

FLEXIBILITY IMPLICATIONS IN MANUFACTURING SYSTEMS : A FRAMEWORK

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Abstract

With the advent of information systems and the recent developments in computing technology, traditional manufacturing systems are fast becoming obsolete. A new generation of factories is being designed with Flexible Manufacturing Systems (FMS). So the flexibility is recognized as an important feature in manufacturing. However, the extent of such technology applications varies from industry to industry and has met various degrees of success. Flexibility in manufacturing has aroused considerable interest among researchers and professionals. However, the vast body of literature on flexibility does not adequately address the kind of flexibility a company needs to meet its strategic objectives, nor how this flexibility can be achieved. An overview is provided of different types of flexibility, a classification scheme based on the strategic positioning and goals of the firm is provided, and suggestions are made on how these goals may be achieved. The importance of such a classification in the design and investment justification of flexible manufacturing is also discussed. This paper presents a general managerial framework by which organizations can effectively integrate and manage flexibility within the manufacturing functions.

Keywords: Flexible Manufacturing Systems (FMS); Flexibility; Manufacturing; Innovation; Customization; Investment.