Editorial

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1 Introduction

A significant amount of research has been conducted aimed at providing production managers and industrial engineers with effective line design principles applicable to lines operating under push and pull types of production systems. However, despite the great deal of research undertaken, much remains to be learned.

The primary objective of this special issue of *IJMTM* is to promote and disseminate research that deals with production line systems. It offers researchers and practitioners the most recent concepts, methodologies and techniques in this important field of enquiry.

A relatively large number of valuable, high quality and insightful article manuscripts from authors have been received. In total 18 submitted articles have been accepted for publication in this issue.

2 Organisation of the issue

Generally speaking, the articles in this special issue cover the following main areas:

1 Line balancing problems (two papers):
   1 'The sliding frame – extending the concept to various assembly line balancing problems', by Yuval Cohen and Ezey Dar-El.
   2 'An empirical comparison of improvement heuristics for the mixed-model, U-line balancing problem', by John K. Visich, Basheer M. Khumawala and Joaquin Diaz-Saiz.

2 Unbalanced paced and unpaced production lines (two papers):
   1 'The performance of unpaced production lines with unequal operating time variabilities and buffer sizes', by Sabry Shaaban.
   2 'Modelling the allocation of protective capacity to design unbalanced production lines', by M. Caridi and R. Cigolini.

3 Just-in-time, lean production, CONWIP, base stock and hybrid systems (three papers):
   1 'Adaptive kanban control systems for two-stage production lines', by Katsuhiko Takahashi, Katsumi Morikawa, Daisuke Hirotani and Takeshi Yoshikawa.
   2 'An investigation of the influence of coefficient of variation in the demand distribution on the performance of several lean production control strategies', by John Geraghty and Cathal Heavey.
   3 'System model of production inventory control', by Dirk Pons.

4 Automatic and robotic assembly systems (two papers):
   1 'Factorial effects on the performance of closed-loop asynchronous automatic assembly systems', by Wai Keung Leung and W.C. Ng.
   2 'An overview and comparison of four sequence generating methods for robotic assembly', by B.B. Biswal, B.B. Choudhury, D. Mishra and P. Dash.

5 Cellular manufacturing systems (two papers):
   1 'Cell formation considering real-life production parameters', by Amit Rai Dixit and P. K. Mishra.
   2 'Operator assignment/reassignment problems in incremental cell formation', by G. Kumara Raja Singh and G. Srinivasan.

6 Miscellaneous flow-line production systems (four papers):
   1 'Performance evaluation of hybrid-CLP vs. GA: non-permutation flowshop with constrained resequencing buffers', by Gerrit Farber, Anna M. Coves Moreno and Said Salhi.
   2 'Supervisory-based capacity allocation control for manufacturing systems', by Karim Tamani, Reda Boukezzoula and Georges Habchi.
   3 'Multistage production systems with random yields and rigid demand', by Tal Ben-Zvi and Abraham Grosfeld-Nir.
   4 'Yield management in TFT-LCD manufacturing by using regression and neural network techniques', by Kun-Lin Hsieh.

7 Production line scheduling (two papers):
   1 'Solving the response time variability problem by means of the cross-entropy method', by Alberto Garcia-Villoria, Albert Corominas and Rafael Pastor.
   2 'Note on the behaviour of an improvement heuristic on permutation and blocking flow-shop scheduling', by Ramon Companys, Imma Ribas and Manel Mateo.

8 Jig/fixture selection (one paper):
   1 'Optimum design selection of jigs/fixtures using digraph and matrix methods', by V. Paramasivam K.P., Padmanaban and V. Senthil.

At the conclusion of this exciting experience – whose outcomes I hope will be useful to the readers of this issue – I wish to thank all the colleagues who contributed to the work. My gratitude is, therefore, addressed to the authors of all the submitted articles, who have shown great patience and talent in shaping their work for this issue. Thanks too are due to the article anonymous referees who provided detailed, critical, but supportive feedback on the original drafts and suggested ways of enhancing the content or presentation. I wish to offer a special word of thanks to XYZ.