

Chapter Six: The Value Chain Analysis

The value chain is a template that firms use to understand their cost position and identify the multiple means that might be used to facilitate the implementation of their business level strategy. The value chain is used as the basis tool for cost analysis. The behavior of a firm's costs and its relative cost position stems from the value activities the firm performs in the competing in an industry. A meaningful cost analysis examines costs within the activities and not the costs of the firm as whole. Each value activity has its own cost structure and the behavior of its cost may be affected by the linkages and inter relationships with other activities both within and outside the firm. Cost advantage results if the firm achieves a lower cumulative cost of performing value activities than its competitors (Michael Porter, 1985).

Value is measured by total revenue. A firm is profitable if the value it commands exceeds the cost involved in creating the products. Thus value instead of cost, must be used in analyzing competitive position since firms often deliberately raise their cost in order to command a premium price via differentiation. The value chain displays total value, and consists of value activities and margin. Value activities are the physically and technologically distinct activities a firm performs. These are the building blocks by which a firm creates a product valuable to its buyer.

6.1 Primary Activities

Primary activities are activities involved in the physical creation of the product, its sale and transfer to customer as well as after sale services.

6.1.1 Inbound logistic

Activities associated with receiving, storing, and disseminating inputs to products, such material handling, warehousing, inventory control and returns to supplier. The inbound logistics contributed to 0.4 percent of the operating cost. 95 percent of the inbound logistic cost is storage cost due to lack of storage space. The shortage of storage space mainly due to the business itself as availability of the raw material is seasonable. Two crops expected in May and November, storing at least 3 months plant requirement is the common practice in the industry. Thus, storage huge stock is compulsory to ensure smooth production flow.

6.1.2 Operation

Activities associated with transforming raw materials or inputs in final products. Activities such as equipment maintenance, packaging, assembly and utilities supplies. A cocoa processing plant is a high-energy consumable plant and heavily machinery maintenance activities. Operation activities contributed to 5 percent of the firm operating cost. 36 percent of the cost is used for power consumption that is electricity. 32 percent is used for machinery maintenance as the processing activities involve intense grinding, which is resulting high wear and tear. 22 percent is used for purchase of LPG gas, fuel oil and water.

6.1.3 Outbound logistic

Activities associated with collecting, storing, physical distribution of products to customer. Activities involved are finished goods warehousing, material handling, order processing and scheduling. It is the lower cost incurred, represent 0.1% of the cost structure. Average inventory holding is 15 days in the warehouse. Lower cost involved as plant capacity is fully sold.

6.1.4 Marketing and sales

Activities associated with providing a means by which buyers can purchase the product and inducing them to do so. Activities involved such as advertisement and promotion, channel selection and pricing. Marketing and sale represent 0.5 % of the cost structure. Documentation and handling of shipping and sale order contributed to 40 percent of the total cost involved. As cocoa trade is an international trade, sale forces are required to service their customer at least once per year. Thus traveling expenses contributed to 30 percent of marketing cost. The balance is advertising and promotion cost.

6.1.5 Service

Activities associated with providing services to enhance or maintain the value of product. The company spends as much as cost for inbound logistic and marketing expense. Customer focus is used as a strategy to capture and building brand awareness to niche market. Besides providing value added services to customer, the capability become the company core competency.

6.2 *Support Activities*

Support activities involved can be divided into four generic categories: procurement, technology development, human resource management and firm infrastructure.

6.2.1 Procurement

Procurement refers to the function of purchasing inputs used in the firm's value chain. Purchased inputs included raw material, chemical supplies, packaging material and other consumable items. In Cacao International, procurement represent major proportion of the cost structure that is 83.5%. This is consistent with any other commodity processing plant. The total cost of purchased inputs as

a percentage of the firm value provides an important indicator of the strategic significant of the procurement.

Cocoa is a commodity. The price is determined by the crops size, timing of purchase, and government policy of the producer countries as well as speculation by fund manager in the stock exchanges. Strategy in handling price risk and interest risk determine the profitability of the plant. In Cacao International, most of the contributors into the cost structure are almost a fix cost and relatively small as compared to the overall cost structure. However, cocoa bean price represent 82.5 percent of the cost structure. Effective management of the procurement reduces the raw material cost. Hence reduce the inputs cost.

6.2.2 Technology Development

Activities completed to improve a firm's product and the process used to manufacture it. Continuous improvement through learning and process study by a team of technologist nurture a capability to improve process that manufacture the products. Currently the plant is approved by three world chocolate manufacture: Nestle group, Barry Callebaut and Mars Confectionary. The plant has the ability to response to changing demand of the customer. Speed of change able provided value to the company as well to the customers. However it incurred high cost, 0.5 percent or equivalent to 10 percent of cost for operation activities.

6.2.3 Human resource Management

Activities involved with recruiting, hiring, training, developing and compensation all personnel. Cacao International spends 3.5 percent of the cost structure in human resource. Higher cost of human resource is due to hiring a higher qualification staffs. All supervisor level must possess a minimum of diploma. The work design required the higher education qualification staffs to be hand on in the daily activities. The strategy proven to be fruitful as the plant efficiency has improved at average of 10 percent yearly for the last 4 years.

6.2.4 Infrastructure

Firm infrastructure included activities such as general management, planning, financing, accounting, legal support, and governmental relations that required supporting the work of the entire value chain.

Firm infrastructure represents 2.5 percent of the cost structure. The major portion is contributed for financing, as the industry requires high working capital.

The overall picture of value analysis is summarized in Appendix 2. Procurement represent 83.5% of the cost structure, which is the determinant of the success of the business.

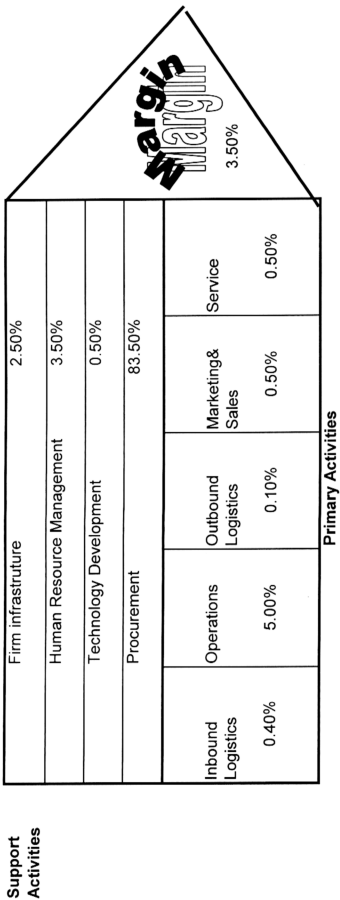
6.3. Cost analysis

Besides understanding the cost structure through value chain analysis, understanding of the cost volume profit analysis is vital for industry that required economies of scale. Costs volume profit analysis is a simplification of the relationships between the firm's outputs, revenues and costs established on the assumed parameter values and relationships over various range of activity. The analysis relies on concepts of fixed costs and variable cost.

Fixed costs are costs that do not change with changing levels of activity, that is, they are fixed for all activity. Plant depreciation contributed to the major portion of fixed cost. It was amounting to 6.5 millions ringgit per year for the company. Variable costs are costs that change in proportion to changes in sales such raw material cost

Contribution margin is the difference between selling price and variable cost. This difference provides the contribution towards fixed cost and profit. The breakeven point is the level at which total costs equal to total revenue.

Figure 2: The Value Chain Analysis



Break-even analysis of Cacao International:

Bean price = RM 4300 per metric tone of cocoa bean

Fixed cost =RM 500 per metric tone

Variable cost =Rm 300

Total unit cost = RM 800

selling price =RM 5250

total variable cost = Rm4600 per metric tone

Contribution margin =selling price- variable cost

=RM 5250-4600

= RM 650

Total revenue = total cost plus profit

= total fixed cost plus total variable cost plus profit

At 32,000 metric bean processing capacity,

expected profit= total revenue minus total cost

= 32,000(5250-5100)

=4.8 millions

Breakeven point = $\frac{\text{fixed cost}}{\text{contribution margin}}$

=16,000.00

650

=**24,615** metric tone.

From the break-even analysis showed that the break- even point is much lower than the capability of the firm. The company expected to continue making profit out of it opration.