

Document details

[< Back to results](#) | 1 of 1[Export](#) [Download](#) [Print](#) [E-mail](#) [Save to PDF](#) [Add to List](#) [More... >](#)[Full Text](#) [View at Publisher](#)International Journal of Productivity and Quality Management
Volume 23, Issue 1, 2018, Pages 1-30Soft total quality management and lean manufacturing initiatives :
Model development through structural equation modelling (Article)Khalili, A. [✉](#), Ismail, M.Y. [✉](#), Karim, A.N.M. [✉](#), Daud, M.R.C. [✉](#) [👤](#)

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

Abstract

[View references \(92\)](#)

Both soft total quality management (STQM) and lean manufacturing (LM) are philosophies for continuous improvement. Little is known about whether these can be integrated together or are in conflict. Furthermore, the nature of their integration together in the same enterprise is not clear. This paper tries to eliminate gap in operations management (OM) literature regarding the integration of these practices. To do this, it proposes a comprehensive model to be implemented in the developing economy of Malaysia, to investigate the linkages among elements of soft TQM and LM tools in the measured manufacturing sectors. A structured questionnaire was designed to validate the model and test the hypothesis. Structural equation modelling (SEM) through analysis of moment structure (AMOS 22) is utilised to empirically investigate the model based on primary data of 329 responses. Results obtained implied that hypothesis is significant and supported. Thus, both practices are complementary to each other. Copyright © 2018 Inderscience Enterprises Ltd.

Author keywords

[AMOS](#) [Complementary](#) [Integration](#) [Lean](#) [Malaysia](#) [Soft total quality management](#) [STQM](#)

Funding details

Funding number	Funding sponsor	Acronym	Funding opportunities
576	International Islamic University Malaysia	IIUM	

Funding text

A.N.M. Karim is working as a Professor in the Department of Manufacturing and Materials Engineering, Faculty of Engineering, International Islamic University Malaysia. He obtained his BScEng and MEng degrees from the BUET, Dhaka, Bangladesh. He received his PhD in Manufacturing Engineering from the Dublin City University, Ireland. He has many publications in international journals and conferences covering various facets of manufacturing. His current research interests are on lean manufacturing, materials processing optimisation, engineering economics, supply-chain management. He has co-authored a book on Machining Cost in Conventional and Hot Machining: Comparison and Modelling and acted as a Co-Editor in Advanced Materials Research (Vol. 576, 2012), Trans Tech Switzerland. He is a member of Institute of Operations Research and Management Science (INFORMS).

ISSN: 17466474

Source Type: Journal

Original language: English

DOI: 10.1504/IJPPQM.2018.088605

Document Type: Article

Publisher: Inderscience Enterprises Ltd.

[References \(92\)](#)[View in search results format >](#)Metrics [?](#)

0 Citations in Scopus

0 Field-Weighted

Citation Impact

PlumX Metrics [v](#)

Usage, Captures, Mentions, Social Media and Citations beyond Scopus.

Cited by 0 documents

Inform me when this document is cited in Scopus:

[Set citation alert >](#)[Set citation feed >](#)

Related documents

Critical success factors for soft TQM and lean manufacturing linkage

Khalili, A. , Ismail, M.Y. , Karim, A.N.M.

(2017) Jordan Journal of Mechanical and Industrial Engineering

A comparative evaluation of contemporary models for lean manufacturing practices

Khalili, A. , Ismail, M.Y. , Karim, A.N.M.

(2017) International Journal of Services and Operations Management

Integration of lean manufacturing and quality management system through structural equation modelling

Khalili, A. , Ismail, M.Y. , Karim, A.N.M.

(2017) International Journal of Productivity and Quality Management

View all 92 references

-
- 1 Agrawal, R., Tiwari, J.
The integration of quality management and environmental management - A review
(2014) *IPEDR*, 75 (3), pp. 9-13. Cited 2 times.
-
- 2 Ahmad, M.F., Zakuan, N., Jusoh, A., Takala, J.
Relationship of TQM and business performance with mediators of SPC, lean production and TPM
(2012) *Procedia - Social and Behavioral Sciences*, 65 (1), pp. 186-191. Cited 25 times.
-
- 3 Ahmad, M.F., Zakuan, N., Zuraidah, R.M., Hisyamudin, M.N.N.
Mediator effect of TPM between TQM and business performance in Malaysia automotive industry ([Open Access](#))

(2015) *IOP Conference Series: Materials Science and Engineering*, 83 (1), art. no. 012015.
<http://www.iop.org/E/journal/mse>
doi: 10.1088/1757-899X/83/1/012015

[View at Publisher](#)
-
- 4 Ahmad, S.A.S., Azuan, S.
Culture and lean manufacturing: Towards a holistic framework
(2013) *Australian Journal of Basic and Applied Sciences*, 7 (1), pp. 334-338. Cited 11 times.
-
- 5 Ahuja, I.S.
Total quality management implementation for reducing percent process defects in a manufacturing organisation

(2012) *International Journal of Business Performance Management*, 13 (1), pp. 1-17. Cited 3 times.
doi: 10.1504/IJBPM.2012.044861

[View at Publisher](#)
-
- 6 Alolayyan, M.N., Ali, K.A.M., Idris, F.
Total quality management and operational flexibility impact on hospitals performance: A structural modelling approach

(2013) *International Journal of Productivity and Quality Management*, 11 (2), pp. 212-227. Cited 9 times.
doi: 10.1504/IJPQM.2013.052025

[View at Publisher](#)
-
- 7 Alsmadi, M., Khan, Z.
Lean sigma: The new wave of business excellence, literature review and a framework

(2010) *2010 2nd International Conference on Engineering System Management and Applications, ICESMA 2010*, art. no. 5542688. Cited 8 times.
ISBN: 978-142446520-0
-
- 8 Alsmadi, M., Almani, A., Jerisat, R.
A comparative analysis of Lean practices and performance in the UK manufacturing and service sector firms

(2012) *Total Quality Management and Business Excellence*, 23 (3-4), pp. 381-396. Cited 45 times.

[View at Publisher](#)
-

Find more related documents in Scopus based on:

Authors > Keywords >

- 9 Andersson, R., Eriksson, H., Torstensson, H.
Similarities and differences between TQM, six sigma and lean

(2006) *TQM Magazine*, 18 (3), pp. 282-296. Cited 193 times.
doi: 10.1108/09544780610660004

[View at Publisher](#)

- 10 Andersson, R., Eriksson, H., Torstensson, H.
Similarities and differences between TQM, six sigma and lean

(2006) *TQM Magazine*, 18 (3), pp. 282-296. Cited 193 times.
doi: 10.1108/09544780610660004

[View at Publisher](#)

- 11 Anvari, A., Moghimi, R.
The strategic approach to exploration review on TQM and lean production
(2012) *Journal of Contemporary Management*, 1 (1), pp. 71-82. Cited 4 times.

- 12 Anvari, A., Ismail, M.Y., Hojjati, S.M.H.
A study on total quality management and lean manufacturing: Through lean thinking approach
(2011) *World Applied Sciences Journal*, 12 (9), pp. 1585-1596. Cited 32 times.

- 13 Besterfield, D.
(2009) *Quality Control*. Cited 232 times.
8th ed., Pearson Prentice Hall, New Jersey

- 14 Bortolotti, T., Boscari, S., Danese, P.
Successful lean implementation: Organizational culture and soft lean practices

(2015) *International Journal of Production Economics*, 160, pp. 182-201. Cited 66 times.
doi: 10.1016/j.ijpe.2014.10.013

[View at Publisher](#)

- 15 Boyd, L., Gupta, M.
Constraints management: What is the theory?

(2004) *International Journal of Operations and Production Management*, 24 (3-4), pp. 350-371. Cited 35 times.

<http://www.emeraldinsight.com/journals.htm?issn=0144-3577>

doi: 10.1108/01443570410524631

[View at Publisher](#)

- 16 Bozdogan, K.
Towards an integration of the lean enterprise system
(2010) *Total Quality Management, Six Sigma and Related Enterprise Process Improvement Methods*, pp. 1-23.
ESD Working Paper Series

- 17 Bryson, J.M.
(2004) *Strategic Planning for Public and Nonprofit Organizations' Guide to Strengthening and Sustaining Organizational Achievement*. Cited 301 times.
Jossey-Boss, San Francisco

- 18 Carmignani, G.
Lean supply chain model and application in an Italian fashion luxury company
(2015) *Understanding the Lean Enterprise: Strategies, Methodologies, and Principles for a More Responsive Organization*, pp. 203-220. Cited 4 times.
<http://www.springer.com/in/book/9783319199948>
ISBN: 978-331919995-5; 978-331919994-8
doi: 10.1007/978-3-319-19995-5_9

View at Publisher
-
- 19 Chang, C.C., Chiu, C.M., Chen, C.A.
The effect of TQM practices on employee satisfaction and loyalty in government
(2010) *Total Quality Management and Business Excellence*, 21 (12), pp. 1299-1314. Cited 39 times.
doi: 10.1080/14783363.2010.530796

View at Publisher
-
- 20 Chen, L., Meng, B.
The application of setup reduction in lean production
(2010) *Asian Social Science*, 6 (7), pp. 108-113. Cited 2 times.
-
- 21 Chiarini, A.
Integrating lean thinking into ISO 9001: A first guideline
(2011) *International Journal of Lean Six Sigma*, 2 (2), pp. 96-117. Cited 28 times.
doi: 10.1108/20401461111135000

View at Publisher
-
- 22 Chiarini, A.
Relationships between total quality management and Six Sigma inside European manufacturing companies: A dedicated survey
(2013) *International Journal of Productivity and Quality Management*, 11 (2), pp. 179-194. Cited 28 times.
doi: 10.1504/IJPQM.2013.052023

View at Publisher
-
- 23 Comm, C.L., Mathaisel, D.F.X.
An exploratory study of best lean sustainability practices in higher education
(2005) *Quality Assurance in Education*, 13 (3), pp. 227-240. Cited 20 times.
doi: 10.1108/09684880510607963

View at Publisher
-
- 24 Coşkun, S.
Strategic management and total quality management: Similarities, differences and their implications for public administration
(2011) *TODADE's Review of Public Administration*, 5 (2), pp. 59-94. Cited 3 times.
-
- 25 Dahlgaard, J.J., Pettersen, J., Dahlgaard-Park, S.M.
Quality and lean health care: A system for assessing and improving the health of healthcare organisations
(2011) *Total Quality Management and Business Excellence*, 22 (6), pp. 673-689. Cited 96 times.
doi: 10.1080/14783363.2011.580651

View at Publisher
-

26 Danyen, S., Callychurn, D.S.
Total quality management success factors and their relationships with performance measures in the food industry: A Mauritian case study
(2015) *International Journal of Productivity and Quality Management*, 16 (3), pp. 249-266. Cited 5 times.
<http://www.inderscience.com/browse/index.php?journalID=177>
doi: 10.1504/IJPQM.2015.071520
View at Publisher

27 Davis, J.
(2009) *Lean Manufacturing, Implementation Strategies That Work*. Cited 6 times.
Industrial Press Inc., New York

28 Debestani, R., Shahin, A.
A comprehensive framework for TQM soft factor
(2009) *3rd Annual Quality Congress*, pp. 62-73. Cited 2 times.
Middle East, Dubai

29 Dekić, I.
Lean manufacturing in two Serbian food companies. Case studies
(2012) *International Journal for Quality Research*, 6 (2), pp. 131-136. Cited 4 times.

30 Demirbag, M., Tatoglu, E., Tekinkus, M., Zaim, S.
An analysis of the relationship between TQM implementation and organizational performance: Evidence from Turkish SMEs
(2006) *Journal of Manufacturing Technology Management*, 17 (6), pp. 829-847. Cited 120 times.
doi: 10.1108/17410380610678828
View at Publisher

31 Dubey, R.
(2012) *Role of Soft Dimensions in Total Quality Management Implementation - A Study of Cement Firms in India*. Cited 2 times.
PhD thesis, Motilal Nehru National Institute of Technology Allahabad

32 Dubey, R., Singh, T.
Understanding complex relationship among JIT, lean behaviour, TQM and their antecedents using interpretive structural modelling and fuzzy MICMAC analysis
(2015) *TQM Journal*, 27 (1), pp. 42-62. Cited 10 times.
<http://www.emeraldinsight.com/info/journals/tqm/tqm.jsp>
doi: 10.1108/TQM-09-2013-0108
View at Publisher

33 El-Namrouty, K.A., Abu Shabaan, M.S.
Seven wastes elimination targeted by lean manufacturing case study 'Gaza strip manufacturing firms'
(2013) *International Journal of Economics, Finance, and Management Sciences*, 1 (2), pp. 68-80. Cited 5 times.

- 34 ElTayeb, T.K., Zailani, S., Jayaraman, K.
The examination on the drivers for green purchasing adoption among EMS 14001 certified companies in Malaysia

(2010) *Journal of Manufacturing Technology Management*, 21 (2), pp. 206-225. Cited 70 times.
doi: 10.1108/17410381011014378

[View at Publisher](#)

- 35 (2015) *FMM Directory*
Federation of Malaysian Manufacturers (FMM) 46th ed., Malaysia

- 36 Folinas, D., Faruna, T.
Implementing lean thinking paradigm practices in medical set up
(2011) *Business and Management Dynamics*, 1 (2), pp. 61-78. Cited 2 times.

- 37 Folinas, D., Ngosa, J.
Doing more with less: A pharmaceutical supplier case
(2013) *International Journal of Productivity and Quality Management*, 11 (4), pp. 412-433. Cited 5 times.
doi: 10.1504/IJPQM.2013.054264

[View at Publisher](#)

- 38 Fotopoulos, C.V., Psomas, E.L.
The structural relationships between TQM factors and organizational performance

(2010) *TQM Journal*, 22 (5), pp. 539-552. Cited 96 times.
doi: 10.1108/17542731011072874

[View at Publisher](#)

- 39 Fry, P.-J.
(2003) *Using Value Stream Mapping to Identify Waste in the Manufacturing of Automotive Components at Federal Mogul*. Cited 3 times.
Master thesis

- 40 Fullerton, R.R., Kennedy, F.A., Widener, S.K.
Lean manufacturing and firm performance: The incremental contribution of lean management accounting practices

(2014) *Journal of Operations Management*, 32 (7-8), pp. 414-428. Cited 53 times.
doi: 10.1016/j.jom.2014.09.002

[View at Publisher](#)

- 41 Gao, S., Low, S.P.
(2014) *Questionnaire Survey, Lean Construction Management*, pp. 333-390. Cited 2 times.
Springer Science+Business Media, Singapore

- 42 Goldsby, T.J., Martichenko, R.
(2005) *Lean Six Sigma Logistics: Strategic Development to Operational Success*. Cited 39 times.
J. Ross Publishing, Boca Raton, FL
-

- 43 Hadid, W., Mansouri, S.A.
The lean-performance relationship in services: A theoretical model
(2014) *International Journal of Operations and Production Management*, 34 (6), pp. 750-785. Cited 21 times.
<http://www.emeraldinsight.com/journals.htm?issn=0144-3577>
doi: 10.1108/IJOPM-02-2013-0080
View at Publisher
-
- 44 Hair, J.F., Black, W.C., Babin, B.J., Anderson, R.E.
(2010) *Multivariate Data Analysis*. Cited 37992 times.
7th ed., Prentice Hall, Upper Saddle River, New Jersey
-
- 45 Hines, P., Holwe, M., Rich, N.
Learning to evolve: A review of contemporary lean thinking
(2004) *International Journal of Operations and Production Management*, 24 (10), pp. 994-1011. Cited 654 times.
doi: 10.1108/01443570410558049
View at Publisher
-
- 46 Holden, R.J.
Lean thinking in emergency departments: A critical review
(2011) *Annals of Emergency Medicine*, 57 (3), pp. 265-278. Cited 188 times.
doi: 10.1016/j.annemergmed.2010.08.001
View at Publisher
-
- 47 Jaca, C., Santos, J., Errasti, A., Viles, E.
Lean thinking with improvement teams in retail distribution: A case study
(2012) *Total Quality Management and Business Excellence*, 23 (3-4), pp. 449-465. Cited 13 times.
View at Publisher
-
- 48 Jourabchi, S.M.M., Arabian, T., Leman, Z., Ismail, Md.Y.B.
Contribution of lean and Six Sigma to effective cost of quality management
(2014) *International Journal of Productivity and Quality Management*, 14 (2), pp. 149-165. Cited 11 times.
<http://www.inderscience.com/browse/index.php?journalID=177>
doi: 10.1504/IJPQM.2014.064473
View at Publisher
-
- 49 Kale, S.
(2013) *Production and Operations Management*
Mc-Grawhill, India
-
- 50 Kasolang, S.
(2001) *Implementation of TQM in the Malaysian Automotive Vendors*. Cited 5 times.
MS thesis, University Putra Malaysia, Malaysia, unpublished
-

- 51 Kedar, A.P., Lakhe, R.R., Deshpande, V.S., Washimkar, P.V., Wakhare, M.V.
A comparative review of TQM, TPM and related organisational performance improvement programs

(2008) *Proceedings - 1st International Conference on Emerging Trends in Engineering and Technology, ICETET 2008*, art. no. 4579995, pp. 725-730. Cited 7 times.
ISBN: 978-076953267-7
doi: 10.1109/ICETET.2008.133

[View at Publisher](#)

- 52 Khalili, A., Ismail, M.Y., Karim, A.N.M.
Integration of lean manufacturing and quality management system through structural equation modelling

(2017) *International Journal of Productivity and Quality Management*, 20 (4), pp. 534-556. Cited 2 times.
<http://www.inderscience.com/browse/index.php?journalID=177>
doi: 10.1504/IJPQM.2017.082835

[View at Publisher](#)

- 53 Khanchanapong, T., Prajogo, D., Sohal, A.S., Cooper, B.K., Yeung, A.C.L., Cheng, T.C.E.
The unique and complementary effects of manufacturing technologies and lean practices on manufacturing operational performance

(2014) *International Journal of Production Economics*, 153, pp. 191-203. Cited 37 times.
doi: 10.1016/j.ijpe.2014.02.021

[View at Publisher](#)

- 54 Khlal, M., Harb, A.H., Kassem, A.
Lean manufacturing: Implementation and assessment in the lebanese pharmaceutical industry
(2014) *Int. Journal of Computing and Optimization*, 1 (2), pp. 47-62. Cited 9 times.

- 55 Krishnan, V., Parveen, C.M.
Comparative study of lean manufacturing tools used in manufacturing firms and service sector
(2013) *Proceedings of the World Congress on Engineering*, 1, pp. 3-5.
London, UK

- 56 Kumar, R., Kumar, V.
Effect of lean manufacturing on organisational performance of Indian industry: A survey

(2016) *International Journal of Productivity and Quality Management*, 17 (3), pp. 380-393. Cited 5 times.
<http://www.inderscience.com/browse/index.php?journalID=177>
doi: 10.1504/IJPQM.2016.074856

[View at Publisher](#)

- 57 Kumar, S., Singh, B., Qadri, M.A., Kumar, Y.V.S., Haleem, A.
A framework for comparative evaluation of lean performance of firms using fuzzy TOPSIS

(2013) *International Journal of Productivity and Quality Management*, 11 (4), pp. 371-392. Cited 14 times.
doi: 10.1504/IJPQM.2013.054267

[View at Publisher](#)

- 58 *Top 25 Lean Tools*. Cited 3 times.
(accessed 26 December 2015)
[Lean Production](#)

- 59 Lee, M.-C., Chang, T.
Applying TQM, CMM and ISO 9001 in knowledge management for software development process improvement

(2006) *International Journal of Services and Standards*, 2 (1), pp. 101-115. Cited 33 times.
doi: 10.1504/IJSS.2006.008161

[View at Publisher](#)

- 60 Lee, S.-S.
The impact of manufacturing practices on operational performance
(2012) *International Academy of Business and Economics*, 12 (5). Cited 5 times.
(accessed 3 December 2016)
<http://www.freepatentsonline.com/article/Review-Business-Research/312014733.html>

- 61 Mitchell, R.M.
(2007) *A Validity Study for the Kaizen Event Kick-Off Survey*. Cited 3 times.
Doctoral dissertation, Oregon State University, Corvallis, USA

- 62 Mustafa, E.M.A., Bon, A.
Role of top management leadership and commitment in total quality management in service organization in Malaysia: A review and conceptual framework
(2012) *Elixir International Journal*, 51 (1), pp. 11029-11033. Cited 8 times.

- 63 Noori, B.
The critical success factors for successful lean implementation in hospitals
(2015) *International Journal of Productivity and Quality Management*, 15 (1), pp. 108-126. Cited 12 times.
<http://www.inderscience.com/browse/index.php?journalID=177>
doi: 10.1504/IJPQM.2015.065987

[View at Publisher](#)

- 64 Nordin, N., Deros, B., Wahab, D.A.
A survey on lean manufacturing implementation in Malaysian automotive industry
(2010) *International Journal of Innovation, Management and Technology*, 1 (4), pp. 374-380. Cited 65 times.

- 65 Pankaj, S., Naman, J., Kunal, P.
TQM: Implementation, scope and myths - A review
(2013) *Research Journal of Engineering Sciences*, 2 (6), pp. 40-44. Cited 3 times.

- 66 Para-González, L., Jiménez-Jiménez, D., Martínez-Lorente, Á.R.
Do total quality management and the European Foundation for Quality Management model encourage a quality-oriented human resource management system?

(2016) *International Journal of Productivity and Quality Management*, 17 (3), pp. 308-327. Cited 4 times.
<http://www.inderscience.com/browse/index.php?journalID=177>
doi: 10.1504/IJPQM.2016.074863

[View at Publisher](#)

- 67 Pattanayak, D., Punyatoya, P.
Impact of total quality management on customer satisfaction in Indian banking sector

(2015) *International Journal of Productivity and Quality Management*, 16 (2), pp. 127-147. Cited 6 times.
<http://www.inderscience.com/browse/index.php?journalID=177>
doi: 10.1504/IJPQM.2015.071236

View at Publisher
-
- 68 Pont, G.D., Furlan, A., Vinelli, A.
Interrelationships among lean bundles and their effects on operational performance

(2009) *Operations Management Research*, 1 (2), pp. 150-158. Cited 41 times.
doi: 10.1007/s12063-008-0010-2

View at Publisher
-
- 69 Psomas, E., Vouzas, F., Kafetzopoulos, D.
Quality management benefits through the "soft" and "hard" aspect of TQM in food companies

(2014) *TQM Journal*, 26 (5), pp. 431-444. Cited 16 times.
<http://www.emeraldinsight.com/info/journals/tqm/tqm.jsp>
doi: 10.1108/TQM-02-2013-0017

View at Publisher
-
- 70 Radnor, Z.
Transferring lean into government

(2010) *Journal of Manufacturing Technology Management*, 21 (3), pp. 411-428. Cited 70 times.
doi: 10.1108/17410381011024368

View at Publisher
-
- 71 Rahman, S.-U., Bullock, P.
Soft TQM, hard TQM, and organisational performance relationships: An empirical investigation

(2005) *Omega*, 33 (1), pp. 73-83. Cited 156 times.
doi: 10.1016/j.omega.2004.03.008

View at Publisher
-
- 72 Raja, M.
(2011) *Lean Manufacturing - An Integrated Socio-technical Systems Approach to Work Design*. Cited 8 times.
Clemson university, published PhD thesis
-
- 73 Ramasamy, S.
(2012) *Total Quality Management*. Cited 8 times.
McGraw-Hill, New Delhi
-
- 74 Sabella, A., Kashou, R., Omran, O.
Quality management practices and their relationship to organizational performance

(2014) *International Journal of Operations and Production Management*, 34 (12), pp. 1487-1505. Cited 22 times.
<http://www.emeraldinsight.com/journals.htm?issn=0144-3577>
doi: 10.1108/IJOPM-04-2013-0210

View at Publisher

□ 75 Saleeshya, P.G., Austin, D., Vamsi, N.
A model to assess the lean capabilities of automotive industries
(2013) *International Journal of Productivity and Quality Management*, 11 (2), pp. 195-211. Cited 16 times.
doi: 10.1504/IJPQM.2013.052024
[View at Publisher](#)

□ 76 Mohd. Salleh, N.A., Kasolang, S., Jaffar, A.
Simulation of Integrated Total Quality Management (TQM) with Lean Manufacturing (LM) practices in forming process using Delmia Quest ([Open Access](#))
(2012) *Procedia Engineering*, 41, pp. 1702-1707. Cited 18 times.
<http://www.sciencedirect.com/science/journal/18777058>
doi: 10.1016/j.proeng.2012.07.371
[View at Publisher](#)

□ 77 Mohd.Salleh, N.A., Kasolang, S., Jaffar, A., Halim, N.H.A.
Lean TQM leadership management practices in malaysian automotive companies
(2015) *Jurnal Teknologi*, 76 (6), pp. 1-6. Cited 4 times.
<http://www.jurnalteknologi.utm.my/index.php/jurnalteknologi/article/download/5663/3800>

□ 78 Shah, R., Ward, P.T.
Defining and developing measures of lean production
(2007) *Journal of Operations Management*, 25 (4), pp. 785-805. Cited 714 times.
doi: 10.1016/j.jom.2007.01.019
[View at Publisher](#)

□ 79 Shah, R., Chandrasekaran, A., Linderman, K.
In pursuit of implementation patterns: The context of Lean and Six Sigma
(2008) *International Journal of Production Research*, 46 (23), pp. 6679-6699. Cited 139 times.
doi: 10.1080/00207540802230504
[View at Publisher](#)

□ 80 Abbass Shah, Z., Hussain, H.
An investigation of lean manufacturing implementation in textile industries of Pakistan
(2016) *Proceedings of the International Conference on Industrial Engineering and Operations Management*, pp. 668-677.
ieom.org
ISBN: 978-098554974-9; 978-098554975-6

🔍 Khalili, A.; Department of Manufacturing and Materials Engineering, International Islamic University Malaysia (IIUM), Gombak, Selangor, Malaysia; email:amjad_alkhalili@yahoo.com
© Copyright 2017 Elsevier B.V., All rights reserved.

ELSEVIER

[Terms and conditions](#) [Privacy policy](#)

Copyright © 2018 Elsevier B.V. All rights reserved. Scopus® is a registered trademark of Elsevier B.V.

Cookies are set by this site. To decline them or learn more, visit our [Cookies page](#).

 RELX Group™