

## Relationship between Quality Improvement Strategies on the Basis of Different Management Activities

**Authors :** Manjinder Singh, Anish Sachdeva

**Abstract :** Research on total quality management (TQM), total productive maintenance (TPM), international organization for standardization (ISO) and six sigma generally investigate the implementation and impact of these programs in isolation. However, none of these quality improvement programs is self-sufficient and they may not be powerful enough to deliver the improvements and innovations that are required nowadays to ensure the survival and growth of a firm. They are not mutually exclusive and inconsistent. On the contrary, they need complementary support and may reinforce mutually to make use of their complementarity, inducement of side-effects in favor of other quality improvement program, mutual simulation and exploitation of shared values. In this paper, first of all, the various management activities were identified which are normally under focus when any quality improvement program is implemented in any organization. Then TOPSIS methodology was applied to establish the ranking of various quality improvement programs (total quality management, total productive maintenance, ISO and six sigma which were brought to the corporate boardroom to improve the quality) with respect to different management activities (operations related activities, quality related activities, maintenance related activities, organizational related activities, human related activities and finance related activities).

**Keywords :** total productive maintenance (TPM), total quality management (TQM), TOPSIS, international organization for standardization (ISO)

**Conference Title :** ICMEDA 2014 : International Conference on Mechanical Engineering Design and Analysis

**Conference Location :** Paris, France

**Conference Dates :** July 21-22, 2014