.5	15.0	15.0
EXPECTED YIELD												
liquor yield	80.2	79.2	75.4	77.0	78.2	78.3	78.0	78.2	78.2	77.7	78.0	78.0
butter yield	36.9	36.5	31.4	33.8	33.5	34.3	33.8	33.3	33.6	33.2	33.9	33.8
solid yeild	43.2	42.7	43.9	43.2	44.6	44.1	44.1	44.9	44.6	44.5	44.1	44.1

Indonesia	1996	1997	1998	1999	Aug-99	Jul-99	Jun-99	May-99	Apr-99	Mar-99	Feb-99	Jan-99
nibs fat	53.0	53.0	49.0	51.0	51.1	51.1	50.5	51.3	51.1	50.8	50.9	50.8
waste	2.5	3.0	5.5	4.5	4.3	4.1	3.9	3.5	3.8	3.8	3.3	3.5
moisture	7.4	7.3	7.8	7.8	7.8	7.8	7.9	7.9	7.8	7.9	8.1	8.1
bean count	110.0	110.0	125.0	115.0	112.0	105.0	109.0	108.0	105.0	112.0	105.0	104.0
shell content	15.0	15.5	16.5	15.3	15.5	14.5	14.5	14.5	14.5	15.5	15.0	15.0
EXPECTED YIELD												
liquor yield	78.7	77.8	74.4	76.5	76.5	77.7	77.9	78.2	78.0	77.0	78.0	77.8
butter yield	34.5	34.1	29.4	31.9	32.0	32.5	32.0	32.8	32.6	31.9	32.4	32.3
solid yeild	44.2	43.6	45.0	44.6	44.5	45.2	45.8	45.4	45.4	45.0	45.5	45.5

Ghana	1996	1997	1998	1999	Aug-99	Jul-99	Jun-99	May-99	Apr-99	Mar-99	Feb-99	Jan-99
nibs fat	55.0	55.0	56.0	56.0	56.0	56.0	55.5	56.0	56.0	51.9	52.6	52.6
waste	1.5	1.5	1.0	1.0	1.5	1.0	1.0	1.5	1.2	1.0	1.2	1.0
moisture	7.5	7.3	7.5	7.8	7.8	7.8	7.5	7.5	7.5	7.5	7.5	7.5
bean count	95.0	97.0	96.0	95.0	94.0	94.0	95.0	93.0	95.0	96.0	95.0	95.0
shell content	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5
EXPECTED YIELD												
liquor yield	82.1	82.1	82.6	82.6	82.1	82.6	82.6	82.1	82.4	82.6	82.4	82.6
butter yield	37.8	37.8	38.9	38.9	38.7	38.9	38.5	38.7	38.8	35.3	35.8	35.8
solid yeild	44.3	44.3	43.6	43.6	43.4	43.6	44.1	43.4	43.5	47.3	46.6	46.7

(source: Cacao International)

4.2.2.7 Substitutes cash crops

The industry also faces the problems of market oligopoly structure by a few players. The industry faces competition from other cash crops. As the industrialization swift through the world, labor becomes more expensive. Labor-intensive business like cocoa cultivation is becoming less attractive. In 1998, profit per a mature hectare for oil palm reached a record high for RM 5753 as compared to RM 1178 for rubber and RM403 for cocoa (KLK Berhad annual report, 1998). As a result, more and more cocoa plantations have been and rubber plantation has converted to oil palm estates. The trend will continue in the foreseeable future due to higher increase in labor cost, especially in Malaysia.

4.2.3 *Bargaining power of the Buyers*

4.2.3.1 The buyer

Firm seeks to maximize return from their invested capital. Buyer prefers to purchase products at the lowest possible price, at which the industry earns the lowest acceptable rate of return on its invested capital. To reduce their cost, buyers bargain for higher quality, greater levels of service, and lower costs.

4.2.3.2 The integration

Vertical integration has become the trend and is more and more evidenced. In 1995, five major players dominated the chocolate market, each of them having their respective strong regional leadership. Those five companies represent more than 35 percent the cocoa production. Thus the information on the cocoa trade is widely available to the customer, who demands a very competitive price from the cocoa processor. Furthermore, these companies enjoy a market share of roughly 55%. As they purchase and produce a large portion of the cocoa industry's output, they are able to manipulate and control the market price. This creates an entry barrier to the new entrants.

The consolidation of chocolate and cocoa industry is creating competitive advantages to the world players in both industries. Through consolidation, it requires suppliers to be close to their production plants for vertical integration and logistic performance. Combining the competitiveness and the open chocolate market, we also see a spectacular concentration. The chocolate business becomes more and more a global business in trade terms. The creation of the free trade zones like the European Union, NAFTA, Asian, Mercosur and Andean Act is eliminating or reducing custom tariffs, technical barriers and the administrative barriers.

4.2.3.3 Outsourcing

Another trend in the cocoa industry is the increasing tendency for cocoa and chocolate processors to outsource their chocolate making activities. Outsource by world chocolate manufacturer such Hershey and Nestle solved their production problems thus making the firms more competitive as they concentrate more in their core competencies (Vermaut, 1999).

One benefit of outsourcing is to reduce environmental issues because the polluting activities are taking place in fewer locations, which make it more economical to invest in protective equipment. Outsourcing increases the speed of an innovation and related time to market since the chocolate producers can concentrate in their core competencies. Outsourcing also reduces cost since the most efficient suppliers are enjoying competitive advantages that individual producers do not have. Besides price advantages, outsourcing enable the cocoa producers to invest in new technology, which result in reducing considerable their cost per tonne and promote product innovation. Outsourcing also result in reducing the need of fixed assets and working capital in the production processes. The trend towards outsourcing will continue to intensify in Europe in the near future.

The consolidation of the trade via integration together with the outsourcing in the chocolate industry raise the entry barrier further to the industry as economies of scale is of high importance in competing in the industry.

4.2.3.4 Existence of substitute products

Cocoa products are industry specified. However the products are easily substitutable. Only through branding, a customer may view or perceive the products are different. Thus, this is the buyer market where they are able to demand lower prices for any value added products.

4.2.4 *Threat of Substitute Products*

Substitute products are different goods that can perform similar or the same functions as the focal products. Cocoa product, specifically cocoa mass and cocoa powder is not substitutable. Thus the threat of substitute products do not exists. But the threat may be come from other ingredients used. Coffee, for an example might be able to replace cocoa powder in beverage preparation due to the changing tastes and lifestyles of consumers.

4.2.4.1 NAFTA

Cocoa butter, the most expensive ingredient in chocolate manufacturing face a major threat as other vegetable fat is allowed up to 5 % in chocolate through NAFTA. The change in standard results in creating ten percent surplus of cocoa butter supply in the market, which result in lowering the cocoa butter price (Jason,1995).

4.2.4.2 Innovation

High degree of innovation in cocoa industry coupled with the invention of new processing facilities; result in the production of innovative product in recent years. With the allowance of 5 % of other types of vegetable fat will lead to a major leap through in chocolate manufacturing. As manufacturer experience and sharpen their skills, higher percentage of vegetable fat will expected to be incorporated

into the chocolate. These will bring negative effect to the cocoa industry as less cocoa supplies are needed.

4.2.4.3 Palm oil and its derivative

High innovation in the oil palm based products produced with low cost fat, which is equivalent to cocoa butter, formed a major threat to the cocoa industry. High production of oil palm and the economies of scale in the industry will compete indirectly with the cocoa industry.

4.2.5 *Intensity of rivalry among competitors*

In cocoa industry, firms compete actively with one another to achieve strategic competitiveness. Competition among rivals is based on price, product innovation and extensive customer service in order to create product differentiation.

4.2.5.1 Industry growth

The cocoa industry grew at 2 to 3 percent annually for the last decade. It is a matured industry in term of processing capacity. Under these conditions, rivalry becomes much more intense. An increase in one firm's market share usually comes at the expense of competitors' share. For example, Hershey gave up as cocoa producer but concentrated more as a chocolate manufacturer. The firm disposes of its cocoa processing facilities and concentrated on their core competency. Cost leadership becomes the common strategy used.

4.2.5.2 Raw material

Consolidation of the cocoa industry results in strong competition competing over raw material. Thus cocoa bean price is getting more expensive. As the major producers enjoying economies of scale and vertical integration, the cocoa bean price becomes more speculative. Thus it forms the barrier for small grinder to growth and inevitably forced them to operate more efficiently.

4.2.5.3 High product differentiation

Cocoa industry is a highly innovative industry. Cocoa processors use different technology, bean sources and processing know-how to create competitive advantages. High product differentiation can be seen with strong brand identity.

4.2.5.4. Financial strengths

To be world-class cocoa manufacturers, firms must posses the financial strength to hold large quantity of inventory and production assets. High capital is also required in achieving economies of scale by investing in high technology mechanism.

A sustainable competitive advantage occur when a firm implement a value creating strategy of which other companies are unable to duplicate the benefits or find it too costly to imitate (Barney, 19991). By achieving strategic competitiveness and successfully exploiting its competitive advantage, a firm is able to accomplish it primary objective that is earning of above average return. An above average return is return in excess of what an investor expected to earn from other investment with a similar amount of risk. The outcome of the industry analysis is summarized in Appendix 1.

Figure 1: Industry Analysis- Porter Five Forces Model