Chapter XIII

Partial Dispersion

In this chapter, we discuss the partial dispersion of manufacturing facilities and offshore production. It is better to locate most suppliers and manufacturers in close proximity at the beginning of the life cycle. However, as time passes, companies start locating assembly facilities in the other advanced countries for sales promotion and, sometimes, cost cutting. It becomes desirable for the manufacturers to avoid trade friction and to penetrate foreign markets quickly. The standardization of the product including the modularity of the parts makes it possible to do so. The partial dispersion at the standardized stage of the VCR industry is demonstrated in the latter part of this chapter.
Beginning of the Standardized Stage

The concepts of standardization and modularity are important to the present chapter so some general background discussion is appropriate. Standardization may be regarded as the agreement within an industry on uniform and consistent design parameters of parts, components, and even systems. While the advantages of standardization might seem intuitive in many respects, Vollman, Berry, Whybark, and Jacobs (2005) describe several concrete instances of the value of standardization in what they call integrated manufacturing planning and control. Evidently, such integrated planning and control is especially critical for supply chain management. Some authors have argued that the primary advantage of standardization stems from economies of scale (Botschen & Hemetsberger, 1998; Levitt, 1983; Polin, Troutt, & Acar, 2005; Porter, 1980, 1985; Shoham, 1995). Economies of scale considerations extend to production, logistics, distribution and research and development (Hout, Porter, & Rudden, 1982; Porter, 1980, 1985; Shoham, 1995). While a firm producing standardized products for all consumers worldwide will incur a lower per-unit cost, this strategy addresses only the cost side of the equation. Thus, there is a caveat that strategies that succeed in reducing costs may not always be necessarily associated with greater profitability. Modularization is an important type of product design standardization in which several related functions are combined into one module.

The standardized stage begins after a product design becomes stable or standardized. Standardization includes product design, the production process and the parts. While a product specification is still in flux, the product design also is correspondingly very changeable. After a product specification reaches a certain level, companies can progress toward modularity. Modularity minimizes the impact of subsequent design changes while keeping open wide options for the future and also permits process innovations to proceed in earnest. Standardization also makes it possible to locate manufacturing facilities in other areas including foreign countries.

Some manufacturing facilities are shifted to other highly developed countries because of the rapid market growth or potential in those countries, and also to avoid various kinds of trade friction. By trade friction we refer mainly to barriers such as tariffs on imports. However, another barrier can be loyalty of the population to home country brands. By opening an assembly plant in a new country and using locally made parts and components (product content), these barriers can be reduced or eliminated.
Information System Costs of Utilizing Electronic Product Codes in Achieving Global Data Synchronization within the Pharmaceutical Supply Chain Network


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