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Models of the emergence and diffusion of mass customization

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Abstract

Mass customization is a contemporary strategy to satisfy customer needs. The connection of product fit to individual customer needs (specific to the craft production) with price typical for mass production is the assumption of this strategy. The subject of the origin of mass customization strategy was taken in the study. Selected models are discussed in the development of this strategy and the factors supporting its diffusion in various industries. The article is based on literature studies.

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Keywords: mass customization; operational strategy; production management; customer needs.

1. Introduction

The strategy of mass customization makes it possible for a company to design, manufacture and provide customers with large quantities of diverse products adapted to the specific needs of customers, within time and price which are typical of mass manufacturers (Tu, Vonderembse, & Ragu-Nathan, 2004). A properly implemented mass customization should combine the best characteristics of unit production with the advantages of mass production. Twenty years have passed from defining and determining the assumptions of this strategy. Throughout this period, it has become a permanent tool applied by companies in competitive fight and is mentioned as one of the major contemporary solutions with regard to the implementation of customers' orders which include the following (Lowson, 2003):

• mass production – manufacturing of standard products in large quantities with the assumption of obtaining the effect of the economies of scale,

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- lean production consisting in eliminating wastage from any processes implemented in the company,
- mass customization offering the possibilities of adapting the product to the customer's requirements without a significant increase in price,
- agile approach a significant adaptation of the product to the customer's needs with a very short order completion time,
- flexible specialization satisfying the needs of market niches using the combination of traditional forms of handicraft production with contemporary information solutions, reduction in the order completion time takes place as a result of cooperation with small specialized companies.
- simultaneous adaptation of several various action strategies to own supply chains.

Numerous scientific publications have already been published on the theoretical and practical aspects related to mass customization. These which relate to this strategy's origin and its relations with other methods and techniques of organization and management should be considered particularly interesting from the cognitive point of view. This type of studies makes it possible to better understand the essence of the strategy and the mechanisms of its cooperation with other organizational solutions the company.

This study is the continuation of research conducted by the author in previous years. In 2010 the methodology of implementing mass customization in production companies was analyzed. On the other hand, in 2011 the determinants of its implementation in companies became the subject of discussion. The implementation of the abovementioned topics demonstrated the need to undertake work in subsequent directions. On the one hand, the question what solutions and, first of all, organizational methods and techniques are especially helpful when implementing mass customization had to be asked. On the other hand, what characteristics should the company itself and its environment have so that the implementation of mass customization brings the expected results. The questions above indicate the fact that the following are interesting issues, both from the scientific and the practical point of view:

- the origin of mass customization,
- · the evolution of operations management systems in companies in which mass customization was created,
- organizational solutions preceding the creation of this strategy which were its primary environment.

Answers to the questions above make it possible to understand both the conditions in which this strategy functions correctly in companies as well as the issue of creating an environment fostering its implementation in companies.

The purpose of this study is to present the origin of mass customization. For this purpose the following models of its formation have been presented: from the point of view of changes in company operation priorities, the development of production system and the evolution of organization and management methods. The basic characteristics of areas in which it was applied has also been presented. The characteristics sheds some light on the diffusion of mass customization. The study was created on the basis of literature studies.

2. Conditions for creation of mass customization - origin of concept

The literature on the subject presents various models for the creation of mass customization. Its origin may be examined from the point of view of changes in priorities observed by companies building their strategies for competing on the market, the development of production systems or the evolution of organization and management methods.

2.1. Creation of mass customization as compared to changes in company priorities

The search for balance between the product's price and the degree of its adaptation to individual customers is a permanent dilemma for manufacturers. On the one hand, mass production means low costs. On the other hand, a better adaptation of the product's characteristics and its functions to the buyer's needs means the possibility of obtaining a higher price. That is why, for example, a luxurious product which is usually characterized by a high degree of adaptation to requirements and an adequate price cannot be a mass product. Mass customization is

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