A comparative evaluation of contemporary models for lean manufacturing practices

Amjad Khalili*, Md Yusof Ismail, A.N.M. Karim and Mohd Radzi Che Daud

Department of Manufacturing and Materials Engineering, International Islamic University Malaysia (IIUM),

Gombak, Selangor, 50728 Malaysia Email: amjad_alkhalili@yahoo.com Email: mdyusof@iium.edu.my Email: mustafizul@iium.edu.my Email: mradzi@iium.edu.my *Corresponding author

Abstract: Lean manufacturing (LM) is a thought developed in Toyota, thus, there is lack of studies on whether the implementation of LM is appropriate for different enterprises because of differences in organisational and social culture and labour. This paper critically analyses 11 contemporary models for LM in an attempt to find a unified model that can be applied by enterprises. In the literature models have a tendency to focus only on few single components. However, different enterprises use diverse dimensions and models for measuring LM. It aims to review the various LM models prevailing in the contemporary research papers along with presentation of an in-depth analysis exploring the similar and dissimilar aspects. The LM models adopted by different enterprises are quite diverse as revealed through this investigation. The outcome of this study produced a matrix comprising conjoint 98 elements linked with LM 11 models. These represent soft and hard LM elements found in the literature.

Keywords: contemporary; model; lean; prevailing; comparative; dimension.

Reference to this paper should be made as follows: Khalili, A., Ismail, M.Y., Karim, A.N.M. and Daud, M.R.C. (2017) 'A comparative evaluation of contemporary models for lean manufacturing practices', *Int. J. Services and Operations Management*, Vol. 28, No. 1, pp.26–45.

Biographical notes: Amjad Khalili is a PhD candidate in the Faculty of Engineering at IIUM. He is a Researcher in Operations Management and Quality Management. He has strong experience in World Bank and European Commission funded projects for tertiary education. He is specialised in industrial engineering and engineering management. He has participated in different projects, lectures and study tours with the Ministry of Higher Education and Palestine Technical University.

Md Yusof Ismail is currently working as the Head of the Professional Engineering and Continuing Education Center at IIUM. He is a Professor in the Department of Manufacturing and Materials Engineering, Faculty of Engineering, International Islamic University Malaysia and has many