

An overview and evaluation of quality-improvement methods from the manufacturing and supply-chain perspective

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ABSTRACT

In recent years, besides high productivity of the manufacturing process, quality issues (including safety requirements and cost efficiency) have both become major market drivers. In order to meet all the above objectives, so as to achieve competitive advantages, a number of quality techniques need to be implemented within the manufacturing process. Starting from the general manufacturing model and presenting a supply-chain philosophy, this paper provides an overview of the quality tools and methods such as quality techniques and links to manufacturing process quality and manufacturing cost-effectiveness; it focuses on manufacturing processes and perceived quality problems associated with the supplier's quality issues. Additionally, the impact of the component supplier on the overall quality of the final product needs to be distinguished from the impact of the manufacturing process. Based on the model of the general manufacturing process the authors propose methods of effective deployment for the most common quality methods and tools within different manufacturing areas. In the discussion the authors propose certain quality techniques to improve the key performance indicators (KPI) within the manufacturing process.

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