



Strategic Options For Commodity Chemical Producers in Transition to Specialty Markets

By

Dr. Balaji B. Singh, President

Chemical Market Resources, Inc.,

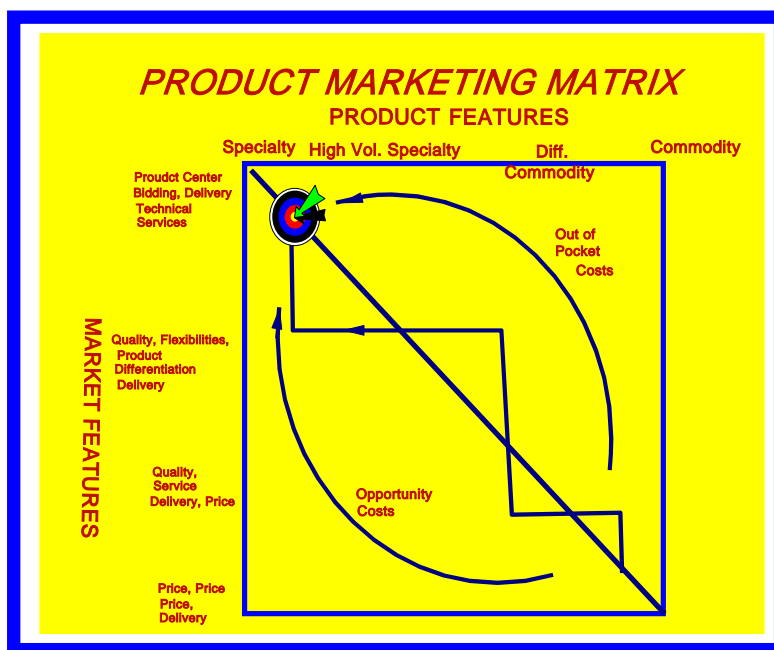
560 Blossom Street, Suite C, Webster, TX 77598

Email:Bsingh@CMRHouTex.Com

INTRODUCTION

The Chemical Industry in recent years has been undergoing several modifications as a result of the growing uncertainty in the business environment. One of the major issues facing the north American chemical industry is movement of most commodity products of overseas. This has precipitated a re-evaluation of possible options to move toward specialty chemical businesses instead of to the traditional commodity chemical businesses. Some of the common reasons cited for this increased trend toward specialty businesses include:

1. The commodity businesses have reached maturity with very little room for innovation and growth. The overall growth in this sector has been slow, with demand cyclical and profits limited.
2. The developments in the oil industry have increased overseas competition in the traditional commodity areas with the advantages of low priced and readily available raw materials as well as the capability of initial conversion.



3. U.S. chemical organizations have recognized that developed countries can compete better through innovation and customer service than through price and mass production.

Whatever the reason may be, many organizations are presently evaluating strategies for entering into specialty chemical businesses or they are modifying existing commodity lines into specialties. As these organizations have been operating as commodity sellers for quite some time and are accustomed to producing a limited number of products on a large scale they generally find it difficult to compete in small niches, which are traditional grounds for the specialty businesses.

OBJECTIVES

The objectives of this article are to tie together the common threads and to expose the sharp differences between the specialty and commodities businesses and to present the strategic options available to the organizations, which are evaluating a transition from commodity production to specialty businesses. These objectives will be achieved by discussing the specific characteristics of these two sectors with regard to the following specific features.

1. PRODUCT FEATURES
2. PROCESS FEATURES
3. MARKETING FEATURES
4. STRATEGIC PLANNING FEATURES

Since the major focus of the article is to present how these features change from the commodity scale to the specialty scales, our discussion will focus on what happens to these features as we move from commodity to specialty areas as well as the significance of these trends.

CHEMICAL BUSINESS CLASSIFICATION

Specialty chemical businesses produce products which serve a relatively small or narrow market of customers; the quantity of product made and sold per year varies from a few hundred to a few thousand tons and the products are critical to the success of their customer's business as they perform critical functions. Conversely, commodity chemical businesses produce products, which serve a very large market of customers (many of whom may be a commodity producer).

The quantity of product made and sold per year varies from thousands to millions of tons; and the product is important or essential, but not necessarily critical, to the success of their customer's businesses.

Historically, the United States chemical industry started as a "specialty" industry. Virtually all chemical products with the possible exception of salt or gunpowder

began as specialty chemicals. Commodity chemicals were originally specialty chemicals, which delivered such widely needed benefits that demand required increases in production capacity. These increases reached such a high level that their production and marketing shifted to the category presently labeled as "commodity " chemicals. Based on historical activities, one should recognize that specialty and commodity terms refer to the two extremes of the process of evolution with several businesses possessing certain characteristics of both. For the sake of convenience, we identify four distinct types of chemical products that span the complete range.

Commodities: Key mass production chemicals like ethylene, propylene, benzene etc.

Differentiated Commodities: Chemicals that have historically been commodities with an appeal for specialties (e.g., high purity solvents)

High Volume Specialties: Specialty chemicals, which have a strong prospect of being commodity status Specialty chemicals of the future (e.g., Aspartame, Aspirin, etc.) .

Specialty Chemicals: Chemicals also referred to as fine, performance or functional chemicals, which have limited production and whose prices are less demand sensitive. (e.g., corrosion inhibitor chemicals)

A useful way to visualize some of the similarities and differences between the different types of chemical products and their associated marketing features is to array the processes within the product-marketing matrix. This matrix lists the varieties of product mixes that are possible on one side while the other side describes the marketing features and the strategic management issues. While we can see in Exhibit 1, the mix of products produced can range from one-of-a-kind for the specialty chemicals to a very standard mass produced product for the commodities. Between these extremes, a manufacturer can produce the other chemical types discussed earlier.

As we might expect, management faces different sets of challenges when bringing each of these different product mixes to market. For example, a commodity chemical undoubtedly has to be price competitive. While there may be a limited number of grades of the commodity chemical, the ability to offer the item at a competitive price is absolutely critical to each company's success. While the other end of the spectrum, the specialty chemical product is frequently purchased with less emphasis on price and more on performance. A buyer typically becomes concerned with whether the product meets specifications and whether it can be delivered on time. This places a different set of demands on the specialty producer. Instead of directing his attention to product cost and pricing, the manufacturer must pay particular attention to product design flexibility, service and delivery.

Operating between these two extremes, management faces somewhat different challenges. Then many different products (each with low production volumes)

are made, product features such as quality and the ability to gear up or down rapidly in production become more important than before. Product quality is a key element in differentiating one's product.

Significant Differences

The major changes in Product, Process, Market and Strategic Planning features as we move from commodity to specialty businesses include:

PRODUCT FEATURES

The number of products offered increases as products are designed to meet specific customer needs.

Product volumes for a specific customer often decrease to the point of batch production.

Product customization increases with an apparent decrease in standardization in the products produced.

New product introduction becomes routine with costs per new product decreasing because of movement along the experience curve

Competition tends to be less price oriented.

These changes in product features are significant factors in the transition from commodity to specialty chemicals. In the specialty chemical business, the success and growth of a product line depends upon a continuous stream of new products to keep existing customers and attract new customers. Since the new products will be modifications of existing products, the cost per new product as well as the Research and Development effectiveness in terms of number of successful products per unit R&D dollar will increase.

The other significant product feature is that the competition tends to be less price oriented. The traditional concept of cost-plus pricing applicable to commodities cannot be used because the service is an integral part of the specialty package. The service pricing component of any package is very subjective and is a function of 1) information transfer between buyer and seller, 2) knowledge, 3) perception and reputation of the seller. However, these features are not totally related to the product being produced or used. Competition as a result, is likely to emphasize the quality aspects of service, "technical advice, product performance and product reliability. Process Features

The pattern of the process becomes more flexible to emphasize quality, variety and functional uses. At the same time, the functional specifications become more specialized. Manufacturing facilities for specialty chemicals for specific functions tend to be small compared to the commodity operations. In some cases such

facilities may be so small that the traditional scale economy advantages obtained with commodities production may not be applicable. This gives rise to the dictum that big is not necessarily efficient and this is the case with the specialty chemicals.

One of the major advantages of commodity business is its ability to be quantified in terms of pounds of product produced. In the specialty businesses, the notion of capacity usually lends itself to measurement in terms of dollar volume rather than in pounds, because of the wide difference between the product value and the sale price.

MARKETING FEATURES

The marketing life cycle of the specialty chemicals is in most instances much shorter than that of the commodity chemicals. The organizations planning necessary specialty chemical operations have to keep track of the market in order to ride the cycle during the early growth phase. In turn, they must abandon the market when maturation is reached.

The supplier ties in the specialty manufacture will shy away from long-term vertical integrations for the same reasons as the shorter supplier ties. The organizations may also prefer horizontal integration to avoid in-house shortcomings in the specific areas selected or to encourage diversification as a hedge against unpredictable business cycles.

Product research and development will be preferred over fundamental research. The R&D effectiveness becomes more quantifiable making the funding decisions, based on the probability of success, more predictable.

STRATEGIC OPTIONS

Revisiting the product-marketing matrix, we can see from the chart that the ideal producer, (whether specialty or commodity) should be positioned along the diagonal of the product. process matrix. The specialties are positioned at the upper left corner and the commodities are at the lower right corner as presented in Exhibit 1. Being on the diagonal is the ideal situation. Movement above or below the diagonal results in added costs. When above the diagonal, a producer's marketing efforts become more involved than the product slate warrants resulting in out-of-pocket costs. The marketing costs are classified as out-of-pocket costs because they are soft. When below the diagonal, excessive efforts in product development without a market focus result in increased opportunity costs due to inefficient utilization of the technical expertise. These costs are often referred to as opportunity costs because technical expertise is considered a hard resource.

As stated in the introduction, chemical producers must deal constantly with change and be prepared to react to it. Several organizations are going through the change along this matrix as a part of their organizational re- structuring procedures in order to respond to market demands. Movement along the diagonal may be much more difficult to follow because in most situations producers plan changes on a large scale. This movement requires a modulated change, which is far more complex and difficult to achieve. In moving from commodities to specialties production, a manufacturer will develop the strategy to remain above or below the diagonal since it is unlikely that anyone can remain at an optimum point at all times. The question to address is which strategy is better

Let us take a hypothetical organization and chart its movement in the matrix. The organization can choose to streamline its marketing strategy first via market planning, customer relations and then by introduction of the product (e.g. IBM's entry into the PC market). This puts them above the diagonal because their movement is along the marketing axis to begin with. If the organization chooses to operate below the diagonal, it will first select a product line via R&D and then focus on the marketing aspects, which will result in opportunity costs. The specific strategy selected should depend upon the corporation's goals and objectives. Essentially there are three strategies available for organizations planning the transition from commodities to specialties. These are:

1. A gradual modulated movement along the diagonal.
2. One step move incurring opportunity costs.
3. One step move incurring out- of-pocket expenses.

These three strategies are presented in Exhibit 1. These strategic moves are applicable to all the features discussed earlier . Increasing uncertainty in the chemical industry and the short life cycle of the specialty business make a gradual modulated movement along the diagonal difficult if not unprofitable for the chemical organizations. Whether the organizations use Strategy 2 or Strategy 3 will depend upon several factors including, 1) the current position in the specialty business areas, 2) organization's image and 3) the risk averseness. The organizations should develop individual strategies keeping the above factors as a guide.

CONCLUSIONS

The trend toward specialties is, without a doubt, established and growing in intensity .In an industry that is confronted with over capacities and lower growth prospects it is a natural reaction. The companies that already have specialty divisions show much better future prospects than the companies, which are primarily producers of commodity chemicals. The strategies and the nature of specialties are quite opposite from the commodity areas. Whether we like it or not, the specialties are "in " and are here to stay. Success will depend upon how

well the companies play this game without neglecting the commodities, which are the bulk of the industry's workhorses.