

# Increasing Sigma levels in productivity improvement and industrial sustainability with Six Sigma methods in manufacturing industry: A systematic literature review

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## ABSTRACT

Industrial sustainability is an important attribute and becomes a parameter of the business success. Quality improvement with an indicator of increasing process capability will affect productivity improvements and lead to industrial competitiveness and maintain industrial sustainability. The purpose of this paper is to obtain a relationship between the consistency of the DMAIC phase to increase the sigma level in productivity improvement and industrial sustainability. This paper applied for a systematic literature review from various sources of trusted articles from 2006 to 2019 using the keywords “Six Sigma, Productivity, and Industrial Sustainability.” A matrix was developed to provide synthesis and summary of the literature. Six Sigma approach has been successful in reducing product variation, defects, cycle time, production costs, as well as increasing customer satisfaction, cost savings, profits, and competitiveness to maintain industrial sustainability. Extraction and synthesis in this study managed to obtain seven objectives value that found a consistent relationship between the DMAIC phase of increasing sigma levels, productivity, and industrial sustainability. The broad scope of Six Sigma literature is very beneficial for organizations to understand the critical variables and key success factors in Six Sigma implementation, which leads to substantial long-term continuous improvement, the value of money, and business.

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