

Chapter 2

PRODUCT CUSTOMIZATION: THEORETICAL BASICS

Manufacturing companies are all different with respect to the way they meet the market demand. Some companies anticipate the customers' demand and deliver end products from their inventory (make-to-stock). Other companies do not keep finished goods' inventories and manufacture or assemble end products only after receiving a tangible customer order. However, producing finished goods to order does not necessarily mean that the manufactured item is tailored to a specific customer's requirements. For instance, a supplier can choose to produce to order when finished goods are connected with high inventory costs. Furthermore, product customization which involves the supplier's value chain, necessarily assumes the delay of some activities of the value chain until the customer puts in an order.

The trend towards product customization that can be observed nowadays is the result of many changes in the business environment. These have enforced many suppliers to revise their production strategies and management concepts. Many literature contributions emphasize that mass production, as a successful management paradigm, leads to success only under specific conditions. Otherwise, it fails.

Pine (1993, pp. 17) ascribes the extensive development of mass manufacturing in the United States in the early 19th century to the homogeneity of the American market. Furthermore, the individual income was equitable and customers had similar needs and requirements. Mass production provides a mass market with goods at a consistent quality and affordable prices. It builds upon main principals that include among others: economies of scale, product standardization, specialization, division of labor, hierarchical organization, and vertical integration. The main goal is to develop, manufacture, market and deliver goods and services at prices which

are low enough to where nearly everyone is able to afford them. Pine (1993, p. 25) speaks about a feedback loop that has characterized the interplay between customers and suppliers. This feedback loop has strengthened standardized products, mass production techniques and large, homogeneous markets. As a result, it was not necessary to offer several product options. For instance, Henry Ford promised his customers to receive any car color they would like to have, as long as it was black.

Mass production was accepted and successfully adopted by many manufacturing enterprises. It builds upon the precepts of the scientific management (Taylorism) and strongly focuses on operational efficiency and productivity. The main objective is to enable mass manufacturers to lower costs and to sell products at affordable prices. Mass production is also favored by a seller market, in which the customers' demand exceeds the offer. In such a market, suppliers are more powerful than customers because they basically instruct their customers what to buy. However, these market conditions have been enormously altered because of several changes that occurred in the economical environment such as input instabilities, changing demographics, changing needs and wants, saturated markets, demand uncertainties, innovations (Pine 1993, p. 32), etc. Thus, the main conditions that have ensured a successful mass production, namely stability and demand homogeneity are no longer available and do not coin the actual picture of the business environment. Nowadays, customers have more power and the suppliers' offer by far exceeds the demand. In contrast to the seller market, the involved market is called a buyer market, in which the mass production paradigm no longer represents a successful solution model. In many business fields, suppliers offer a wide range of choices in order to increase the likelihood that customers find the suitable product. However, the tendency observed is that large variety is not enough because customers want customized products that optimally fulfill their requirements.

1. PRODUCT CUSTOMIZATION: DEFINITION

Pine/Gilmore (1999, p. 76) define customization as "...producing in response to a particular customer's desires." The authors point out that it is relevant to make the distinction between variety and customization. Whereas customization strives for fulfilling individual customer's needs, variety simply involves more choice from which the customer is able to choose. "Fundamentally, customers do not want choice; they just want exactly what they want" (Pine/Gilmore 1999, p. 76). Customization is intended to add increased customer perceived value to a product, since a customized product