
Editorial

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Biographical notes: Jose Arturo Garza-Reyes is a Senior Lecturer in Operations and Supply Chain Management at the Centre for Supply Chain Improvement, Derby Business School, The University of Derby, UK. He has published a number of articles in leading international journals and conferences and two books in the areas of quality management systems and manufacturing performance measurement systems. He is a co-founder and editor of the *International Journal of Supply Chain and Operations Resilience (IJSCOR)*, and has participated as a guest editor for special issues in various international journals. His research interests include general aspects of operations and manufacturing management, operations and quality improvement, and supply chain improvement.

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The manufacturing sector is vital for the well-being and development of any country's economy. Organisations in this sector are currently facing numerous challenges in the market place. Some of the most significant challenges include intense global competition, handling cost pressures, and adapting to different consumer needs and expectations. 'Lean manufacturing' and 'Six Sigma' have been recognised as two of the most effective strategies employed by manufacturers to overcome these challenges and thus achieve business excellence. This special issue aims at presenting the latest research and/or application developments of lean manufacturing, Six Sigma or lean Six Sigma (as an integrated approach) in the manufacturing sector. Therefore, this special issue of the

International Journal of Lean Enterprise Research (IJLER) entitled ‘Lean Six Sigma developments in manufacturing applications’ presents some of the latest technological developments in the lean Six Sigma arena. It includes extended versions of selected papers presented at the 23rd International Conference on Flexible Automation and Intelligent Manufacturing (FAIM) in Porto, Portugal, 26–28 June 2013, as well as other contributions from leading researchers and academics. The specific lean Six Sigma topics covered in the call for this special issue included:

- implementation and application in manufacturing organisations and processes
- best practices in the area
- strategies and cultural changes towards their adoption
- development of new tools and techniques
- the role of leadership
- general operational and quality improvements using these strategies
- application of these strategies in the supply chain of manufacturing organisations
- lean manufacturing and supply chains
- lean and green operations
- system modelling and simulation
- lean thinking
- cases study
- other related topics.

From the submissions of articles made to this special issue, five papers that represent excellent and state-of-the-art research work that spans from a variety of leading edge research in the area of lean Six Sigma were selected. These papers included:

- ‘Performance measurement for efficient lean management: theory and case study’

In this paper, the author deals with the implementation of a lean management system in interaction with performance measurement. In particular, the paper proposes a methodology, based on the balanced score card approach, to control and measure the implementation of lean management. This paper would be of particular interest to industrialists who wish to effectively implement lean manufacturing to enhance the operations of their organisations.

- ‘Lean implementation: an evaluation from the implementers’ perspective’

This study evaluates the implementation of lean across different sectors and concludes that the barriers to lean implementation and critical success factors (CSFs) are the same regardless of the sector or techniques used, besides the fact that lean initiatives are difficult to sustain. This paper complements the current body of knowledge in the area of lean implementation and can be used by industrialists to understand the success factors and barriers that contribute to the successful implementation of lean.

- ‘Strengths, weaknesses, opportunities and threats analysis of lean implementation frameworks’

In this paper, the authors propose the use of strengths, weaknesses, opportunities, and threats (SWOT) analysis as a decision-making aid to choose the most appropriate lean implementation framework based on the specific needs of the industry where lean is intended to be implemented. The authors also present a lean implementation model which is more generic, and that overcomes most of the issues related to the implementation of lean found in other frameworks. This paper can also benefit industrialists wishing to understand the implementation of lean and successfully deploy it into the operations of their companies.

- ‘Critical success factors for lean tools and ERP systems implementation in manufacturing SMEs’

The aim of the work presented in this paper is to determine the most important CSFs which have the strongest impact on the implementation of lean tools and enterprise resource planning (ERP) systems within the context of small and medium size enterprises (SMEs). The CSFs identified in this paper will provide a useful insight to managers and engineers of SME organisations so they can enhance the critical decision-making process needed for the delivery of corporate strategic ambitions towards the implementation of lean tools and ERP systems, hence improving the possibility of their successful implementation.

- ‘Specific strategies for successful lean product development implementation’

In this article, the authors define a universal criterion for the lean product development (LPD) implementation process, and based on these criteria, the most common LPD concepts are evaluated. Thereby, enterprises can develop their own strategy for LPD implementation.

All these articles were peer reviewed according to the usual high standards of *IJLER* and Inderscience. Thus, our deep thanks go to the highly qualified and thorough referees that contributed to the review process of this special issue. They greatly contributed to the high quality standards of the final manuscripts. In our view, the selected papers represent excellent contributions to the area of lean Six Sigma.

The guest editors and the *IJLER* hope that this special issue will make a good reference material and be of great use for engineers, researchers, and academics that wish to improve their manufacturing operations and processes as a key strategy to overcome the current challenges faced by manufacturing companies.