

An empirical investigation of the role of lean six sigma practices on quality performance in medical device manufacturing industry

Lean six sigma practices

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Abstract

Purpose – With the growing pressure to gain optimum level of quality and speed, Lean Six Sigma (LSS) practices have drawn considerable attention as a viable alternative for process improvement. However, previous studies revealed that there is very little systematic and rigorous research to validate the claims. In this regard, this paper aims to empirically examine the effect of LSS practices on quality performance in the medical device manufacturing industry.

Design/methodology/approach – For this study, partial least square-based structural equation modeling (PLS-SEM) was used to empirically examine the effect of LSS practices on quality performance in Malaysian medical device manufacturing industry.

Findings – The findings of this paper revealed that LSS practices have a significant and positive effect on quality performance in the medical device manufacturing industry.

Practical implications – This paper will serve as a valuable implication for industry practitioners in providing them with a clearer managerial direction to exploit the strength of LSS practices to achieve company's quality goals. Moreover, this study will serve as a basis for future LSS scholars, providing them with valuable insights and directions for future research.

Originality/value – This paper develops a conceptual LSS framework that captures the integrated nature of two methodologies and provides empirical evidence that supports the positive influence of LSS practices on quality performance; hence, it contributes to the growing body of LSS literature in both theoretical and empirical sense.

Keywords Quality management practices, Lean Six Sigma practices, Higher-order construct, Quality performance, Medical device manufacturing industry, PLS-SEM

Paper type Research paper

