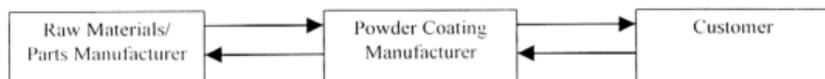


Chapter 4

Value Chain Analysis

4.1 Industry Value Chain

The value chain of the powder coating industry is a collection of interdependent activities performed by various organizations in the industry. They include the raw material and engineering parts suppliers, powder coating manufacturers, transport services, logistics services, etc. The typical value chain of powder coating industry is short and involved primarily three entities.



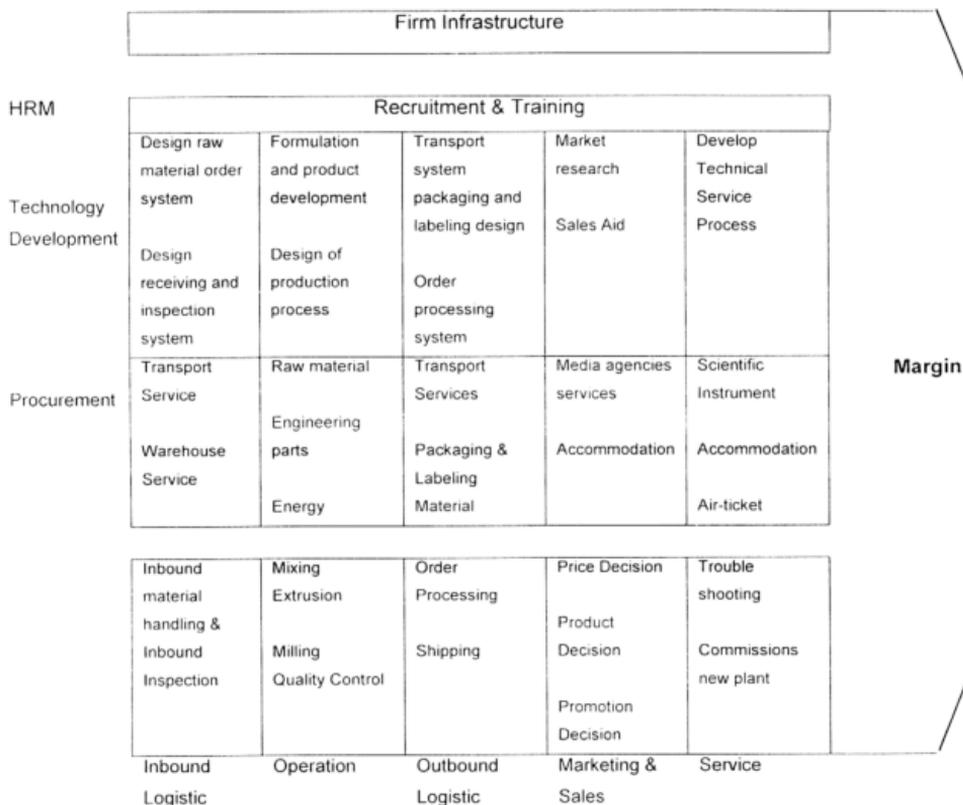
Powder coating manufacturers generally source raw material directly from the raw material manufacturers itself without going through trading houses except for minor parts. Formulation and products development as well as the production of powder coating will be done under one roof. The finished product will then be shipped to the end user bypassing the distributor and retailer. Since powder coating is for industrial use, the customer and manufacturer of powder coating are constantly in contact so that any feedback and technical problem received from customers can be handled by the manufacturer immediately. Similarly, the powder coating manufacturers and their raw materials suppliers are in partnership to develop better product and services for mutual benefit.

The value chain by no means ends at the customer place. Take the example of an air-conditioner for illustrations. The powder coating will be incorporated into fabrication of an air-conditioner, then the air-conditioner will pass through distributor, retailer and

finally the consumer. Nevertheless, the center of gravity of the powder coating industry is in the raw material supply, manufacturers and the customer.

4.2 Value Chain for Powder Coating Manufacturer

Figure 4-1 Typical Value Chain for Powder Coating Manufacturer



Powder coating is commonly used in metal-based industries. The powder coating is then incorporated into fabrication of customer's product before reaching the hands of the consumer. Driven by the different requirement on the product performance as well as color by various market segments; manufacturers have to be flexible in production

and quick in the color matching process. In general, there are five key activities which are important, namely, formulation and product development, operation, logistic, marketing & sales and service.

4.2.1 Formulation and Product Development

In Malaysia, powder coating are sold to various industries. For certain industries such as air-conditioner, protective performance towards rain and shine is important. Others like furniture industry places more emphasis on the esthetic aspect of the finished product. In recent years, the trend indicated that the customer demand both the protective as well as decorative functions for their finished products. Hence, color development is increasingly important to satisfy customer needs.

Formulation and product development has three areas; namely color matching, new product development and product modifications. Powder coating is considered a colors business; large amount of colors has to be matched or developed to suit the trend. Colors are constantly changed relative to time frame and end user taste. New product development is important for the survival of company. New Product has to be developed for existing and new applications. Through the process, the manufacturer can expand the business and charge premium price. Product modifications are slight changes in the formulation of a product to suit the coating system of the individual customer.

4.2.2 Operation

Flexibility in the operation of powder coating company is the source of competitive edge in the industry. The common problem facing the powder coating companies is the increasing range of colors to be manufactured. The down time while changing colors affect the productivity considerably. In addition, custom-made products in small quantity is also gaining popularity. Therefore, colors turnaround has to be managed efficiently to reduce the lead time.

Operation of powder coatings plant can be divided into three stages; namely mixing, extrusion and milling. Pre-weighted raw materials are loaded into a mixer so that evenly mixed raw material can be achieved. The mixture will then pass through a heated extruder and emerge as molten mixture. The molten mixture is compressed, cool and crushed into smaller chips. The milling process will then grind the chips into powder form. The speed of the whole process normally is dependent on the capacity of the machine and the skills of the operator to get the color right.

Quality Control of finished product is the important stage for powder coating making. Unlike other products, the defect of the powder coating can only be seen after being applied. Stringent quality check normally is required for appliances market as the rejection at customer level can cause thousands of Ringgit in compensation to be incurred by powder coating supplier.

4.2.3 Logistic

Inbound and outbound logistics are the key activities for powder coating companies in Malaysia mainly due to three factors. Firstly, powder coating contains no less than 95% of imported ingredients. This makes inbound logistic of paramount importance. Low level of raw materials stock will disrupt production schedule whereas excessive stock will tie up working capital and warehouse space. Secondly, erratic order pattern from customers especially small and medium industries throw the planning and ordering of raw materials off-balance. During the currency turmoil, uncertainty and competitive environment forced even big customers to shorten the lead-time of ordering. Thus powder coating companies need to have contingency plans for raw materials planning. Lastly, powder coating companies generally sell directly to customers without the service of a distributor. The manufacturer has to stock and arrange for the delivery of powder coating to their customers. Unlike the consumer market, industrial customers stress on time and full delivery for smooth production runs. Hence, the outbound logistic is also important to ensure that customers receive their goods when needed.

4.2.4 Sales and Marketing

The majority of manufacturers is multinational which has production and sales sites all over the regions. Thus, the country sales and marketing activities are tied up with the regional policy. There is also cross-country cooperation in term of sales support and advertisement activities.

In Malaysia, powder coating is sold to the industrial customer without going through an agent. Most of the time, personal approach by the sales representatives are employed to promote the products. Because of the technicality of the products, personal approach is the most effective way in explaining the product performances and colors to the customer. However, for different market segments, the target groups may be different. For example, the users themselves the targeted group for general industrial customers. But for the architectural segment, the architects instead of the applicators of powder coating are the main focus group.

Generally, products advertisements are confined to trade related magazine. Nevertheless, for the regional marketing strategy and corporate image, they advertise on the electronic media like Internet and television. The advertisements are concentrated in enhancing the corporate image rather than individual products. But the powder coating company will gain much mileage in terms of enhanced image and better product perception.

4.2.5 Service

Powder coating companies invest a great deal of time and money in the form of services. There are two kinds of services; namely before sales service and after sales service. Due to the sophistication of the products, the conditions of the plant need to be assessed before hand. The assessment is to ensure that the products which are intended to be supplied not only meet the customer requirement in terms of color and performance but also suit the customers' plant condition. On the other hand, the after

sales service involves trouble-shooting on any technical problem arising from powder coating. There are also other technical service programs that take the form of preventive work.

Service form an activity for powder coating companies. Attentive and prompt services could prevent customers incurring losses due to defects in powder coating. Customer loyalty can be enhanced and customer will stay and grow together.

In summary, value added opportunities can be explored in these five activities. However, formulation and product development and operation activities require special attention. Powder coating is rapidly becoming a commodity due to stiff competition. Thus the manufacturers need to intensify the research and new product development programs. New applications need to be explored to expand the market size. Only then, can long term profitability be achieved. Besides that, flexibility in operation will add much value to the company. Against the uncertainty and highly demanding customer environment, the powder coating manufacturers are committed to respond quickly to secure order.