TQM, TPM, TOC, Lean and Six Sigma - evolution of manufacturing methodologies under the paradigm shift from Taylorism/Fordism to Toyotism

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Abstract
The evolution of manufacturing methodologies is explored based on a historic analysis of the automobile industry. The objective of this paper is to contribute to a clearer understanding of the evolution of these manufacturing methodologies.

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Keywords
Paradigm; Lean production; Theory of constraints

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TENERA, A. (2006) Contribuição para a melhoria da gestão da incerteza na duração dos projectos através da teoria das restrições. The evolution of manufacturing methodologies is explored based on a historic analysis of the automobile industry. The objective of this paper is to contribute to a clearer understanding of the evolution of these manufacturing methodologies. The inherent historic driver and social needs are presented and the existence of a 'paradigm shift' from Fordism to Toyotism is discussed. The authors believe that sustainability and its inherent axiom of gentle and prudent usage of our remaining resources as the dominant constraint will coin the future role of operations research and management. Keywords: Paradigm Six Sigma Six Sigma methodology involves two essential assumptions. The first is that people understand the ability of numbers to characterize a process. The second assumption is that reducing variation in a process—the cornerstone of Six Sigma—is always good. The goal of a business is to improve at the least possible cost, so the potential exists for savings to be less than the costs of the improvements. In addition, one process can be improved at the expense of another, causing the overall performance of a business to degrade. So TQM has fallen out of favor, and other initiatives, such as lean manufacturing and Six Sigma, have become more popular. So far, neither TQM nor Six Sigma can answer our four questions with a yes. What about lean?