

**LEMBAR
HASIL PENILAJAN SEJAWAT SEBIDANG ATAU PEER REVIEW
KARYA ILMIAH: PROSIDING**

Judul karya ilmiah (paper) : Performance Measurement of the Relationship between Farmers-Cooperatives - Industrial Processing Milk in a dairy supply chain: A balanced supply chain management scorecard approach

Jumlah Penulis : 4 orang

Status Pengusul Penulis ke-3

Identitas Makalah

a. Judul Prosiding : Industrial Engineering and Engineering Management

b. ISBN/ISSN: 978-1-5386-0948-4, 978-1-5386-0948-4, 978-1-5386-0949-1

c. Tahun Terbit, Tempat Pelaksanaan : 10-13 Desember 2017, Singapore

d. Penerbit/organizer : IEEE

e. DOI artikel : [10.1109/IEEM.2017.8290120](https://doi.org/10.1109/IEEM.2017.8290120)

f. Alamat repository PT/web prosiding

PROSIDJNG : <https://ieeexplore.ieee.org/abstract/document/8290120/>

ARTIKEL : <http://eprints.undip.ac.id/64891/>

g. Terindeks di (jika ada) : SCOPUS

Kategori Publikasi Makalah (beri \surd pada kategori yang tepat)

\surd Prosiding Forum Ilmiah Internasional
Prosiding Forum Ilmiah Nasional

Hasil Penilaian Peer Review :

Komponen Yang Dinilai	Nilai Maksimal Prosiding		Nilai Yang Diperoleh
	Reviewer 1	Reviewer2	
a. Kelengkapan unsur isi	2,80	2,70	2,75
b. Ruang lingkup dan kedalaman pembahasan (30%)	8,00	8,70	8,35
c. Kecukupan dan kemutahiran data/informasi dan metodologi	7,5	7,80	7,65
d. Kelengkapan unsur dan kualitas penerbit (30%)	8,5	8,10	8,3
Total = (100%)	26,8	27,10	
Nilai Pengusul = (40%)*27,05/3 = 3,61			

Semarang,
Reviewer 1



Dr. Ir. Bambang Purwanggono, M.Eng.
NIP. 195704221986031001
Unit kerja : Teknik Industri FT - UNDIP
Jabatan fungsional : Lektor Kepala

Reviewer 2



Dr. Purnawan Adi Wicaksono, ST, MT
NIP. 197710032000121001
Unit kerja: Teknik Industri FT - UNDIP
Jabatan fungsional : Lektor Kepala

**LEMBAR
HASIL PENILAIAN SEJAWAT SEBIDANG ATAU PEER REVIEW
KARYA ILMIAH : PROSIDING**

Judul karya ilmiah (paper) : Performance Measurement of the Relationship between Farmers Cooperatives Industrial Processing Milk in a dairy supply chain: A balanced supply chain management scorecard approach

Jumlah Penulis : 4 orang

Status Pengusul : Penulis ke-3

Identitas Makalah

a. Judul Prosiding : Industrial Engineering and Engineering Management

b. ISBN/ISSN : 978-1-5386-0948-4, 978-1-5386-0948-4, 978- 1-5386-0949- I

c. Tahun Terbit, Tempat Pelaksanaan : 10-13 Desember 20 17, Singapore

d. Penerbit/organizer : IEEE

e. DOI artikel : [10.1109/IEEM.2017.8290120](https://doi.org/10.1109/IEEM.2017.8290120)

f. Alamat repository PT/web prosiding

PROSIDING : <https://ieeexplore.ieee.org/document/8290120>

ARTIKEL : <http://eprints.undip.ac.id/64891/>

g. Terindeks di (jika ada) : SCOPUS

Kategori Publikasi Makalah : Prosiding Forum Ilmiah Internasional
(beri pada kategori yang tepat) Prosiding Forum Ilmiah Nasional

Hasil Penilaian Peer Review

Komponen Yang Dinilai	Nilai Maksimal Prosiding		Nilai Akbir Yang Diperoleh
	Internasional	Nasional	
a. Kelengkapan unsur isi prosiding (10%)	3		2,8
b. Ruang lingkup dan kedalaman pembahasan (30%)	9		8,00
c. Kecukupan dan kemutakhiran data/informasi dan metodologi (30%)	9		7,5
d. Kelengkapan unsur dan kualitas terbitan/prosiding(30%)	9		8,5
Total = (100%)	30		26,8
Nilai Pengusul = (40%)*26,8/3 = 3,6			

Catatan penilaian oleh reviewer :

- Kesesuaian dan kelengkapan unsur isi prosiding:** Unsur isi artikel baik, sesuai dengan sistematika jurnal: introduction, methodology, results, discusion, and conclusion, dan references yang cukup
- Ruang lingkup dan kedalaman pembahasan:** Ruang lingkup artikel baik dengan pembahasan yang cukup jelas dikaitkan dengan kerangka teoritis yang digunakan sebagai pengujian konsep penelitian yang sdh ada sebelumnya yang menjadi reference penelitian ini
- Kecukupan dan kemutakhiran data/informasi dan metodologi:** Kecukupan sudah baik, namun isi materi dan hasil penelitian belum menunjukkan adanya kemutakhiran dalam teori, penelitian bersifat terapan dengan menggunakan metode yang sudah ada, dan dalam metodologi tidak terlihat kerangka teori yang dipakai.
- Kelengkapan unsur dan kualitas terbitan:** Artikel diterbitkan oleh penerbit IEEE terindex scopus, IEEE memiliki reputasi penerbit yang baik

Semarang, Agustus 2019
Reviewer 1



Dr. Ir. Bambang Purwanggono, M.Eng.
NIP. 195704221986031001
Unit Kerja : Dept T. Industri FT Undip
Bidang ilmu: Teknik Industri
Jabatan Fungsional: Lektor Kepala

**LEMBAR
HASIL PENILAIAN SEJAWAT SEBIDANG ATAU PEER REVIEW
KARYA ILMIAH : PROSIDING**

Judul karya ilmiah (paper) : Performance Measurement of the Relationship between Farmers-Cooperatives-Industrial Processing Milk in a dairy supply chain: A balanced supply chain management scorecard approach

Jumlah Penulis : 4 orang

Status Pengusul : Penulis ke 3

Identitas Makalah

a. Judul Prosiding : Industrial Engineering and Engineering Management

b. ISBN/ISSN : 978-1-5386-0948-4, 978-1-5386-0948-4, 978- 1-5386-0949- I

c. Tahun Terbit, Tempat Pelaksanaan d. : 10-13 Desember 2017, Singapore

Penerbit/organiser : IEEE

e. DOI artikel : [10.1109/IEEM.2017.8290120](https://doi.org/10.1109/IEEM.2017.8290120)

e. Alamat repository PT/web prosiding

PROSIDING : <https://ieeexplore.ieee.org/document/8290120>

ARTIKEL : <http://eprints.undip.ac.id/64891/>

f. Terindeks di (jika ada) : SCOPUS

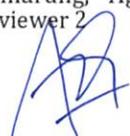
Kategori Publikasi Makalah : \surd Prosiding Forum Ilmiah Internasional
(berisi pada kategori yang tepat) Prosiding Forum Ilmiah Nasional

Hasil Penilaian Peer Review

Komponen Yang Dinilai	Nilai Maksimal Prosiding		Nilai Akbir Yang Diperoleh
	Internasional	Nasional	
a. Kelengkapan unsur isi prosiding (10%)	3		2,70
b. Ruang lingkup dan kedalaman pembahasan (30%)	9		8,70
c. Kecukupan dan kemutakhiran data/informasi dan metodologi (30%)	9		7,80
d. Kelengkapan unsur dan kualitas terbitan/prosiding(30%)	9		8,10
Total = (100%)	30		27,10
Nilai Pengusul = (40%)*27,1/3 = 3.6			

Catatan penilaian oleh reviewer :
<ol style="list-style-type: none"> <u>Kesesuaian dan kelengkapan unsur isi prosiding</u>: Unsur isi anikel baik, sesuai dengan sistematika jurnal ilmiah, yaitu: introduction, methodology, results, discussion, and conclusion, Refrencences. Artikel ditulis dengan Bahasa Inggris baik <u>Ruang lingkup dan kedalaman pembahasan</u>: Ruang lingkup artikel baik, dengan materi artikel tentang statistika terapan/ Industri. Kedalaman pembahasan cukup baik, namun belum focussesuai dengan kerangka teori yang dipakai dalam metodologi. Pembahasan substansi artikel masih hanya fokus pada aspek aplikatif <u>Kecukupan dan kemutakhiran data/informasi dan metodologi</u>: Kecukupan sudah baik, namun isi materi dan hasil penelitian belum menunjukkan adanya kemutakhiran dalam teori, penelitian bersifat terapan dengan menggunakan metode yang sudah ada, dan dalam metodologi tidak terlihat kerangka teori yang dipakai. Artikel menggunakan 26 rujukan, dengan 13 rujukan lebih dari 10 tahun terakhir <u>Kelengkapan unsur dan kualitas terbitan</u>: Artikel diterbitkan oleh penerbit IEEE terindex scopus

Semarang, Agustus 2019
Reviewer 2


Dr. Purnawan Adi Wicaksono, ST, MT
NIP. 197710032000121001
Unit Kerja : Dept T. Industri FT Undip
Bidang Ilmu: Teknik Industri
Jabatan Fungsional: Lektor Kepala

Document details

< Back to results | < Previous 14 of 38 Next >

Export Download Print E-mail Save to PDF Add to List More... >

View at Publisher

IEEE International Conference on Industrial Engineering and Engineering Management
Volume 2017-December, 9 February 2018, Pages 1387-1391
2017 IEEE International Conference on Industrial Engineering and Engineering Management,
IEEM 2017; Singapore; Singapore; 10 December 2017 through 13 December 2017; Category
numberCFP17IEI-ART; Code 134633

Performance measurement of the relationship between farmers-cooperatives-industrial processing milk in a dairy supply chain: A balanced supply chain management scorecard approach (Conference Paper)

Susanty, A. ✉, Bakhtiar, A. ✉, Purwaningsih, R. ✉, Dewanti, D.F. ✉

Department of Industrial Engineering, Diponegoro University, Semarang, Indonesia

Abstract

View references (26)

This research has several purposes. First, identify the metrics on each perspectives in the balanced supply chain management scorecard. Second, develop the scale of measurement of each metric. Third, utilize the analytical hierarchy process to measure the relative importance of each metric and perspective, and fourth, measure the current performance of each metric and give some feedback. As a pilot testing, the object of this research was represented by the relationship between the individual dairy farmers and two selected dairy cooperatives located in Semarang District and also by the relationship between two selected dairy cooperatives and the industrial milk processing which is where the cooperative sells its milk. There were 28 metrics used in this research and the result of measurement indicated that the performance of the relationship between farmers, dairy cooperatives, and industrial processing milk had total score 2.82. The total score was subject to improve since the highest total score could be achieved was 5. Then, among 22 metrics, 10 metrics should be improved since those metrics have high importance but low performance. © 2017 IEEE.

SciVal Topic Prominence ⓘ

Topic: Performance measurement | Supply chains | Industry

Prominence percentile: 94.944 ⓘ

Author keywords

balanced supply chain management scorecard cooperative dairy farmers dairy supply chain industrial milk processing

Indexed keywords

Engineering controlled terms: Agriculture Dairies Industrial research

Engineering uncontrolled terms: Analytical Hierarchy Process cooperative Current performance Industrial processing Milk processing Performance measurements Pilot testing

Engineering main heading: Supply chain management

Funding details

Funding text

This work has been funded by the University of Diponegoro through the grant for "Research for International Publication", the budget year 2017.

Metrics ⓘ

0 Citations in Scopus

0 Field-Weighted Citation Impact



PlumX Metrics

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

Performance analysis and strategic planning of dairy supply chain in Indonesia: A comparative study

Susanty, A. , Bakhtiar, A. , Puspitasari, N.B. (2018) *International Journal of Productivity and Performance Management*

The new cognition of supply chain integration: Management interface integration

Wu, T. , Guo, S. , Chen, R.-Q. (2006) *IFIP International Federation for Information Processing*

Modeling the Causal Relationship among Variables that Influencing the Capability of Dairy Supply Chain in Indonesia

Susanty, A. , Puspitasari, N.B. , Bakhtiar, A. (2019) *IEEE International Conference on Industrial Engineering and Engineering Management*

View all related documents based on references

Find more related documents in Scopus based on:

Authors > Keywords >

ISSN: 21573611
ISBN: 978-153860948-4
Source Type: Conference Proceeding
Original language: English

DOI: 10.1109/IEEM.2017.8290120
Document Type: Conference Paper
Sponsors:
Publisher: IEEE Computer Society

References (26)

[View in search results format >](#)

All | [Export](#)  [Print](#)  [E-mail](#)  [Save to PDF](#) [Create bibliography](#)

-
- 1 Monczka, R.M., Handfield, R.B., Giunipero, L.C., Patterson, J.L.
(1994) *Purchasing and Supply Chain Management*. Cited 54 times.
Cincinnati, OH: South-Western College Publishing
-
- 2 Simchi-Levi, D., Simchi-Levi, E., Kaminsky, P.
(1999) *Designing and Managing the Supply Chain: Concepts, Strategies, and Cases*. Cited 2300 times.
NY: McGraw-Hill
-
- 3 Ellram, L.M., Stock, J.R., Lambert, D.M., Grant, D.B.
(2006) *Fundamentals of Logistics Management-European Edition*. Cited 2 times.
UK: McGraw-Hill
-
- 4 Mentzer, J.T., DeWitt, W., Keebler, J.S., Min, S., Nix, N.W., Smith, C.D., Zacharia, Z.G.
Defining supply chain management
(2001) *J. Bus. Logist.*, 22 (2), pp. 1-25. Cited 1696 times.
-
- 5 Ellram, L.M., Cooper, M.C.
Supply chain management, Partnerships, And the shipper -Third party relationship
(1990) *The International Journal of Logistics Management*, 1 (2), pp. 1-10. Cited 290 times.
doi: 10.1108/95740939080001276
[View at Publisher](#)
-
- 6 Houlihan, J.B.
International Supply Chains: A New Approach
(1988) *Management Decision*, 26 (3), pp. 13-19. Cited 57 times.
doi: 10.1108/eb001493
[View at Publisher](#)
-
- 7 Tyndall, G., Gopal, C., Partsch, W., Kamauff, J.
Supercharging supply chains
(1998) *New Ways to Increase Value Through Global Operational Excellence*. Cited 95 times.
NY: John Wiley & Sons
-
- 8 Cooper, M.C., Ellram, L.M., Gardner, J.T., Hanks, A.M.
Meshing multiple alliances
(1997) *J. Bus. Logist.*, 18 (1), pp. 67-89. Cited 199 times.
-

-
- 9 Santos, S., Gouveia, J.B., Gomes, P.
Measuring performance in supply chain: A framework
(2006) *Proc. 13th International EurOMA Conference*, pp. 18-21. Cited 4 times.
University of Strathclyde, Glasgow, UK
-
- 10 Bhagwat, R., Sharma, M.K.
Performance measurement of supply chain management: A balanced scorecard approach

(2007) *Computers and Industrial Engineering*, 53 (1), pp. 43-62. Cited 366 times.
doi: 10.1016/j.cie.2007.04.001

View at Publisher
-
- 11 Bigliardi, B., Bottani, E.
Performance measurement in the food supply chain: a balanced scorecard approach

(2010) *Facilities*, 28 (5-6), pp. 249-260. Cited 63 times.
doi: 10.1108/02632771011031493

View at Publisher
-
- 12 Cai, J., Liu, X., Xiao, Z., Liu, J.
Improving supply chain performance management: A systematic approach to analyzing iterative KPI accomplishment

(2009) *Decision Support Systems*, 46 (2), pp. 512-521. Cited 196 times.
doi: 10.1016/j.dss.2008.09.004

View at Publisher
-
- 13 Wright, M.S.
(2014) *Indonesia Dairy and Products Annual Report 2014*. Cited 6 times.
GAIN report ID 1438, USDA Foreign Agricultural Service
-
- 14 Susanty, A., Bakhtiar, A., Suliantoro, H., Manalu, C.
The effect of collaborative communication, power dependency, and price satisfaction on trust and loyalty of individual farmers to dairy cooperative case study dairy supply chain in Boyolali

(2016) *IEEE International Conference on Industrial Engineering and Engineering Management*, 2016-December, art. no. 7797845, pp. 104-108.
<http://ieeexplore.ieee.org/xpl/conferences.jsp>
ISBN: 978-150903665-3
doi: 10.1109/IEEM.2016.7797845

View at Publisher
-
- 15 Morey, P.
Dairy Industry Development in Indonesia. Cited 8 times.
accessed 10 August 2016
<http://www1.ifc.org/wps/wcm/connect/93f48d00470e3bf883ffd7b2572104ea/Dairy+Industry+Development-2011.Pdf>
-
- 16 Prakash, G., Pant, R.R.
Performance measurement of a dairy supply chain: A balance scorecard perspective

(2014) *IEEE International Conference on Industrial Engineering and Engineering Management*, art. no. 6962402, pp. 196-200. Cited 7 times.
<http://ieeexplore.ieee.org/xpl/conferences.jsp>
ISBN: 978-147990986-5
doi: 10.1109/IEEM.2013.6962402

View at Publisher
-

- 17 Hong, Y., Zhong-Hua, Y.Y.
Supply chain dynamic performance measurement based on BSC and SVM
(2013) *Int. J. Comput. Science Issues*, 10 (1), pp. 271-277. Cited 6 times.
-
- 18 Callado, A.A.C.
Particularities of Balanced Scorecard frameworks relating to specific supply chain roles
(2013) *Proc. XIV Congresso Internacional de Contabilidade e Auditoria*, pp. 1-17.
Portugal, LX
-
- 19 Standard National Indonesia (SNI), Susu Segar-Bagian 1: Sapi, Jakarta, IND: The Indonesian Standardization Body, 2011
-
- 20 Susanty, A., Bakhtiar, A., Jie, F., Muthi, M.
The empirical model of trust, loyalty, and business performance of the dairy milk supply chain: A comparative study

(2017) *British Food Journal*, 119 (12), pp. 2765-2787. Cited 7 times.
<http://www.emeraldinsight.com/info/journals/bfj/bfj.jsp>
doi: 10.1108/BFJ-10-2016-0462

View at Publisher
-
- 21 (2008) *National Bureau of Agricultural Commodity and Food Standards*
Thailand Agriculture Standard, Raw goat milk, Bangkok, TH: Ministry of Agriculture and Cooperatives
-
- 22 Budiyanto, J., Usmiati, A.S.
Pemerahan susu secara higienis menggunakan alat perah sederhana
Proc. Seminar Nasional Teknologi Peternakan Dan Veteriner, SNTPV 2008, pp. 327-334.
Bogor, IND
-
- 23 Woolford, M.W., Claycomb, R.W., Jago, J., Davis, K., Ohnstad, I., Wieliczko, R., Bright, K.
Automatic dairy farming in New Zealand using extensive grazing systems
(2004) *Proc. International Symposium on Automatic Milking: A Better Understanding*, pp. 280-285. Cited 16 times.
NL
-
- 24 Roberts, L.G.H.
Milk cooling on Kansas farm
(1941) *Report, Agricultural Experiment Station, Kansas State College of Agriculture and Applied Science*
-
- 25 Vagany, J., Dunay, A.
Food quality and food safety in hungarian dairy farms
(2004) *Proc. 84th Seminar, European Association of Agricultural Economists*, pp. 1-10.
Zeist, NL
-
- 26 Boniface, B., Gyau, A., Stringer, R.
Linking price satisfaction and business performance in Malaysia's dairy industry

(2012) *Asia Pacific Journal of Marketing and Logistics*, 24 (2), pp. 288-304. Cited 13 times.
doi: 10.1108/13555851211218066

View at Publisher
-

About Scopus

[What is Scopus](#)
[Content coverage](#)
[Scopus blog](#)
[Scopus API](#)
[Privacy matters](#)

Language

[日本語に切り替える](#)
[切换到简体中文](#)
[切换到繁體中文](#)
[Русский язык](#)

Customer Service

[Help](#)
[Contact us](#)

ELSEVIER

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

Copyright © 2019 Elsevier B.V. All rights reserved. Scopus® is a registered trademark of Elsevier B.V.
We use cookies to help provide and enhance our service and tailor content. By continuing, you agree to the use of cookies.

 **RELX**

**SJR**

Scimago Journal & Country Rank

Enter Journal Title, ISSN or Publisher Name

[Home](#)[Journal Rankings](#)[Country Rankings](#)[Viz Tools](#)[Help](#)[About Us](#)

IEEE International Conference on Industrial Engineering and Engineering Management

Country [United States](#) - [SJR Ranking of United States](#)

12

H Index

Subject Area and Category

[Business, Management and Accounting](#)
[Business, Management and Accounting \(miscellaneous\)](#)
[Engineering](#)
[Industrial and Manufacturing Engineering](#)
[Safety, Risk, Reliability and Quality](#)

Publisher**Publication type**

Conferences and Proceedings

ISSN

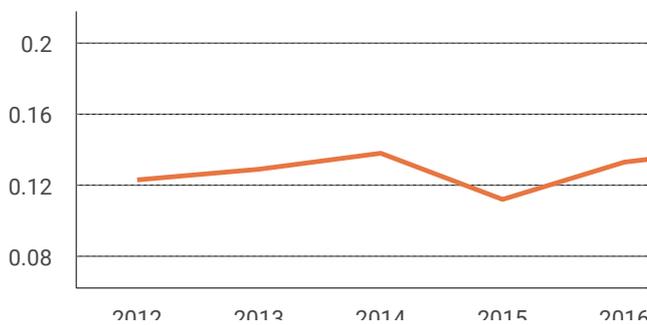
00002011

Coverage

2011

[Join the conversation about this journal](#)

SJR



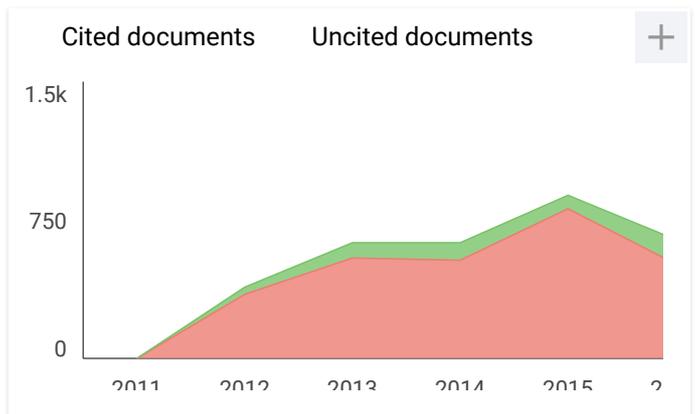
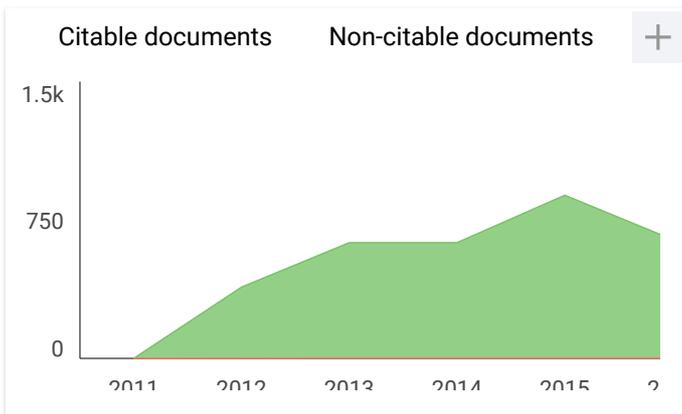
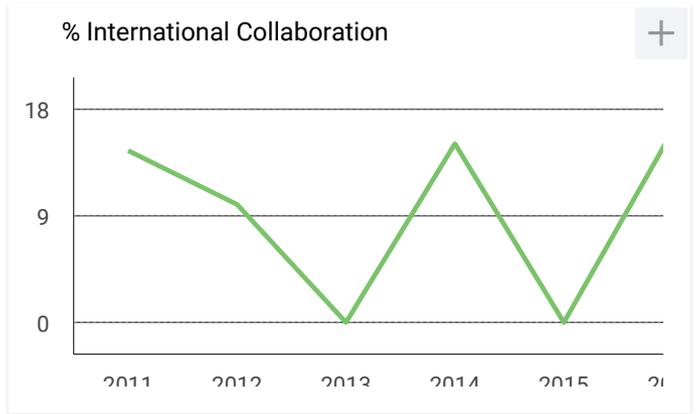
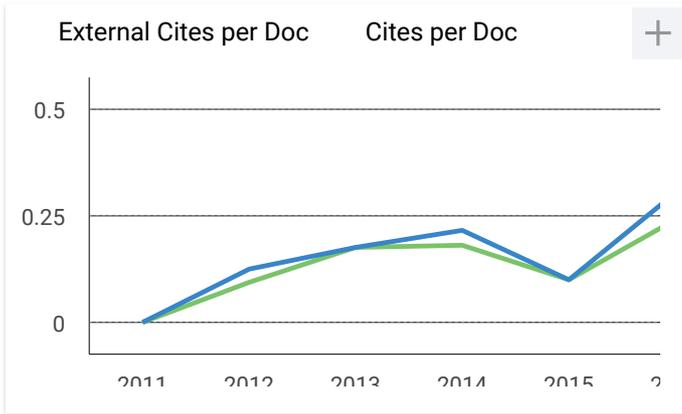
Citations per document



Total Cites

Self-Cites





IEEE International Conference on Industrial...

Not yet assigned quartile

SJR 2018
0.18

powered by scimagojr.com

← Show this widget in your own website

Just copy the code below and paste within your html code:

```
<a href="https://www.scimagojr.com" style="border: 1px solid #ccc; padding: 2px 5px; display: inline-block;">https://www.scimagojr.com
```

Leave a comment

Name

Email

(will not be published)

I'm not a robot
reCAPTCHA
Privacy - Terms

Submit

The users of Scimago Journal & Country Rank have the possibility to dialogue through comments linked to a specific journal. The purpose is to have a forum in which general doubts about the processes of publication in the journal, experiences and other issues derived from the publication of papers are resolved. For topics on particular articles, maintain the dialogue through the usual channels with your editor.

Developed by:



Powered by:



Follow us on @ScimagoJR

Scimago Lab, Copyright 2007-2019. Data Source: Scopus®

EST MODUS IN REBUS
Horatio (Satire 1,1,106)

2017 IEEE International Conference on
Industrial Engineering & Engineering Management



IEEE IEEM2017

10-13 Dec, Singapore

WWW.IEEM.ORG



ORGANIZERS & COMMITTEES

General Chair

Arnoud DE MEYER
Singapore Management University,
Singapore

Organizing Chairs

Kah Hin CHAI
National University of Singapore,
Singapore

Roger JIAO
Georgia Institute of Technology,
USA

Program Chairs

Nan CHEN
National University of Singapore,
Singapore

Min XIE
City University of Hong Kong,
Hong Kong SAR

Publication Chair

Anil K. VARMA
Singapore Polytechnic, Singapore

Members

Songlin CHEN
Nanyang Technological University,
Singapore

Carmen Ka Man LEE
Hong Kong Polytechnic University,
Hong Kong SAR

Seung Ki MOON
Nanyang Technological University,
Singapore

Szu Hui NG
National University of Singapore,
Singapore

Zhisheng YE
National University of Singapore,
Singapore

Technical Program Committee

Dotun ADEBANJO
University of Greenwich,
United Kingdom

Michel ALDANONDO
Toulouse University / IMT-Mines Albi,
France

Hisham ALIDRISI
King Abdulaziz University, Saudi Arabi

Teresa ALVAREZ
University of Valladolid, Spain

Elita AMRINA
Andalas University, Indonesia

Yonas Zewdu AYELE
Østfold University College, Norway

Ana Paula BARROSO
UNIDEMI, Faculty of Science and
Technology, New University of Lisbon,
Portugal

Ibrahim Mujdat BASARAN
Bulent Ecevit University, Turkey

Philipp BAUMANN
University of Bern, Switzerland

Zhiqiang CAI
Northwestern Polytechnical University,
China

Ayon CHAKRABORTY
Indian Institute of Management
Tiruchirapalli, India

Paul CHANG
National Changhua University of
Education, Taiwan

Sheng-Hung CHANG
Minghsin University of Science and
Technology, Taiwan

Mu-Chen CHEN
National Chiao Tung University, Taiwan

Shin-Guang CHEN
Tungnan University, Taiwan

Xiao-li CHEN
Chemnitz University of Technology,
Germany

Chuang-Chun CHIOU
Tunghai University, Taiwan

Thierry COUDERT
University of Toulouse, France

Rob DEKKERS
University of Glasgow, United Kingdom

Magdalena DIERING
Poznan University of Technology, Poland

Martin DROZDA
Slovak University of Technology, Slovakia
(Slovak Republic)

Ahmed EL-BOURI
Sultan Qaboos University, Oman

Alireza FARAZ
University of Applied Sciences Upper
Austria, Austria

Fabio GONTIJO
UNIPAM, Brazil

Xiuzhu GU
Tokyo Institute of Technology, Japan

Aldy GUNAWAN
Singapore Management University,
Singapore

Indra GUNAWAN
The University of Adelaide, Australia

Rika Ampuh HADIGUNA
Andalas University, Indonesia

Siana HALIM
Petra Christian University, Indonesia

Budi HARTONO
Universitas Gadjah Mada, Indonesia

Markus HARTONO
University of Surabaya, Indonesia

Takashi HASUIKE
Waseda University, Japan

Jishnu HAZRA
Indian Institute of Management, India

Yihai HE
Beihang University (BUAA), China

ORGANIZERS & COMMITTEES

Yu-Hsiang HSIAO
National Taipei University, Taiwan

Qingpei HU
Chinese Academy of Sciences, China

Chi-Cheng HUANG
Aletheia University, Taiwan

Chin-Yu HUANG
National Tsing Hua University, Taiwan

Lars HVAM
Technical University of Denmark, Denmark

Supachart IAMRATANAKUL
Kasetsart University, Thailand

Shinji INOUE
Kansai University, Japan

Ville ISOHERRANEN
University of Oulu, Finland

Raja JAYARAMAN
Khalifa University, United Arab Emirates

Parminder Singh KANG
De Montfort University, United Kingdom

Muhammad Waris Ali KHAN
Universiti Malaysia Pahang, Malaysia

Hadi KHORSHIDI
Monash University, Australia

Murat KUCUKVAR
Qatar University, Qatar

Chien-Liang KUO
Chinese Culture University, Taiwan

Yong-Hong KUO
*The Chinese University of Hong Kong,
Hong Kong SAR*

C.K. KWONG
*Hong Kong Polytechnic University,
Hong Kong SAR*

Carmen Ka Man LEE
*Hong Kong Polytechnic University,
Hong Kong SAR*

Jun-Der LEU
National Central University, Taiwan

Yan-Fu LI
Tsinghua University, China

Wenzhu LIAO
Chongqing University, China

SC Johnson LIM
*Universiti Tun Hussein Onn Malaysia,
Malaysia*

Chen-ju LIN
Yuan Ze University, Taiwan

Chu-Ti LIN
National Chiayi University, Taiwan

Danping LIN
Shanghai Maritime University, China

Tyrone T. LIN
National Dong Hwa University, Taiwan

Weidong LIN
*Singapore Institute of Technology,
Singapore*

Yiliu LIU
*Norwegian University of Science and
Technology, Norway*

Mei-Chen LO
National United University, Taiwan

Huitian LU
*South Dakota State University,
United States*

Virginia MACHADO
UNIDEMI, FCT-UNL, Portugal

Jukka MAJAVA
*Industrial Engineering and Management /
University of Oulu, Finland*

Viliam MAKIS
University of Toronto, Canada

Anas MAKKI
King Abdulaziz University, Saudi Arabia

Harekrishna MISRA
*Institute of Rural Management Anand,
India*

Lars MOENCH
University of Hagen, Germany

Luis A. MONCAYO-MARTINEZ
*Instituto Tecnológico Autónomo de México
(ITAM), Mexico*

Egon MUELLER
*Chemnitz University of Technology,
Germany*

Indrajit MUKHERJEE
*Bengal Engineering & Science University,
India*

Ipseeta NANDA
Silicon Institute of Technology, India

Malick NDIAYE
*American University of Sharjah,
United Arab Emirates*

Dinh Son NGUYEN
*University of Science and Technology,
The University of Danang, Viet Nam*

Tatsushi NISHI
Osaka University, Japan

Sanjay Kumar PALEI
*Indian Institute of Technology (BHU),
Varanasi, India*

Naraphorn PAOPRASERT
Kasetsart University, Thailand

Jennifer PERCIVAL
*University of Ontario Institute of
Technology, Canada*

Alan PILKINGTON
*University of Westminster,
United Kingdom*

Jan Harm PRETORIUS
*University of Johannesburg,
South Africa*

Kit Fai PUN
*University of the West Indies, Trinidad
and Tobago*

Anisur RAHMAN
Griffith University, Australia

Parthasarathy RAMACHANDRAN
Indian Institute of Science, India

R.M. Chandima RATNAYAKE
University of Stavanger, Norway

ORGANIZERS & COMMITTEES

Fernando ROMERO
University of Minho, Portugal

Mojahid Saeed OSMAN
*American University of Sharjah,
United Arab Emirates*

Tomoko SAIKI
SAIKI PATENT, Japan

Kin Meng SAM
University of Macau, China

Karthik SANKARANARAYANAN
*University of Ontario Institute of
Technology, Canada*

Kiyoshi SAWADA
*University of Marketing and Distribution
Sciences, Japan*

Mohammad SHAMSUZZAMAN
*University of Sharjah,
United Arab Emirates*

Nagesh SHUKLA
University of Technology Sydney, Australia

Ali SIADAT
Arts et Metiers ParisTech, France

Ronnachai SIROVETNUKUL
Mahidol University, Thailand

Syafiie SYAFIIE
Syiah Kuala University, Indonesia

Yoshinobu TAMURA
Tokyo City University, Japan

Arnesh TELUKDARIE
*University of Johannesburg,
South Africa*

Purit THANAKIJKASEM
*King Mongkut's University of Technology
Thonburi, Thailand*

Norbert TRAUTMANN
University of Bern, Switzerland

Wen-Hsien TSAI
National Central University, Taiwan

Yuan-Jye TSENG
Yuan Ze University, Taiwan

David VALIS
University of Defence, Czech Republic

Elise VAREILLES
*Ecole Nationale Supérieure des Mines Albi,
France, Metropolitan*

Enrico VEZZETTI
Politecnico di Torino, Italy

Ari WIDYANTI
Industrial Engineering Dept. ITB, Indonesia

Seng Fat WONG
University of Macau, China

Haiyan XU
*Institute of High Performance Computing,
Singapore*

Alice YALAOUI
University of Technology of Troyes, France

Bingwen YAN
*Cape Peninsula University of Technology,
South Africa*

Jun YANG
Beihang University, China

Keng-Chieh YANG
Hwa Hsia University of Technology, Taiwan

QZ YANG
Circular Economy Research Centre, China

Xue-Ming YUAN
*Singapore Institute of Manufacturing
Technology, Singapore*

Hui ZHANG
*University of Chicago,
United States*

Linda ZHANG
IESEG School of Management, France

Login Email: Password: [New User? Create an Account](#) | [Forgot Password?](#)**PARTICIPATION**[Home](#)[Paper Submission](#)[Final Paper Submission](#)[Fees & Registration](#)[Call for Papers](#)**CONFERENCE**[Program Overview](#)[Technical Program](#)[Presenter Guides](#)[Best Paper Awards](#)[Meet-the-Editors](#)[Mobile Web App](#)[Keynote Speakers](#)[Workshop](#)[Conference Tours](#)[Conference Dinner](#)**ORGANIZERS**[Organizing Committee](#)[Program Committee](#)[Organizers & Supporting Organizations](#)**INFORMATION**[Conference Venue](#)[Hotel Booking](#)[Travel Visa](#)[About Singapore](#)[Contact](#)**DOWNLOAD & ARCHIVES**[Previous Conferences](#)**Keynote Speakers**

Mon - 11 Dec | 09:15 - 10:00 | Summit 2

"Rethinking Operations Strategy in an Age of Digital Manufacturing"**Andy NEELY**

Pro-Vice Chancellor

University of Cambridge, United Kingdom

[Abstract](#) | [Biography](#)

Mon - 11 Dec | 10:00 - 10:45 | Summit 2

"Using Kernels to Harness the Complexity of Big Data"**Benjamin W. WAH**

Provost and Wei Lun Professor,

The Chinese University of Hong Kong, Hong Kong SAR

[Abstract](#) | [Biography](#)**Important Dates****Submit Papers**~~By 1 June 2017~~

By 12 June 2017

Notify Acceptance

1 August 2017

Final Paper Due~~1 September 2017~~

Extended to 15 September 2017

Author Registration~~By 1 September 2017~~

Extended to 15 September 2017

IEEM2018

16 to 19 Dec 2018

Bangkok, Thailand

The date and venue for IEEM2018 have been decided! Mark your calendars and join us in Bangkok for IEEM2018!

Supported by: Held in:

Passion
Made
Possible

Copyright © IEEM2017. All Rights Reserved.

Conference Managed by Meeting Matters International

Table of Contents

Operations Research 1

Evaluating Erlang C and Erlang A Models for Staff Optimization: A Case Study in an Airline Call Center	1
<i>Kaushik NAG, Magdy HELAL</i>	
Analyzing the Effectiveness of Lean Manufacturing Practices in Indian Small and Medium Sized Businesses	6
<i>Saumyanjan SAHOO, Sudhir YADAV</i>	
Robustness Through Possible Crew Swaps in Airline Operations	11
<i>Ian Frederic ILAGAN, Charlle SY</i>	
A Mixed Integer Programming Optimization of Bundling and Pricing Strategies for Multiple Product Components with Inventory Allocation Considerations	16
<i>Paul Siegfried BARRIOS, Dennis CRUZ</i>	
A Tool for Selecting Optimal Emergency Response Unit Locations Using an Integrated AHP-MILP Approach	21
<i>Jayne Lois SAN JUAN, Christine FERNANDEZ, Bryanne LIM, Erika LIM, Richard LI</i>	
Positive Behaviour Changes Through Learn-Practice-Implement Leadership Behavioural Standards	26
<i>Bin MA, Roland LIM, Ming Hon TOH, Huey Yuen NG</i>	
Joint Decision Making About Price and Duration of Discount Airfares	31
<i>Yanli FANG, Yan CHEN, Xin LI</i>	

Operations Research 2

An Assignment-Based Continuous-Time MILP Model for the Resource-Constrained Project Scheduling Problem	35
<i>Tom RIHM, Norbert TRAUTMANN</i>	
A Robust Optimisation Approach to the Aircraft Sequencing and Scheduling Problem with Runway Configuration Planning	40
<i>Kam Hung NG, Carman Ka Man LEE, Felix CHAN</i>	
A Cut-Off Grade Optimization Model in the Open Pit Mining Considering Reclamation and Valuable Waste Materials	45
<i>Benazir IMAM ARIF MUTTAQIN, Cucuk Nur ROSYIDI, Eko PUJIYANTO</i>	
Comparison of PSO and DE for Truck Scheduling in Multi-Door Cross Docking Terminals	50
<i>Warisa WISITTIPANICH, Piya HENGMEECHAI</i>	
Worst Case Scenario Lemma for Γ -Robust Combinatorial Optimization Problems Under Max-Min Criterion	55
<i>Jiabao ZHANG, Wei WU, Mutsunori YAGIURA</i>	
Multi-Skilled Manpower Scheduling with Part-Time Consideration: Case Study	60
<i>Ping Chong CHUA, Hendra Teja WIRAWAN, Tay Jin CHUA</i>	

Operations Research 3

Optimal Pricing Considering Customer Categories: Case on Car Rental Industries	65
<i>Nur Aini MASRUOH, Vivian Prisyane TJAKRA, Ririh Rahma RATINGHAYU</i>	

Institutional Sign In

Browse

My Settings

Get Help

Subscribe

Advertisement

Advertisement

Conferences > 2017 IEEE International Confe...

Evaluating erlang C and erlang A models for staff optimization: A case study in an airline call center

Publisher: IEEE

2 Author(s) K. Nag ; M. Helal View All Authors

1 Paper Citation 152 Full Text Views

Export to Collabratec

Alerts

- Manage Content Alerts
- Add to Citation Alerts

More Like This

Online Human Resource Management Personnel Performance Evaluation System of B2C E-commerce Businesses Based on Projection Pursuit Model
2010 International Conference on E-Business and E-Government
Published: 2010

Human resources management of college teachers on the theoretical basis of all-round development of human beings
2011 2nd International Conference on Artificial Intelligence, Management Science and Electronic Commerce (AIMSEC)
Published: 2011

View More

- Abstract
- Document Sections
 - I Introduction
 - II Methodology
 - III Results
 - IV Discussion
 - V Conclusion

Download PDF

Abstract: Call centers can easily be modeled as queuing systems where the calls arrive, wait in a virtual queue and are serviced by operators. The simplest representation of a call... **View more**

Metadata

Abstract: Call centers can easily be modeled as queuing systems where the calls arrive, wait in a virtual queue and are serviced by operators. The simplest representation of a call center is the M/M/N queue or the Erlang C model which in this study is tested on an airline call center. A further extension of the Erlang C model is the M/M/N+M queue or the Erlang A model which takes call abandonment into consideration, has also been evaluated and compared with the Erlang C and the simulation results. With the current system having a high number of abandoned calls, low number of agents and high utilization level, Erlang C estimates are markedly different to that of the real system and is pessimistically biased by a great extent. Erlang A predictions, on the other hand, although optimistically biased is a bit more accurate. The optimum staffing requirements for each model has been predicted.

Published in: 2017 IEEE International Conference on Industrial Engineering and Engineering Management (IEEM)

Date of Conference: 10-13 Dec. 2017 **INSPEC Accession Number:** 17578734

Date Added to IEEE Xplore: 12 February 2018 **DOI:** 10.1109/IEEM.2017.8289839

Publisher: IEEE

ISBN Information:

Conference Location: Singapore, Singapore

Electronic ISSN: 2157-362X

K. Nag
Department of Mechanical Engineering, American University of the Middle East, Kuwait

M. Helal
Department of Industrial Engineering, American University of the Middle East, Kuwait

Advertisement

See the top organizations patenting in technologies mentioned in this article

Click to Expand

Provided by: Innovation Plus
POWERED BY IEEE AND IET
A PATENT SEARCH AND ANALYTICS TOOL

Advertisement

Contents

Institutional Sign In

Browse

My Settings

Get Help

Subscribe

Advertisement

Advertisement

Conferences > 2017 IEEE International Confe...

Analyzing the effectiveness of lean manufacturing practices in Indian small and medium sized businesses

Publisher: IEEE

2 Author(s) Saumyaranjan Sahoo ; Sudhir Yadav View All Authors

1 Paper Citation 166 Full Text Views

Export to Collabratec

Alerts

- Manage Content Alerts
- Add to Citation Alerts

More Like This

An exploration of the pre-development phase in New Zealand small-to-medium enterprises
2008 IEEE International Conference on Industrial Engineering and Engineering Management
Published: 2008

Is the Agile Development Method the Way to Go for Small to Medium Enterprises (SMEs) In Saudi Arabia?
2018 21st Saudi Computer Society National Computer Conference (NCC)
Published: 2018

View More

- Abstract
- Document Sections
 - I Introduction
 - II Theoretical Framework
 - III Research Methodology
 - IV Analysis and Results
 - V Conclusion

Downl PDF

Abstract: This research article aims to examine the relationship between lean manufacturing practices and operational performance of small and medium sized manufacturing enterprise...
View more

Metadata

Abstract: This research article aims to examine the relationship between lean manufacturing practices and operational performance of small and medium sized manufacturing enterprises, operating in India. Using a survey questionnaire, responses were collected from 121 manufacturing firms in India. Bivariate correlation and linear regression analyses were employed to investigate the effects of lean manufacturing methods on operational performance. Overall, the results from Indian manufacturing perspective indicate that lean strategy implementation is important predictor of operational performance. By testing the effect of lean manufacturing practices on operational performance of small-medium sized manufacturing businesses, this study shows strong foundation on lean manufacturing practices as an effective way of improving operational performance.

Published in: 2017 IEEE International Conference on Industrial Engineering and Engineering Management (IEEM)

Date of Conference: 10-13 Dec. 2017 **INSPEC Accession Number:** 17579102

Date Added to IEEE Xplore: 12 February 2018 **DOI:** 10.1109/IEEM.2017.8289840

Publisher: IEEE

ISBN Information:

Conference Location: Singapore, Singapore

Electronic ISSN: 2157-362X

Saumyaranjan Sahoo
School of Petroleum Management, Pandit Deendayal Petroleum University, Gandhinagar, India

Sudhir Yadav
School of Petroleum Management, Pandit Deendayal Petroleum University, Gandhinagar, India

See the top organizations patenting in technologies mentioned in this article



Click to Expand

Powered by: Innovation Q PLUS
POWERED BY IEEE AND IP.COM
A PATENT SEARCH AND ANALYTICS TOOL

Advertisement

Advertisement

Contents

Institutional Sign In

Browse

My Settings

Get Help

Subscribe

Advertisement

Advertisement

Conferences > 2017 IEEE International Confe...

Robustness through possible crew swaps in airline operations

Publisher: IEEE

2 Author(s)

I. F. Ilagan ; C. Sy

View All Authors

50 Full Text Views

Export to Collabratec

Alerts

- Manage Content Alerts
- Add to Citation Alerts

More Like This

Game theory-based Cooperation of Process Planning and Scheduling
2008 12th International Conference on Computer Supported Cooperative Work in Design
Published: 2008

A Hierarchical Planning and Scheduling Framework for TFT-LCD Production Chain
2006 IEEE International Conference on Service Operations and Logistics, and Informatics
Published: 2006

View More

Abstract
Document Sections
I. Background
II. Methodology
III. Model Formulation
IV. Results and Discussion
V. Conclusion
Authors
Figures
References
Keywords
Metrics
More Like This

Downl PDF

Abstract: Delays in airline transportation resulting from poor planning of resources, such as crew, are commonplace. Common practices that deal with disruptions, such as purposeful...
View more

Metadata

Abstract: Delays in airline transportation resulting from poor planning of resources, such as crew, are commonplace. Common practices that deal with disruptions, such as purposeful cancellation of flights or assignment of emergency crew, have several drawbacks. Disruption management in terms of robustness, while increasing planned costs, are capable of creating flight schedules resistant to delays. This paper proposes an approach that incorporates delay propagation costs of flights in planning, and finds swap opportunities for crew assigned to each flight in case of disruptions. The crew swaps should lessen the need to assign emergency crew to specific flights, which is seen as costlier. A scenario is presented comparing the solutions obtained through the traditional crew pairing model and the proposed crew swap model. A solution is obtained with a comparatively higher planned cost, but with significantly lower delays.

Published in: 2017 IEEE International Conference on Industrial Engineering and Engineering Management (IEEM)

Date of Conference: 10-13 Dec. 2017 **INSPEC Accession Number:** 17579026

Date Added to IEEE Xplore: 12 February 2018 **DOI:** 10.1109/IEEM.2017.8289841

ISBN Information: **Publisher:** IEEE

Conference Location: Singapore, Singapore

Electronic ISSN: 2157-362X

I. F. Ilagan
Industrial Engineering Department, De La Salle University, Manila, Philippines

C. Sy
Industrial Engineering Department, De La Salle University, Manila, Philippines

Advertisement

See the top organizations patenting in technologies mentioned in this article



Click to Expand

Powered by: **Innovation Q PLUS**
A PATENT SEARCH AND ANALYTICS TOOL

Advertisement

Contents

I. Background

Institutional Sign In

Browse

My Settings

Get Help

Subscribe

Advertisement

Advertisement

Conferences > 2017 IEEE International Confe...

Positive behaviour changes through learn-practice-implement leadership behavioural standards

Publisher: IEEE

4 Author(s) **B. Ma ; R. Y. G. Lim ; M. H. Toh ; H. Y. Ng** [View All Authors](#)

103 Full Text Views

Export to Collabratec

Alerts

- Manage Content
- Alerts
- Add to Citation
- Alerts

More Like This

Detrimental effects of poor human resources management: Case study from Sri Lanka
2015 International Conference on Industrial Engineering and Operations Management (IEOM)
Published: 2015

Strategic outsourcing of R&D: an exploratory study of human resources management practices of Indian outsource firms
2004 IEEE International Engineering Management Conference (IEEE Cat. No.04CH37574)
Published: 2004

[View More](#)

Abstract

Document Sections

- I. Introduction
- II. Literature Review
- III. Proposed Method
- IV. Results and Discussion
- V. Conclusion

Downl PDF

Abstract: Productivity has been identified by the Singapore government as a key pillar to supports the economic growth. However, improving the labour productivity can prove to be c... [View more](#)

Metadata

Abstract: Productivity has been identified by the Singapore government as a key pillar to supports the economic growth. However, improving the labour productivity can prove to be challenging, especially when the local workforce is shrinking. To address this challenge, local companies have to embark on a lean manpower transformation journey. From our experience with more than 200 local companies, it is the company's productivity leadership and leaders behaviours that determine the fate of its lean transformation. In this paper, we present the Leadership Behavioural Standards (LBS), a practical method that focuses on people development to help companies to improve their productivity leadership through leaders' positive behaviour changes. This method is developed based on the lean management philosophy, behavioural science and scientific psychology.

Published in: 2017 IEEE International Conference on Industrial Engineering and Engineering Management (IEEM)

Date of Conference: 10-13 Dec. 2017 **INSPEC Accession Number:** 17579101

Date Added to IEEE Xplore: 12 February 2018 **DOI:** 10.1109/IEEM.2017.8289844

ISBN Information: **Publisher:** IEEE

Electronic ISSN: 2157-362X **Conference Location:** Singapore, Singapore

B. Ma
Singapore Institute of Manufacturing Technology (SIMTech), Singapore

R. Y. G. Lim
Singapore Institute of Manufacturing Technology (SIMTech), Singapore

M. H. Toh
Singapore Institute of Manufacturing Technology (SIMTech), Singapore

H. Y. Ng
Singapore Institute of Manufacturing Technology (SIMTech), Singapore

Advertisement

See the top organizations patenting in technologies mentioned in this article

ORGANIZATION 4
ORGANIZATION 3
ORGANIZATION 2
ORGANIZATION 1

[Click to Expand](#)

Provided by: **Innovation PLUS**
POWERED BY IEEE AND IP.COM
A PATENT SEARCH AND ANALYTICS TOOL

Advertisement

Contents

I. Introduction

Having enjoyed nearly 30 years of high economic growth, Singapore began to face an economic slowdown, due to intense competition posed by the other developed nations and fast growing

Institutional Sign In

Browse

My Settings

Get Help

Subscribe

Advertisement

Advertisement

Conferences > 2017 IEEE International Confe...

Joint decision making about price and duration of discount airfares

Publisher: IEEE

3 Author(s) Yanli Fang ; Yan Chen ; Xin Li View All Authors

76 Full Text Views

Export to Collabratec

Alerts

- Manage Content Alerts
- Add to Citation Alerts

More Like This

On sales pricing and recovery for closed-loop supply chain coordination based on game theory
 Proceedings of the 30th Chinese Control Conference
 Published: 2011

A Decision Making Model of Chinese Coal-Electricity Market Based on Game Theory
 2009 International Joint Conference on Artificial Intelligence
 Published: 2009

View More

- Abstract
- Document Sections
 - I. Introduction
 - II. Literature Review
 - III. Methodology and Description
 - IV. Numerical Example
 - V. Conclusions and Discussion

Downl PDF

Abstract: Dynamic pricing is a common mechanism used in the market to enhance revenue generation from different segments of customers. In this paper, we study a joint decision making...

Metadata

Abstract: Dynamic pricing is a common mechanism used in the market to enhance revenue generation from different segments of customers. In this paper, we study a joint decision making problem, faced by an airline, about the optimal price and duration of the discounted airfares to maximize its revenue. Customers have heterogeneous valuations about the air ticket. Furthermore, customers' valuations increase over the sales horizon as customers learn more about their travel schedule. In this study, the interaction between the airline and customers is modeled as a Stackelberg game, where airline acts as the leader and customers act as followers. The optimal joint decision is derived to maximize airline's total expected revenue. At last, a numerical example is conducted to illustrate the strategic pricing decision of the airline.

Published in: 2017 IEEE International Conference on Industrial Engineering and Engineering Management (IEEM)

Date of Conference: 10-13 Dec. 2017 **INSPEC Accession Number:** 17578995

Date Added to IEEE Xplore: 12 February 2018 **DOI:** 10.1109/IEEM.2017.8289845

ISBN Information: **Publisher:** IEEE

Conference Location: Singapore, Singapore

Electronic ISSN: 2157-362X

Yanli Fang
 Department of Decision Sciences, Macau University of Science and Technology, Macau

Yan Chen
 Department of Decision Sciences, Macau University of Science and Technology, Macau

Xin Li
 Department of Decision Sciences, Macau University of Science and Technology, Macau

Advertisement

See the top organizations patenting in technologies mentioned in this article



Click to Expand

Powered by: **Innovation PLUS**
 POWERED BY IEEE AND IP.COM
 A PATENT SEARCH AND ANALYTICS TOOL

Advertisement

Contents

A Comparison of Integer Programming Formulations and Variable-Fixing Method for the Nurse Scheduling Problem <i>Masaya HASEBE, Takamasa YAMAZAKI, Masakazu RYUMAE, Wei WU, Koji NONOBE, Atsuko IKEGAMI</i>	70
Optimization of Product Bundling Strategy Decisions and Inventory Allocation with the Integration of the Degree of Contingency and Dead Stock Levels in a Multiple Time Period Setting <i>Edward John FRANCO, Mikhaela Carissa SANTOS, Denise Ericka SUYOM, Dennis CRUZ</i>	75
Agent Scheduling of Call Center Using Decomposition Technique <i>Netnawee UM-IN, Wipawee THARMMAPHORNPHILAS</i>	80
A Mathematical Model for Double Layer Precast Production Scheduling <i>Nuntiya IAMSUMANG, Wipawee THARMMAPHORNPHILAS</i>	85
A New Two-Stage Stochastic Model for Reverse Logistics Network Design Under Government Subsidy and Low-Carbon Emission Requirement <i>Hao YU, Wei Deng SOLVANG</i>	90
Supply Chain Network Reconfiguration in New Products Launching Phase <i>Hamed JAHANI, Babak ABBASI, Farzad ALAVIFARD</i>	95
An Optimal Scheduling Policy for Satellite Constellation Deployment <i>Sunil SINDHU, Goutam SEN</i>	100
 Engineering Education and Training 1	
Engaging with Industry to Improve Student Learning on Undergraduate Engineering Programmes <i>Margaret MORGAN, Pearse O'GORMAN</i>	105
Analysis of the Stakeholders of Engineering Education System to Improve the Creativity of Engineering Education <i>Rufaidah Y. ALMAIAN</i>	110
Towards the Best Method of Cross Cultural Training for IT Engineering Graduates from Eastern Indonesia Region: Ready to be Global Engineers <i>Agung PRABOWO, Sulistyowati, Ika WINDIARTI</i>	115
Development of Needham Model Based e-Module for Electromagnetic Field & Wave <i>M.F. LEE, N.A. ZAINAL</i>	120
Industrial IoT Business Workshop on Smart Connected Application Development for Operational Technology (OT) System Integrator <i>Satoshi GOTO, Osamu YOSHIE, Shigeru FUJIMURA</i>	125
How to Improve Employee Education - Methodological Approach to Structure Specialist and Interdisciplinary Requirements <i>Barbara Theresia WULFKEN, Egon MUELLER</i>	130
 Engineering Education and Training 2	
Visualization of the Influence by Conceptual Leadership Promoting High Quality Output <i>Miwa NISHINAKA, Kunio SHIRAHADA, Youji KOHDA</i>	135
Emotional Intelligence and Information Technology Professionals <i>Chang Boon LEE, Wing Han Brenda CHAN, Chi Ming LEE</i>	140
Factors Influencing Research in an Engineering Faculty <i>Nicoline REYNECKE, Anlizé MARNEWICK, Jan-Harm PRETORIUS</i>	145

Vocational Pedagogy Among Technical Vocational Education and Training Teachers <i>Jailani MD. YUNOS, Siti Nur Kamariah RUBANI, Faizal AMIN NUR YUNUS, Maizam ALIAS, Syahril ST, Marina IBRAHIM, Lee MING FOONG, Tee TZE KIONG, Sri SUMARWATI, Dedy Irfan D, Junita SULAIMAN</i>	150
Group Technology Application to Investigate Learning/Teaching Style of Engineering Students <i>Abdelhakim ABDELHADI</i>	155
Entering the Testing and Certification Industry: A Review of Job and Competency Requirements <i>Fanny TANG, Anne O'GRADY, Andrew CLAPHAM</i>	158
 Technology and Knowledge Management 1	
A Framework for Lean Knowledge Dissemination: Enhancing Innovation Excellence <i>R.M. Chandima RATNAYAKE, Ville ISOHERRANEN</i>	162
The Effects of Cooperative Activities with Competitors on the Performances of Innovation and Management <i>Yongrae CHO, Choonghyun LEE, Eunji MOK</i>	166
Perceived Distance as a Reflection of an Organizational Culture of Learning from Failure <i>Jun NAKAMURA, Sanetake NAGAYOSHI</i>	171
Relationship Among Knowledge Sharing, Open Innovation and Green Poduction: A Multiple Stakeholders Perspective in Batik Tulis Industries <i>Augustina Asih RUMANTI, T.M.A. Ari SAMADHI, Iwan Inrawan WIRATMADJA, Indryati SUNARYO</i>	176
From Potential to Realized Technological Capability: The Case of Indonesian Vessel Component Industry <i>Dian PRIHADYANTI, Budi TRIYONO, Dudi HIDAYAT</i>	181
The Influence of Information Technology Infrastructure and Leadership Style on Knowledge Management Implementation <i>Saide , Rahmat TRIALIH, Azhiah PUTRI , Putri Nadya FAZRI, Winda HAFIZA</i>	186
Research on the Development of General Aviation Industry Chain in Shaanxi Province Based on the Model of GEMD <i>Qinglin BAO, Huaqi CHAI, Kang WU</i>	191
Creating an Ability to Respond to Changing Requirements by Systematic Modelling of Design Assets and Processes <i>Samuel ANDRÉ, Fredrik ELGH</i>	196
 Intelligent Systems	
Implementation of Industry 4.0 Technologies in the Mining Industry: A Case Study <i>Michael N. SISHI, Arnesh TELUKDARIE</i>	201
Application of the Agile Energy Model to the Procure to Pay Process <i>Megashnee MUNSAMY, Arnesh TELUKDARIE</i>	206
Usage Frequency of Product Configuration Systems Relative to Integrations and Fields of Application <i>Sara SHAFIEE, Katrin KRISTJANSDOTTIR, Lars HVAM, Loris BATTISTELLO, Enrico SANDRIN</i>	211
Chatbots and Conversational Agents: A Bibliometric Analysis <i>Hio Nam IO, Chang Boon LEE</i>	215
Evaluation of Knowledge Acquisition from Document Clustering Based on Information Retrieval Scales <i>Shu OCHIKUBO, Kano KOMIYA, Fumiaki SAITOH, Syohei ISHIZU</i>	220

Extraction of Customer Satisfaction Topics Regarding Product Delivery Using Non-Negative Matrix Factorization <i>Tokuhiro KUJIRAOKA, Fumiaki SAITOH, Syohei ISHIZU</i>	225
A Framework for Knowledge-Intensive Design Decision Support in Model Based Realization of Complex Engineered Systems <i>Ru WANG, Guoxin WANG, Yan YAN, Shuting CHEN, Janet K. ALLEN, Farrokh MISTREE</i>	230
 Human Factors 1	
Knowledge Engineering: Exploring Evacuation Behavior During Volcanic Disaster <i>Bertha Maya SOPHA, Anna Maria Sri ASIH, Dini Graita ILMIA, Hari Agung YUNIARTO</i>	235
Multi-Control and function Design of Ergonomic Electric Wheelchair for Reducing Pressure Ulcer Problem <i>Seng Fat WONG, Bin LIN, Z. C. LUO</i>	240
Ergonomic Assessment and Design Improvement of Shopping Carts for the Satisfaction of Buyers in Grocery Stores and Supermarkets <i>Rene ESTEMBER, Mara Hiyasmin BERDAN</i>	245
Research on Low Cost Virtual Assembly Training Platform Based on Somatosensory Technology <i>Shengqian JIANG, Peng LIU, Dawei GAO, Yang XU, Xian MENG, Zhaoyi LIU, Zhuo HUANG, Ruolan XU</i>	250
A Short Review of Mental Models of Operators in Main Control Rooms of Nuclear Power Plants <i>Yingzhi ZHANG, Zhizhong LI</i>	255
An Identification of Dimensions Able to Attract the Potential Workforce for I.T. Industry in India <i>Bhartrihari PANDIYA, Vijayshri TEWARI, Richa SINGH DUBEY</i>	260
Design Thinking and Semiotics to Increase Socio-Cognitive-Affective Engagement: An Inclusive Design Human Factors Case Study <i>Chien-Sing LEE, K. Daniel WONG</i>	264
 Human Factors 2	
Injury Analysis of Mine Workers: A Case Study <i>Vivek THIRUMALA, Tarun VERMA, Suprakash GUPTA</i>	269
Reflective Learning in Engineering Education: A Case Study of Shell Eco-Marathon <i>Sune VON SOLMS, Hannelie NEL</i>	274
Implementation of High Performance Work Practices (HPWP) in R&D Organizations: Empirical Evidence from Malaysia <i>Arnifa ASMAWI, Kok-Wai CHEW</i>	279
Workplace Diversity and its Outcomes in the Arctic Area <i>Maryam BARABADI, Abbas BARABADI</i>	284
Integration of a Digital Twin as Human Representation in a Scheduling Procedure of a Cyber-Physical Production System <i>Iris GRAESSLER, Alexander POEHLER</i>	289
Design of an Assistant System for Industrial Maintenance Tasks and Implementation of a Prototype Using Augmented Reality <i>Ruben SCHLAGOWSKI, Claudia MEITINGER, Lukas MERKEL</i>	294

A Soft Approach Towards Gaining Employability in IT Professionals <i>Richa SINGH DUBEY, Vijayshri TEWARI, Bhartrihari PANDIYA</i>	299
--	-----

Systems Modeling and Simulation 1

Topology Optimization as an Innovative Design Method for Additive Manufacturing <i>Dinh Son NGUYEN, Frédéric VIGNAT</i>	304
Neural Network Analysis of Behavioral Agent-Based Service Channel Data <i>Karthik SANKARANARAYANAN, Ralph LAITE, Nataliya PORTMAN</i>	309
Agent Based Simulation of a Payment System for Resilience Assessments <i>Aron LARSSON, Osama IBRAHIM, Leif OLSSON, Joeri VAN LAERE</i>	314
A Hybrid Regression Technique for House Prices Prediction <i>Sifei LU, Zengxiang LI, Zhen QIN, Xulei YANG, Rick Siow Mong GOH</i>	319
Modeling of Power Profiles of Milling Machines for the Use in Factory Models to Optimize Energy Efficiency <i>Matthias MEISSNER, Andreas WIRTZ, Johanna MYRZIK</i>	324
A System Model to Improve the Productivity of a South African Steel Industry <i>Thomas MUNYAI, Charles MBOHWA, Olasumbo MAKINDE, Boitumelo RAMATSETSE</i>	329

Systems Modeling and Simulation 2

Developing Advanced Traffic Violation Detection System with RFID Technology for Smart City <i>Seng Fat WONG, H. C. MAK, C. H. KU, Weng Ian HO</i>	334
Path Location Problem for the Marine Container Terminal with Arbitrary Configuration <i>Etsuko NISHIMURA</i>	339
Feasibility Analysis of Renewable Based Hybrid Energy System for the Remote Community in Pakistan <i>Fahad ALI, Yuexiang JIANG, Kashifullah KHAN</i>	344
An Integrated Customer-Manufacturer Optimization Model to Determine the Optimal Product Price and Quality Level Using Theory of Utility <i>Anindya Rachma DWICAHYANI, Cucuk Nur ROSYIDI, Eko PUJIYANTO</i>	349
Modelling and Simulation of Agricultural Production System Based on IoT Cultivated Fields Information <i>Yusaku MATSUMOTO, Hironori HIBINO, Naoki KUBO, Makoto KIMURA, Yousuke MIZUKAMI</i>	354
Virtualization Technologies in Product Development: A Cross-Industrial User-Study <i>Sebastian KREMS, Diana REICH, Rainer STARK</i>	359
Reliability Analysis of Cyber-Physical Systems Considering Cyber-Attacks <i>Zhihui FANG, Huadong MO, Yong WANG</i>	364

Supply Chain Management 1

Integrated Supporting Cooperation Model with Fuzzy Approach for Staff Scheduling Problem in Service Supply Chain <i>Teng-Sheng SU, Su-Chuan LIU</i>	369
--	-----

Models for Continuous Berth Allocation and Quay Crane Assignment: Computational Comparison <i>Cagatay IRIS, Jasmine Siu Lee LAM</i>	374
Determining Quality Refining Rice Mill Location with Disruption Risks <i>Wichitsawat SUKSAWAT NA AYUDHYA</i>	379
Performance Analysis of Riceberry Rice Supply Chain in Thailand <i>Wassanai WATTANUTCHARIYA, Thammasak KUAITES</i>	384
Framework of Supply Chain Simulation Using SCOR Model in Newspaper Industry <i>Arinda Soraya PUTRI, Wahyudi SUTOPO, Muhammad HISJAM</i>	388
Pricing Policy in Green Supply Chain Management with a Risk-Averse Retailer <i>Bo LI, Yushan JIANG, Xiaolong QU</i>	393
Developing Innovative Supply Chain Using Crowdsourcing: A Conceptual Model <i>Mahmood ALI, Asim MAJEED</i>	398

Supply Chain Management 2

Examining the Solutions to Overcome the SCKFBs Using Fuzzy AHP and Fuzzy TOPSIS Method <i>Vishal BHOSALE, Ravi KANT</i>	403
Mitigating the Bullwhip Effect in Supply Chains Using Variance Reduction Techniques <i>A. A. EL-TANNIR</i>	408
Factors Influencing Attitude Toward Behavior in Using Mass Transit System in Bangkok: A Case Study in Car Users <i>Panisara VANICHKITPISAN, Chivalai TEMIYASATHIT</i>	412
Determining Medical Aid Distribution Route Using Multi-Objective Optimization <i>Sinta SULISTYO, Rizka RATNASARI</i>	417
Distribution Planning for Single-Manufacturer Single-Distributor Multi-Retailer Supply Chain <i>Pachara CHATAVITHEE, Kullapapruk PIEWTHONGNGAM</i>	422
Towards a Collaborative Supply Chain Balanced Score Card Framework to Analyse Collaborative Value-Added <i>Ridha DERROUICHE, Samia GAMOURA, David DAMAND, Hanene BOUGUESSAS</i>	427
Development of Fuzzy Logic and Genetic Fuzzy Commodity Price Prediction Systems – An Industrial Case Study <i>Joseph C. CHEN, Xiaoyun WANG</i>	432

Supply Chain Management 3

The Effect of Uncertainty Avoidance on Lean Implementation: A Cross Cultural Empirical Study Involving Toyota <i>Nihal JAYAMAHA, Nigel GRIGG, Nisansala PALLAWALA</i>	436
Inventory Control Model of a 4-Echelon Production-Distribution System <i>Moumita TEWARY, Debabrata DAS, Nirmal Baran HUI</i>	441
Reference Process for the Continuous Design of Production Networks <i>Günther SCHUH, Jan-Philipp PROTE, Stefan DANY</i>	446
Additive Manufacturing Impact for Supply Chain – Two Cases <i>Sobolev IVAN, Yong YIN</i>	450

Coordination in Supply Chain Finance Under CVaR Criteria <i>Nina YAN, Ye LIU, Chongqing LIU, Hongyan DAI</i>	455
Continuous Improvement of Complex Process Flows by Means of Stream as the “Standardized Cross-Enterprise Value Stream Management Method” <i>Christof OBERHAUSEN, Meysam MINOUFEKR, Peter PLAPPER</i>	460
Relationship Between Stringent Customer Environmental Requirements and Environmental Performance in Sustainable Supply Chain <i>Md Rezaul Hasan SHUMON, Shams RAHMAN, Kamrul AHSAN</i>	465
 Information Processing and Engineering 1	
Estimating Component Yield for CLT Production <i>Urs BUEHLMANN, R. Edward THOMAS</i>	470
Meshes Optimization in Freeform and 3D Printing for Product Design <i>Chung-Chuan WANG, Chung-Shing WANG, Ching-Hu YANG, Kai-Jai YANG, Teng-Ruey CHANG</i>	475
Analysis and Mode Establishment of Information Integration Activities - A Case Study Perspective <i>Te- King CHIEN, Hung-Lun CHANG, W.L. LAI</i>	480
Adaptation of a Product Maturity Model to Highly Iterative Product Development <i>Günther SCHUH, Jan-Philipp PROTE, Stefan DANY, Marco MOLITOR, Luca PAGANO</i>	485
Validation of an Optical System for Measuring the Absolute Angular Position <i>Tobias SCHNEIDER, B. EILERT, Malte STONIS, Ludger OVERMEYER</i>	490
Integration of an Automated Load Management in a Manufacturing Execution System <i>Cedric SCHULTZ, Christina BAYER, Martin ROESCH, Stefan BRAUNREUTHER, Gunther REINHART</i>	494
A Fuzzy Approach for Fatigue and Creep Analysis in a Fire and Tube Boiler <i>Tawanda MUSHIRI, Alimon Z. SHOKO, Charles MBOHWA</i>	499
 Information Processing and Engineering 2	
Research Evolution in Design Engineering Education: A Visual Approach Using Thematic Network <i>S.C. Johnson LIM, Izzat Syahmi GHAZALI</i>	504
A Cloud-Based Dynamic Random Software Testing Strategy <i>Hanyu PEI, Beibei YIN, Min XIE, Kai-Yuan CAI</i>	509
The Effective Route Selection for East-West Economic Corridor in the Greater Mekong Subregion: Machine Vision Approach <i>Woramol Chaowarat WATANABE, Takumi ASADA, Mikiharu ARIMURA</i>	514
Analyzing the Impact of Investor Sentiment in Social Media to Stock Return: Survival Analysis Approach <i>Aldila RIZKIANA, Hasrini SARI, Pamoedji HARDJOMIJOJO, Budhi PRIHARTONO, Titah YUDHISTIRA</i>	519
Business Process Modelling Tool Selection: A Review <i>Chuks MEDOH, Arnesh TELUKDARIE</i>	524
Implementing Industry 4.0 - A Technological Readiness Perspective <i>Premaratne SAMARANAYAKE, Krishamurthy RAMANATHAN, Tritos LAOSIRIHONGTHONG</i>	529

Decision Analysis and Methods 1

Allocation of College Students to Business Majors with the Aid of a Linear Programming Model <i>Ahmed EL-BOURI, Asma AL-ZAIDI</i>	534
Procedures to Accommodate System Fluctuations that Result in Buffer Compromised Systems Governed by the Theory of Constraints <i>Jivashan REDDY, Arnesh TELUKDARIE</i>	539
Optimization of Decision Support System Based on Three-Stage Threat Evaluation and Resource Management <i>Afshan NASEEM, Shoab Ahmed KHAN, Asad Waqar MALIK</i>	544
Objective Measurement for Attractiveness of Sightseeing Spots under Minimization of Maximum Error among Pairwise Comparisons <i>Takashi HASUIKE, Hideki KATAGIRI, Hiroshi TSUDA</i>	549
A Further Improved Support Vector Machine Model Along with Particle Swarm Optimization for Face Orientations Recognition Based on Eigeneyes by Using Hybrid Kernel <i>Yang LIU, Yongkui SHI, Mingwei XU, Liangliang ZHANG, Ning YU, Yonglu DING</i>	554
Fuzzy AHP Method for Prioritizing Logistics Barriers of Exporting Eggs <i>Pornwasin SIRISAWAT, Narat HASACHOO, Phattaraporn KALAYA</i>	559
An Analytical Study on Horizontally Collaborative Transportation Strategies <i>Long ZHENG, K. G. BAE</i>	564
Implementation of a Role-Based Decision Support System in an Integrated Petrochemical Enterprise <i>Eyad BUHULAIGA, Arnesh TELUKDARIE</i>	568

Production Planning and Control 1

Data Analysis on Applying Real Time Tracking in Production Control of Construction <i>Jianyu ZHAO, Hylton OLIVIERI, Olli SEPPÄNEN, Antti PELTOKORPI, Behnam BADIHI, Pontus LUNDSTRÖM</i>	573
Job Scheduling Integrated with Imperfect Preventive Maintenance Considering Time-Varying Operating Condition <i>Jiawen HU, Zuhua JIANG</i>	578
A Genetic Algorithm for Unrelated Parallel Machine Scheduling Minimizing Makespan Cost and Electricity Cost Under Time-of-Use (TOU) Tariffs with Job Delay Mechanism <i>Bobby KURNIAWAN, Alfian Akbar GOZALI, Wei WENG, Shigeru FUJIMURA</i>	583
Group Production Scheduling Model with Due Window and Maintenance <i>Wen-Zhu LIAO, Min JIANG, Xiu-Fang ZHANG</i>	588
Product Variety Management Using Data-Mining Methods – Reducing Planning Complexity by Applying Clustering Analysis on Product Portfolios <i>Jan HOCHDÖRFFER, Clemens LAULE, Gisela LANZA</i>	593
Age-Differentiated Analysis of the Influence of the Duration of Breaks on Learning Sensorimotor Tasks <i>Francoise KUHLENBÄUMER, Simone POLIS, Philipp M. PRZYBYSZ, Susanne MÜTZE-NIEWÖHNER</i>	598
In Lean Manufacturing, if the Customer is a King, then the Frontline Worker is a “Knight”: A Case Study <i>Pulek KHOLOPANE, Kehinde SOBIYI</i>	603

Production Planning and Control 2

Critical Success Factors for Instrumentation and Control Projects Within the Power Industry in South Africa <i>Sheeba MATHEW, Jan-Harm PRETORIUS</i>	608
A Benders Decomposition-Based Heuristic Algorithm Framework for Unrelated Parallel Machine Scheduling Problem with Weighted Maximum Earliness and Tardiness <i>Shijin WANG, Benyan YE</i>	614
Parallel Machines Scheduling Problem with Maintenance Using Greedy Algorithm <i>Wen-Zhu LIAO, Xiaoxia YANG</i>	619
Service Time Effects of Distancing from the Customer, A Case Study from the Swedish Emergency Call Center <i>Klas GUSTAVSSON</i>	624
Package Designs that Enhance Firm Performance in the Japanese Food Industry <i>Tomofumi MIYANOSHITA, Tohru YOSHIOKA-KOBAYASHI, Daisuke KANAMA</i>	629
The Link Between the Use of Advanced Planning and Scheduling (APS) Modules and Factory Context <i>Jesper KRISTENSEN, Jesper ASMUSSEN, Brian Vejrum WÆHRENS</i>	634

Manufacturing Systems 1

Time Dynamic Mission Reliability Modeling of Multi-State Manufacturing Systems Based on Universal Generating Function <i>Kongjun GAO, Changchao GU, Yihai HE</i>	639
Implementation of Lean Principles for Performance Improvement: Use of VSM+WID for Waste Identification <i>Jose DINIS-CARVALHO, R.M. Chandima RATNAYAKE, Luis FERRETE</i>	644
Challenges and Opportunities in Implementing Engineering Systems Thinking in Design, Manufacturing and Process Industries in Zimbabwe <i>Wilson R. NYEMBA, Charles MBOHWA</i>	649
Applying Lessons Learned From Lean Implementation For SMEs – Singapore Context <i>Laura Xiao Xia XU, Feng Yu WANG</i>	654
Two-Stage Assembly Flowshop Scheduling Problem with Distinct Due Windows <i>Feng CHEN, Tsui-Ping CHUNG, Le WANG, Meng QIU</i>	659
Redesign and Control of Backtracking of Process Paths in Manufacturing Plant Layouts for Productivity and Sustainability <i>Wilson R. NYEMBA, Marvin MASWERA, Charles MBOHWA</i>	664
Towards Just-in-Time (JIT) Production System Through Enhancing Part Preparation Process <i>Mohd Norzaimi CHE ANI, Shahrul KAMARUDDIN, Abdul Azid ISHAK</i>	669
Product Design for Mass Individualisation for Industrial Application <i>Ravi K. SIKHWAL, Peter R N. CHILDS</i>	674

Project Management 1

- Effective Knowledge Management Strategy and Firm's Size: Evidence from Indonesia Construction Firms 681
Budi HARTONO, Sinta SULISTYO, Kah-Hin CHAI, Nurul INDARTI
- Context-Oriented Strategy for Modularization of Engineering Design Processes: An Automotive Case Study 686
Christoph HOLLAUER, Gregor PAVLITZEK, Markus MÖRTL, Udo LINDEMANN
- Applicability of Earned Value Management for Deadline Energy Constrained Applications 691
Shunichiro SUENAGA, Kenji TEI, Shinichi HONIDEN
- Implementation and Assessment of a Predictive Analytics Model for Development Project Management 696
Günther SCHUH, Michael RIESENER, Christian DÖLLE
- Challenges of Agile Development Implementation in Mechatronic Development Processes 701
Kristin GOEVERT, Attila GÖKDEMIR, Christoph PEITZ, Udo LINDEMANN
- Conflict Management in Outsourced Engineering Projects in South Africa 706
Bulali MDONTSANE, Hannelie NEL, Annlizé MARNEWICK

Project Management 2

- A Bi-Level Model with Rough Coefficients for Multi-Mode Resource-Constrained Scheduling Problems 711
Zhe ZHANG, Yang WANG
- An Integrated Approach for Automatic Execution of BIM-based Assemblies Using Light-Framed Constructions 715
Boya JIANG, Lau SSY, Qianning ZHANG
- Towards an Integrated Controlling Tool Based on a Time-Varying Project Risk Management Concept 720
Zoltan SEBESTYÉN, Tamas TÓTH
- Agile-Waterfall Hybrid Product Development in the Manufacturing Industry – Introducing Guidelines for Implementation of Parallel Use of the Two Models 725
Günther SCHUH, Eric REBENTISCH, Michael RIESENER, Frederic DIELS, Christian DÖLLE, Steffen EICH
- Exploring Risks Causing Schedule Overrun in Upstream Natural Gas Projects-A Critical Review and Implications for Future Research 730
Munmun BASAK, William Vaughan COFFEY, Robert PERRONS
- An Approach for Managing Project-Communicated Content 735
Wen-Lung TSAI, Bo-Wei DU, Ying-Hsi CHEN, Yu-Xun LIN

Quality Control and Management 1

- Quantifying Leanness Combining Value Stream Mapping with a Data Envelopment Analysis Based Method - A Case Study at a Swedish Logistics Company 740
Victoria HJALMARSSON, Leif OLSSON
- An Integration Method of MFCA, Dynamic Programming, and Multiple Criteria Decision Making in Operations Improvement: A Case Study 745
Chompoonoot KASEMSET, Chawis BOONMEE

Quality Attributes of Robotic Vehicles and Their Market Potential <i>Bjoern FRANK, Shane J. SCHVANEVELDT</i>	750
Application of Quality Function Deployment for Halal Food Products <i>Iwan VANANY, Ghoffar Albab MAARIF, Adi SOEPRIJANTO, Bilqis AMALIAH</i>	755
Implementation of Shainin's DOE : A Case of Plastic Injection Molding Process <i>Tossapol KIATCHAROENPOL, T. VICHIRAPRASERT</i>	760
Developing a Total Quality Management Model for Healthcare Industry: An Indonesian Hospital Case Study <i>Jonny , Kriswanto</i>	765
State Space Modeling of Multi-Scale Variation Propagation in Machining Process Using Matrix Model <i>Kun WANG, Yaxiang YIN, Shichang DU, Lifeng XI, Tangbin XIA</i>	770
 Big Data and Analytics 1	
Feature Importance-Guided Multi-Regression Ensemble with Application to Remaining Useful Life Prediction <i>Feng YANG, Ching HUANG, M. Salahuddin HABIBULLAH, Xulei YANG, Yan SHEN, Raymond NEO</i>	775
Status Quo and Future Potential of Manufacturing Data Analytics – An Empirical Study <i>Sebastian GROGGERT, Marian WENKING, Robert H. SCHMITT, Thomas FRIEDLI</i>	779
Monitoring of an Aluminum Melting Furnace by Means of a 3D Light-Field Camera <i>Sara MOHAMMADIFARD, Jan LANGNER, Malte STONIS, Hubertus SEMRAU, Sven-Olaf SAUKE, Hossein LARKI HARCHEGANI, Bernd-Arno BEHRENS</i>	784
Large-Scale Clustering Using Mathematical Programming <i>Mario GNÄGI, Philipp BAUMANN</i>	789
Association Rules and Collaborative Filtering on Sparse Data of a Leading Online Retailer <i>Yongzhong WU, Mianmian HUANG, Yuxin LU</i>	794
A Comparison Between MODWT-SVM-DE Hybrid Model and ARIMA Model in Forecasting Primary Energy Consumptions <i>Thoranin SUJJAVIRIYASUP, Komkrit PITIRUEK</i>	799
 Big Data and Analytics 2	
Is Big Data for Everyone? The Challenges of Big Data Adoption in SMEs <i>Satya SHAH, Cristina BARDON SORIANO, Alec COUTROUBIS</i>	803
Spatial-Temporal Traffic Speed Bands Data Analysis and Prediction <i>Shen REN, Lin HAN, Zengxiang LI, Bharadwaj VEERAVALLI</i>	808
A New Data-Driven Intelligent Fault Diagnosis by Using Convolutional Neural Network <i>Long WEN, Liang GAO, Xinyu LI, Minzhao XIE, Guomin LI</i>	813
Data Analytics in Product Development: Implications from Expert Interviews <i>Julian WILBERG, Fabian SCHÄFER, Peter KANDLBINDER, Christoph HOLLAUER, Mayada OMER, Udo LINDEMANN</i>	818
Investigate Human Behavior During Ramadan Through Network Structure: Evidence from Twitter <i>Aamna AL-SHEHHI, Wei Lee WOON, Zeyar AUNG</i>	823

Predictive Modeling of Aircraft Systems Failure Using Term Frequency-Inverse Document Frequency and Random Forest <i>Weili YAN, Jun-Hong ZHOU</i>	828
--	-----

Service Innovation and Management 1

Developing Community-Based Engagement in Smart Cities: A Design-Computational Thinking Approach <i>Chien-Sing LEE, K. Daniel WONG</i>	832
Application of Queuing Theory in Service Design <i>Dinh Son NGUYEN</i>	837
Examining the Application of Standards for Information Technology Service Management Practice: An Empirical Study <i>Gregory CHIN, Younes BENSLIMANE, Zijiang YANG</i>	841
Library Facility Layout Design for Digital Native Generation <i>Felecia , Siana HALIM, D. WULANDARI</i>	846
A Study on Entrepreneurial Education Regarding College Students' Creative Tendency, Entrepreneurship Self-Efficacy and Entrepreneurial Motivation <i>Feng-Ming SUI, Jen-Chia CHANG, Hsiao HSI-CHI, Sheng-Chu SU</i>	850
Performance Assessment System Development Based on Performance Prism in Social Services <i>Rui ESTRADA, Sergio D. SOUSA, Isabel LOPES</i>	855
Establishing Suitable Process Improvement Methodologies for Optimizing Servicing Operations in the Banking Industries <i>Olasumbo MAKINDE, Thomas MUNYAI, Boitumelo RAMATSETSE</i>	860

Healthcare Systems and Management 1

Developing an Error Taxonomy System for Patient Handoff Events <i>Xiuzhu GU, Tsuyoshi SEKI, Kenji ITOH</i>	865
Scheduling Patients in Emergency Department: A Case Study <i>Dorsaf DALDOUL, Issam NOUAOURI, Hanen BOUCHRIHA, Hamid ALLAoui</i>	870
Simulation Analysis to Improve Outpatient Turnaround Times in Specialty Clinics <i>Sung SHIM, Arun KUMAR, J. JIAO</i>	875
Applying Lean Principles to Health Economics Transactional Flow Process to Improve the Healthcare Delivery <i>Ibrahim ALRASHED, Parminder Singh KANG</i>	879
Does Policy of Delayed Retirement Affect Individual Health <i>Yan ZENG, Qifan JIA, Jie ZHOU</i>	884
An Integer Programming Model for Radiographer Scheduling Considering Skills and Training <i>Hisashi YUURA, Toshiyuki MIYAMOTO, Kuniyuki HIDAka</i>	889

Healthcare Systems and Management 2

Managing and Evaluating Different Projects in a Hospital Trough the Analytic Hierarchy Process: Methodology and Test Case <i>Carlotta PATRONE, Adriano LAGOSTENA, Roberto REVETRIA</i>	894
---	-----

Teachers' Mental Health: Perceived Social Justice and Life Satisfaction <i>Yan LI, Qifan JIA, Jie ZHOU</i>	899
Applying Bayesian Network for Noncommunicable Diseases Risk Analysis: Implementing National Health Examination Survey in Thailand <i>Kanogkan LEEROJANAPRAPA, Walailak ATTHIRAWONG, Wichai AEKPLAKORN, Kittiwat SIRIKASEMSUK</i>	904
Exploring the Internet Resource for Senior Citizens in Taiwan <i>Shann-Bin CHANG, K. Y. HUANG, Shu-Min CHANG</i>	909
Transformation of Health Care System Using Internet of Things in Villages <i>A.S. KARTHIKA, Kavyashree PRAKASHAN, R. ANKAYARKANNI, J. BRIGHT JOSE</i>	914
A Deeper Look at the Causes of Hospital Readmissions <i>Zhongyuan YU, William B. ROUSE</i>	919
 Reliability and Maintenance Engineering 1	
Modelling Water Distribution Network Failures and Deterioration <i>David VALIS, Kamila HASILOVA, Marie FORBELSKA, Katarzyna PIETRUCHA-URBANIK</i>	924
OEE Improvement of Thermoforming Machines Through Application of TPM at Tibaldi Australasia <i>Vickram CHUNDHOO, Gopinath CHATTOPADHYAY, Indra GUNAWAN, Yousef IBRAHIM</i>	929
Birnbaum Importance Measure of Network Based on C-Spectrum Under Saturated Poisson Distribution <i>Yongjun DU, Shubin SI, Hengyi GAO, Zhiqiang CAI</i>	934
Reliability Analysis of Rectification on Electromagnetic Compatibility Test <i>Dan LI, Wei DANG, Li SUN, Ye TIAN, Jiaqi FENG</i>	939
Design and Estimation of Reliability of an Off Grid Solar Photovoltaic (PV) Power System in South East Queensland <i>Mandeep Singh PAHWA, Anisur RAHMAN</i>	944
Modelling of a Transport Belt Degradation Using State Space Model <i>David VALIS, Dariusz MAZURKIEWICZ, Marie FORBELSKA</i>	949
Ant Colony Optimization for Component Assignment Problems in Circular Consecutive-k-out-of-n Systems <i>Zhiqiang CAI, Wei WANG, Shuai ZHANG, Zhongyu JIANG</i>	954
Justification of Maintenance Management: AHP Approach <i>Sachin YADAV, Rajesh Kumar SINGH, Pravin KUMAR</i>	959
 Operations Research 4	
Multi-Objective Stable Matching with Ties <i>Nitin PHUKE, Mangesh GHAROTE, Rahul PATIL, Sachin LODHA</i>	964
Key Performance Indicators for Manufacturing Operations Management in the Process Industry <i>Li ZHU, Charlotta JOHNSON, Jacob MEJVIK, Martina VARISCO, Massimiliano SCHIRALDI</i>	969
Supply Chain Coordination and Revenue-Sharing Contract with Backlogs for a Perishable Product <i>Renfei LUO, Zhaotong LIAN, Chang Boon LEE</i>	974

A Capacitated Location-Routing Problem with Customer Satisfaction Under Facility Disruption <i>Pooya POURREZA, Reza TAVAKKOLI-MOGHADDAM, Soroush AGHAMOHAMADI, Ali BOZORGI-AMIRI, Yaser RAHIMI</i>	979
Time-Varying Hyperparameter Strategies for Radial Basis Function Surrogate-Based Global Optimization Algorithm <i>Peng JIANG, Christine SHOEMAKER, Xiao LIU</i>	984
A New MILP Formulation for Rebalancing Enhanced Index-Tracking Portfolios <i>Oliver STRUB</i>	989
Two-Dimensional Lease Contract Model with Coordination for New and Used Equipment <i>Hennie HUSNIAH, Udjianna S. PASARIBU, Bermawi P. ISKANDAR</i>	994

Operations Research 5

On the Mathematical Program in Theater Anti-Aircraft Distribution Problem <i>Trang T. NGUYEN, Trung Q. BUI, Bang Q. NGUYEN, Su TRAN LE</i>	999
Travel Time Estimation in Vehicle Routing Problem <i>Gitae KIM</i>	1004
Mixed-Integer Second-Order Cone Programming for Truss Topology Optimization with Self-Weight Load and Limitation on Number of Nodes <i>Yoshihiro KANNO</i>	1009
Development of Integrated Tactical Level Planning in Container Terminal <i>Dina Natalia PRAYOGO, Akhmad HIDAYATNO, Komarudin</i>	1013
Minimizing the Height of Stacked Egg Cartons: A Comparison of Solving 3D Bin Packing Problems and Packers' Experience <i>Narat HASACHOO, Pornwasin SIRISAWAT, Phattaraporn KALAYA</i>	1018
Using Meta-Heuristic Algorithms and Hybrid of Them to Solve Multi Compartment Vehicle Routing Problem <i>Masoud RABBANI, Zahra TAHA EI, Hamed FARROKHI-ASL, Niloofar AKBARIAN SARAVI</i>	1022

Operations Research 6

Optimal Staff Assignment and Routing in Personalized Home Care <i>Philipp BAUMANN</i>	1027
Iterated Exact and Heuristic Algorithms for the Minimum Cost Bipartite Perfect Matching Problem with Conflict Constraints <i>Temel ÖNCAN, I. Kuban ALTINEL</i>	1032
Green Vehicle Routing Problem with Path Flexibility <i>Xinglu LIU, Mingyao QI, Chun CHENG</i>	1037
Heuristic Approach of Exact Bin-Packing Model <i>Amandus JOHANSSON, Manfred AXELSSON, Klas GUSTAVSSON</i>	1042
Towards Extending Algorithmic Strategy Planning in System Dynamics Modeling <i>Maximilian MOLL</i>	1047
Dynamic Lot Sizing with Time-Varying Demand and Return Rates for a Product Life Cycle <i>Hong SUN, Weida CHEN, Zhiliang REN</i>	1052

Green Vehicle Routing and Scheduling Problem with Optimized Travel Speed 1057
N. NABIL, Hala FAROUK, Khaled EL-KILANY

Technology and Knowledge Management 2

Constraints Driven Reverse Logistics Model for Plastic Solid Waste (PSW) 1062
Bupe MWANZA, Arnesh TELUKDARIE, Charles MBOHWA

Customer Supplier Relation: Towards a Constraint-Based Model for Bids 1067
Delphine GUILLON, Abdourahim SYLLA, Elise VAREILLES, Michel ALDANONDO, Eric VILLENEUVE, Christophe MERLO, Thierry COUDERT, Laurent GENESTE

Knowledge Sharing in Thai SMEs in Manufacturing Sector 1072
Chayaruk Thanee TIKAKUL, Avril THOMSON

Lean Execution of Engineering Projects: The Potential Application of Case- Based Reasoning to Facilitate Cross-Project Knowledge Transfer 1077
Andika RACHMAN, R.M. Chandima RATNAYAKE

Transformation of Working Environments Through Digitalization: Exploration and Systematization of Complexity Drivers 1084
Benedikt Andrew LATOS, Markus HARLACHER, Philipp M. PRZYBYSZ, Susanne MÜTZE-NIEWÖHNER

Extended CAD-Models – State of Practice Within Three Companies 1089
Tim HEIKKINEN, Joel JOHANSSON, Fredrik ELGH

Analysing Service Quality Using Customer Expectations and Perceptions in the South African Telecommunication Industry 1094
Mfanasibili NGWENYA

Technology and Knowledge Management 3

The Impact of Digitalization on Product Lifecycle Management: How to Deal with it? 1098
Yan XIN, Ville OJANEN

How Knowledge Management Impacts Performance: An Empirical Study in Chinese Knowledge-Intensive Enterprises 1103
Yana YUAN, Huaqi CHAI, Liang LIU

Factors Influencing Intention to Use of Smartphone Applications in Thailand 1108
Massoud MOSLEHPOUR, Choirul AMRI, Paoleena PROMPRASORN

Technology Management, R&D Investment, and Small and Medium-Sized Enterprise Growth 1113
SooGeun AHN, Jeewhan YOON, YoungJun KIM

Research on Foreign Capital R&D Ecosystem in China Based on Dissipative Structure Theory 1118
Qilei LIU, Peng GUO, Yuyan LEI, Yuwen FENG

Collaboration Between SMEs and its Stakeholders: Cross-Tabulation Analysis for Indonesian SMEs Using GEM Data 1123
Ceicalia TESAVRITA, Cindy Marika Amalia WIBOWO, Iwan Inrawan WIRATMADJA

Technology and Knowledge Management 4

Singapore's NEHR: Challenges on the Path to Connected Health 1128
Lena Stephanie FELIX

Achieving Strategic Growth in Microenterprises through Information Technology: UK Micro Enterprise Case Study <i>Satya SHAH, Matthew LONG, Elmira NAGHI GANJI</i>	1133
Mechanisms for Effective Tacit Knowledge Transfer in University Laboratory: An Agent-Based Approach <i>Fadillah RAMADHAN, Rayinda Pramudhya SOESANTO, Afrin Fauzya RIZANA, Amelia KURNIAWATI, Iwan Inrawan WIRATMADJA</i>	1138
Research on the Key Factors of Tacit Knowledge Diffusion in Customized Titanium Processing Enterprises Based on ISM Model <i>Qinglin BAO, Huaqi CHAI, Kang WU</i>	1143
Design and Development of a Training Module for Data-Driven Product-Service Design <i>Anies Faziehan ZAKARIA, S.C. Johnson LIM</i>	1149
Servitization and the Wider Services Communities: A Bibliometric Study <i>Alan PILKINGTON, Jawwad RAJA, Juliana HSUAN, Thomas FRANDBSEN</i>	1154

Human Factors 3

The Extended Framework of Kansei Engineering, Kano and TRIZ Applied to Logistics Services <i>Markus HARTONO, Amelia SANTOSO, Dina Natalia PRAYOGO, Ivon</i>	1159
A Low-Cost Portable 3D Human Motion Analysis System: An Application of Gait Analysis <i>Nantakrit YODPIJIT, Manutchanok JONGPRASITHPORN, Kengkaj PONGMIT, Teppakorn SITTIWANCHAI</i>	1164
Information Security in Communication Network of Memory Channel Considering Information Importance <i>Takaaki KAWANAKA, Shuichi ROKUGAWA, Hiroshi YAMASHITA</i>	1169
The Importance of Compliance with the Expectations of the Value of Stakeholder in Order to Achieve Success in the Implementation of Lean Projects <i>M.A. GÓMEZ GAVITO, Pablo NUÑO DE LA PARRA, Cesar DE LA LUZ DE JESÚS</i>	1174
Applying the Purdue Pegboard to Evaluate Precision Assembly Performance <i>Yu-Cheng TSENG, Kai-Yin CHANG, Pin-Ling LIU, Chien-Chi CHANG</i>	1179
Effects of Search Strategies on Fault Diagnosis Performance <i>Qiuran LUO, Xuansheng DING, Weiwei QIU, Zhizhong LI</i>	1184
Application-Specific Design of Assistance Systems for Manual Work in Production <i>Lukas MERKEL, Christoph BERGER, Cedric SCHULTZ, Stefan BRAUNREUTHER, Gunther REINHART</i>	1189

Safety, Security and Risk Management 1

Risk Reduction Using Grievance Handling Mechanism in Handloom Industry <i>Lovelin Auguskani P, Sree Devi V, Darwin Jose Raju A, Jerlin Priya J.M, Marsaline Beno M</i>	1194
Analysis of Risk Sources in New Product Development Process Using Fuzzy Failure Mode Analysis <i>Avanish Singh CHAUHAN, Om Prakash YADAV, Ajay Pal Singh RATHORE, Gunjan SONI</i>	1198
New Product Development Project Risks in Saudi Firms - Preliminary Findings <i>Abdullah ALRABGHI, Muhammad AKRAM, Abdulaziz ALHARBI, Owais NAGRO, Abdullah BUKHARI</i>	1203
The Uncertainty Importance Analysis for the Fault Tree and its Probability Density Evolution Algorithm <i>Guijie LI, Chaoyan XIE, Fayuan WEI, Bin LIAO</i>	1208

Apply HFACS to Accident Investigation System Interface Design 1213
Ting-Yi LIN, Kang-Hung LIU, Chien-Chi CHANG

Petri-Net Based Safety Analysis of Process Systems 1217
Jianfeng ZHOU

Safety, Security and Risk Management 2

Environmental Analysis of Biomass Power Plants for Sustainability in Thailand 1222
Manutchanok JONGPRASITHPORN, Adisak MARTSRI, Supapat PHUANGKAEW, Wannapong YEAMMA, Nantakrit YODPIJIT

High School Students' Knowledge and Seismic Risk Perception: The Case of Mexico City 1227
Jaime SANTOS-REYES, Tatiana GOUZEVA

Quantitative Risk Analysis of Components Under High Stress 1232
Yonas Zewdu AYELE, Abbas BARABADI

Awareness of Information Security and its Implications to Legal and Ethical Issues in Our Daily Life 1236
Daniel TSE, Zehan XIE, Zhaolin SONG

Injury Prediction Based on Safety Climate Questionnaire Score Using Artificial Neural Networks 1241
Yu Cheng CHANG, Szu Yu LEE, Pin-Ling LIU, Chien-Chi CHANG

Systems Modeling and Simulation 3

Improving the Material Flow of a Manufacturing Company via Lean, Simulation and Optimization 1245
Ainhoa GOIENETXEA URIARTE, Amos H.C. NG, Enrique ZÚÑIGA, M. URENDA MORIS

A Multi-Commodity Flow Model for Guide Path Layout Design of AGV Systems 1251
Shuhei AKIYAMA, Tatsushi NISHI, Toshimitsu HIGASHI, Kenji KUMAGAI, Michi HASHIZUME

Simulation Study on Evolvement Mechanism of Group Events in Large Projects 1256
Ling LI, Xue ZHAO, Shiruo ZHANG

A Modelling Approach for Maintenance Resource-Provisioning Policies in a Wind Farm Maintenance System 1261
Winda Nur CAHYO

A Review of Modelling Approaches for Conceptual Design of Complex Engineering Systems (CESs) 1266
Shiva ABDOLI, Sami KARA

Crowdsourced Delivery for Last-Mile Distribution: An Agent-Based Modelling and Simulation Approach 1271
Ping CHEN, Stanislav CHANKOV

Predicting Atmospheric Corrosion Rates of Copper in Taiwan Industrial Zones Using Artificial Neural Network 1276
Chien Ming LO, Ya-Ping CHIU, Min-Der LIN

Systems Modeling and Simulation 4

Network-Based Process Control and Improvements with Fuzzy Time Delay Modulator 1281
Abdul-Wahid SAIF, Muneeb A. AKRAM

Modeling and Simulation of Cascading Failure on R&D Network Based on Different Node States Under Attack Strategies <i>Yue SONG, Naiding YANG, Yanlu ZHANG, Jingbei WANG</i>	1286
A System Dynamics Case Study of Resilient Response to IP Theft from a Cyber-Attack <i>Daniel SEPULVEDA, Omera KHAN</i>	1291
Throughput Analysis of Random Storage Systems Operated Under the Closest Eligible Location Rule <i>Anja HESSLER, Christoph SCHWINDT</i>	1296
An Optimization Model for Quality Improvement Investment Decisions Considering Learning and Forgetting Curve <i>Mega Aria PRATAMA, Cucuk Nur ROSYIDI, Eko PUJIYANTO</i>	1301
A Graphical Method for Multi-Signal Flow Graph Modeling and Testability Analysis Based on Visio Control Component <i>Jinsong YU, Yidong ZHENG, Diyin TANG, Y. YANG</i>	1306

Systems Modeling and Simulation 5

Lean, Simulation and Optimization: A Maturity Model <i>Ainhoa GOIENETXEA URIARTE, Amos H.C. NG, M. URENDA MORIS, Mats JÄGSTAM</i>	1310
Analysis of Human Arm Motions at Assembly Work as a Basic of Designing Dual Robot Arm System <i>Bernadus KRISTYANTO, Brilianta NUGRAHA, Anugrah PAMOSOAJI, Kristanto NUGROHO</i>	1316
Integrated Vendor-Buyer Inventory Model Considering Imperfect Quality and Inspection Errors with Controllable Lead Time <i>Amanda SOFIANA, Cucuk Nur ROSYIDI</i>	1321
Concurrent Scheduling of a Job Shop and Microgrid to Minimize Energy Costs Under Due Date Constraints <i>Ashley THORNTON, Cedric SCHULTZ, Sami KARA, Gunther REINHART</i>	1326
Using Gradient Boosting Regressor to Predict Stress Intensity Factor of a Crack Propagating in Small Bore Piping <i>Arvind KEPRATE, R.M. Chandima RATNAYAKE</i>	1331
Mitigation Strategy Against Cascading Failures of the R&D Network <i>Jingbei WANG, Naiding YANG, Yanlu ZHANG, Yue SONG</i>	1337
Design of an Agent-Based Model to Simulate Governance in Inter-Organizational Project Networks <i>Jaakko KUJALA, Tapio VUORINEN</i>	1342

Supply Chain Management 4

Application of Interpretive Structural Modelling for Analyzing the Factors of IoT Adoption on Supply Chains in the Chinese Agricultural Industry <i>Danping LIN, Carman Ka Man LEE, W.C. TAI</i>	1347
An Integrated Process and Digitalization Perspective on the Shipping Supply Chain – A Literature Review <i>Diana FEIBERT, Mette Sanne HANSEN, Peter JACOBSEN</i>	1352
Blockchain Application in Food Supply Information Security <i>Daniel TSE, Bowen ZHANG, Haoran MU, Shenli CHENG, Yuchen YANG</i>	1357

A Design Methodology for Biomass Energy Supply Chains Based on Weighted K-Means Algorithm <i>Hongyan DAI, Yali LIU, Yining CHANG, Songlin CHEN</i>	1362
Supply Chain Collaboration – A Case Study of Textile and Apparel Industry <i>Thi Phuong Dung HO, Arun KUMAR, Nirajan SHIWAKOTI</i>	1367
A Simulation-Based Modeling Approach to Assess the Multi-Echelon Supply Chain Network Design <i>Inoka MUNASINGHE, Thashika RUPASINGHE, Ruwan WICKRAMARACHCHI</i>	1372
Toward Sustainable Reverse Logistics Implementation: A Conceptual Framework of the Quattro Bottom Line Approach <i>Hesti MAHESWARI, Gatot YUDOKO, Akbar ADHIUTAMA</i>	1377
Vendor Managed Inventory on Two Echelon Inventory System with Optimum Accelerated Lead Time and Component Commonality <i>Yosi Agustina HIDAYAT, Tota SIMATUPANG, Sebrina, Nashir ARIANSYAH, Wibisana SEMBADA</i>	1382

Supply Chain Management 5

Performance Measurement of the Relationship Between Farmers-Cooperatives-Industrial Processing Milk in a Dairy Supply Chain: A Balanced Supply Chain Management Scorecard Approach <i>Aries SUSANTY, Arfan BAKHTIAR, Ratna PURWANINGSIH, Dina Firma DEWANTI</i>	1387
Optimal Replenishment Policy for Inventory Systems with an Unreliable Supplier <i>Allen H. TAI</i>	1392
Distribution Center Capacity Analysis in Stochastic Environment: An Application of Value Stream Analysis and Monte Carlo Simulation <i>Ammar M. AAMER</i>	1396
A Comprehensive Model for Supply Chain Performance Measurement: Application in the Coal Beneficiation Plant of Steel Manufacturing Company <i>Md. Asif EQUBAL, Azhar EQUBAL, Archana KUMARI, Rajkumar OHDAR</i>	1401
Model Development of Rescue Assignment and Scheduling Problem Using Grasp Metaheuristic <i>Amelia SANTOSO, Dina Natalia PRAYOGO, Joniarto PARUNG, Hazrul ISWADI, D.A. RIZQI</i>	1407
Last Mile Distribution in Humanitarian Logistics Under Stochastic and Dynamic Consideration <i>Meilinda Fitriani Nur MAGHFIROH, Shinya HANAOKA</i>	1411
Multi-Objective Optimization of the Competitive Supply Chain Network Design Based on a Huff Model <i>Niloofar AKBARIAN SARAVI, Reza TAVAKKOLI-MOGHADDAM, Zahra TAHAEI</i>	1416

Supply Chain Management 6

The Coexistence of Printed Book and Electronic Book in a Book Supply Chain <i>Yanping CHENG, Ciwei DONG, Renjun LIU</i>	1421
The Choice of Buy-Back Contract in Logistics Service Supply Chain with Demand Updating and Mass Customization Service <i>Weihua LIU</i>	1426
Heterogeneous Vehicle Routing Delivery on Collaborative Distribution Using Genetic Algorithm – The Case of Yogyakarta City <i>Anna Maria Sri ASIH, Bertha Maya SOPHA, Yusnia KHAIRUNNISA, Hendra Edi GUNAWAN, Yuni KARUNIAWATI</i>	1432

The Joint Decisions of Modularity Level Design and Refund Price in a Two-Tier Supply Chain <i>Qingying LI, Weijian ZHOU</i>	1437
Capacity Investments in Logistics Outsourcing <i>Tarun JAIN, Jishnu HAZRA</i>	1441
Towards an Approach to Assess Supply Chain Quality Management Maturity <i>Ana FERNANDES, Rui OLIVEIRA, Catarina CUBO, Paulo SAMPAIO, Maria do Sameiro CARVALHO, Paulo AFONSO, J. ROQUE, Marcio REBELO, Joao BRANDÃO</i>	1445
Evaluation of Market Entry Strategies of Late Entrant in the Sustainable SCM <i>Tasuya INABA</i>	1450

Decision Analysis and Methods 2

Multi-Criteria Selection Problem of Part Orientation in 3D Fused Deposition Modeling Based on Analytic Hierarchy Process Model: A Case Study <i>Kasin RANSIKARBUM, Namhun KIM</i>	1455
The Determinants of Asset Mothballing in the Offshore Supply Market <i>Roar ADLAND, Oda SVÆREN</i>	1460
An Extended TODIM Method Under Probabilistic Dual Hesitant Fuzzy Information and its Application on Enterprise Strategic Assessment <i>Zhiliang REN, Zeshui XU, Hai WANG</i>	1464
Dual Probabilistic Linguistic Term Set and its Application on Multi-Criteria Group Decision Making Problems <i>Wanying XIE, Zeshui XU, Zhiliang REN</i>	1469
Modelling the Emergence of Modularity and its Limits, Markov Decision Process and Agent Based Modelling Approach <i>Imane BOUAMAMA, Tomoatsu SHIBATA</i>	1475
Towards a Data-Driven Enterprise: Effects on Information, Governance, Infrastructures and Security <i>Alberto POLZONETTI, Matteo SAGRATELLA</i>	1480
An Artificial Intelligence Based Model for Implementation in the Petroleum Storage Industry to Optimize Maintenance <i>Tawanda MUSHIRI, Robin HUNGWE, Charles MBOHWA</i>	1485

Decision Analysis and Methods 3

Assessing Performance of Aging Air-Cooled Heat Exchangers Using Inspection and Performance Data <i>Ainul Akmar MOKHTAR, Masdi B. MUHAMMAD, Hilmi HUSSIN, Mohd Amin ABDUL MAJID</i>	1490
Energy Balance of Waste Management Systems: A Case Study <i>Alberto BELLINI, Alessandra BONOLI</i>	1495
Effect of Socioeconomic Status on Lung Cancer Survival: A Mediation Analysis Based on Bayesian Network Approach <i>Kartika Nur ANISA, Shi-Woei LIN</i>	1500
Development of Intelligent Building Management System Evaluation and Selection for Smart Factory: An Integrated MCDM Approach <i>Chih-Hao YANG</i>	1505

OPBI: An Open Pipeline for Biomarker Identification <i>Sugandima VIDANAGAMACHCHI, Mahesan NIRANJAN</i>	1510
---	------

Decision Analysis and Methods 4

Weighted Point Matrix Based Supplier Evaluation Method for the Oil and Gas Industry <i>Qamarul FADHLI BIN KHAIRIZAN, Wee Li LEE, Xue-Ming YUAN</i>	1515
Challenges in Implementing Cleaner Production: Barriers and Strategies in the Indonesian Seafood Processing Industry <i>Pregiwati PUSPORINI, Iwan VANANY</i>	1520
Project Change Request: A Proposal for Managing Change in Industrialization Projects <i>Deborah PERROTTA, João FARIA, Madalena ARAÚJO, Anabela TERESO, Gabriela FERNANDES</i>	1525
A New Method for Aggregating Experts' Probability Judgments <i>Min YANG, Wenyu GUO, Fengtian WANG</i>	1530
An Integrated Decision Making Model for Sustainable Supplier Selection Under Uncertain Environment <i>Xiongyong ZHOU, Zhiduan XU</i>	1536
The Prison Construction Decision Analysis for Reducing Capacity Overloads with the Social Cost of Crime Concept <i>Hsiao-Ling CHANG, Tyrone T. LIN</i>	1541
Predicting World Energy Consumption: Comparison of ANN and Regression Analysis <i>Otudolapo OLANREWAJU, Charles MBOHWA</i>	1546

Manufacturing Systems 2

Proposing an Assignment Mathematical Model in Assembly Line Manufacturing System with Considering Human Factors' Role in Product Quality <i>Erfan ASGARI, Lazhar HOMRI, Ali SIADAT, Zeynab SAZVAR, Ali BOZORGI-AMIRI</i>	1551
Rapid Tooling Road to Rapid Manufacturing <i>Niranjan Kumar SINGH, Sivadasan MAMBETA</i>	1556
Enhancing Smart Maintenance Management Using Fog Computing Technology <i>Mohammad ASHJAEI, Marcus BENGTSOON</i>	1561
Reflective and Formative Constructs in the Implementation of Sustainable Manufacturing with 'SMEET' Framework <i>Keshav G. VALASE, D.N. RAUT</i>	1566
Development of a Projection-Based Assistance System for Maintaining Injection Molding Tools <i>Sven HINRICHSEN, Daniel RIEDIGER, Alexander UNRAU</i>	1571
Towards Capability-Based Worker Modelling in a Smart Factory <i>Susanne VERNIM, Hendrik WALZEL, Alois KNOLL, Gunther REINHART</i>	1576
On a New Modelling Approach for Circular Layouts and its Practical Advantages <i>Philipp HUNGERLAENDER, Kerstin MAIER, Joerg POECHER, Christian TRUDEN</i>	1581
Automated Generation of Orienting Devices for Vibratory Bowl Feeders <i>Cosima STOCKER, Melanie HELL, Raven REISCH, Gunther REINHART</i>	1586

Manufacturing Systems 3

Interpretive Ranking Process-based Lean Manufacturing Barrier Evaluation <i>Linda ZHANG, Balkrishna Eknath NARKHEDE, Anup CHAPLE</i>	1591
Transiting Toward the Factory of the Future: Optimal Buffer Sizes and Robot Cell Design in Car Body Production <i>Alain PATCHONG, Kerbache LAOUCINE</i>	1596
A Random Forest Method for Obsolescence Forecasting <i>Yosra GRICHI, Yvan BEAUREGARD, Thien-My DAO</i>	1602
Use of Additive Manufacturing for Polymer Tooling: Case Study from Reaction Injection Molding <i>Audun L. STORSANDEN, Marcus VÅLE, R.M. Chandima RATNAYAKE</i>	1607
A Hybrid Backtracking Search Algorithm for Permutation Flow-Shop Scheduling Problem Minimizing Makespan and Energy Consumption <i>Peng CHEN, Long WEN, Ran LI, Xinyu LI</i>	1611
Hybrid Simulation Method by Cooperating Between Manufacturing System Simulation and Computational Fluid Dynamics Simulation First Report: Optimization for Energy Consumption per Unit of Production Throughput Considering Compressed Air Feed <i>Hitoshi NAGASAWA, Hironori HIBINO, Motonobu HASHIMOTO, Norifumi KASE</i>	1616

Engineering Economy and Cost Analysis

Feasibility of Implementing Energy Management System in Ports <i>Jasmine Siu Lee LAM, Ming Jun KO, Jing Rong SIM, Yang TEE</i>	1621
Financial Risk Measurement in Colombian System of Mining Royalties <i>Angelica BUSTOS-GONZÁLEZ, Luis Felipe RAMÍREZ- DOMÍNGUEZ, Stephania MOSQUERA-LOPEZ, Diego MANOTAS-DUQUE</i>	1626
Sustainable Building Policy Management in Kolkata, India <i>Rohan Singh WILKHO, Himadri GUHA</i>	1631
Decisive Economies and Opportunity Cost of Modular Product Structure Alternatives: An Empirical Case Study <i>Marc WINDHEIM, Erik GREVE, Dieter KRAUSE</i>	1636
Some Thoughts on the Kelly Criterion Associated with a Real Investment Perspective <i>Gyutai KIM</i>	1641
Performance Evaluation of Logistics listed Companies Based on Grey Ideal Correlation Entropy <i>Fumin DENG, Canmian LIU, Xuedong LIANG, Jing XU</i>	1646
Product Portfolio Optimization Based on Substitution <i>Anna MYRODIA, Alexandria Lee MOSELEY, Lars HVAM</i>	1651

Quality Control and Management 2

Application of Safety Assessment Model to Dog Products <i>Shu Lun MAK, H. K. LAU</i>	1656
A Critical Review of Product Safety in Industry 4.0 Applications <i>Chi Ho LI, H. K. LAU</i>	1661

The Application of 6S Methodology as a Lean Improvement Tool in an Ink Manufacturing Company <i>Nita SUKDEO</i>	1666
A Six Sigma Approach Applied to the Analysis of Variability of an Industrial Process in the Field of the Food Industry <i>Fátima CARNEIRO, Americo AZEVEDO</i>	1672
The Impact and Effectiveness of Participating In External Quality Assurance Programmes in Quality Management and Improvement at a Local Institute Medical Laboratory, South Africa <i>Sambil Charles MUKWAKUNGU, Charles MBOHWA</i>	1680
The Influence of Traceability System Practice to Product Recall Capability in Bulk Food Industry: Observation and Interview <i>Ivan GUNAWAN, Iwan VANANY, Erwin WIDODO</i>	1688
Factors Affecting a South African Construction Company’s Suppliers’ Performance <i>Sambil Charles MUKWAKUNGU, Kabelo NKOAGATSE, Charles MBOHWA</i>	1693

Quality Control and Management 3

Robust Inference Traceability Technology for Product Quality Enhancement <i>Qi XIU, Keiro MURO</i>	1699
An Application of Fractional Factorial Method to Obtain Robust Solutions at a Glove Manufacturing Environment in Sri Lanka <i>Achintha PERERA, Pramila GAMAGE</i>	1704
Spectral Network Approach for Multi-Channel Profile Data Analysis with Applications in Advanced Manufacturing <i>Chen ZHANG, Linniao ZHANG, Nan CHEN</i>	1709
Quality, Excellence and Culture in the Pursuit of Organizational Agility <i>Andre CARVALHO, Paulo SAMPAIO, Eric REBENTISCH, Pedro SARAIVA</i>	1714
An Optimization Design of the Exponentially Weighted Moving Average Control Chart <i>Mona AGHNIAEI, Mohammad SHAMSUZZAMAN, Sadeque HAMDAN</i>	1719
Optimization of Green Sand Casting Parameters Using Taguchi Method to Improve the Surface Quality of White Cast Iron Grinding Plates – A Case Study <i>Lakshman SAMARAWEERA, Shiron THALAGALA, Pramila GAMAGE, Manjula NANAYAKKARA</i>	1723

Project Management 3

Post Formation Dynamics and Their Determinants <i>Xiao-li CHEN, Ralph RIEDEL, Egon MUELLER</i>	1728
Outcome Prediction of Software Projects for Information Technology Vendors <i>Tomoyuki KAWAMURA, Tetsuya TOMA, Kenichi TAKANO</i>	1733
An Empirical Study on Value Creation of Multi-Product Small-Volume Production Through Industry-Academia Collaboration <i>Sadayo HIRATA</i>	1738
Risk Evaluation in Project Management Implementation: The Case of Infrastructural Development Projects <i>Jan-Harm PRETORIUS, Nokuthula DLUDHLU, Jurie VAN WYNGAARD</i>	1743

Why CPM is Not Good Enough for Scheduling Projects 1748
Tapan P BAGCHI, Kaushik SAHU, Bimal K JENA

Transmission of Software-Related Agile Mechanisms of Action Towards Product Development Processes for Technical Products 1753
Günther SCHUH, Michael RIESENER, Jan KANTELBERG, Niklas STEIREIF

Using Fuzzy Front End Theory on the New Product Development and Innovation 1758
Yueen LI, Na LIU, Haiyan ZHANG, Jintao YU, Shen SUN

Service Innovation and Management 2

Design of Mass Customized Paratransit Services 1762
Daniel MO, Yue WANG, Tommy CHEUNG

Categorization of Business Model Patterns and Mapping of Their Relations with Business Model Building Blocks 1767
Huey Yuen NG

Modelling the Core Areas of Municipal Performance Towards an ‘Ideal’ Municipality 1772
Bingwen YAN, Ogochukwu Iruoma NZEWI

Improving Project Management Practice: An Engineering and Construction Case Study 1777
Sofia CARVALHO, Anabela TERESO, Gabriela FERNANDES

Evaluation of the Influencing Factors on General Aviation Tourism Industry of Xi'an Based on AHP and Fuzzy Comprehensive Evaluation Method 1782
Hongru YAN, Huaqi CHAI

Creativity in Organization: A Literature Review 1787
Retno INDRIARTININGTIAS, Subagyo, Budi HARTONO

Service Innovation and Management 3

An Overview of Sustainable Practices in Food Processing Supply Chain Environments 1792
Olumide OJO, Satya SHAH, Alec COUTROUBIS

How Do Employees Inspire Innovative Work Behavior? Transformational Leadership and Work Motivation Perspectives 1797
Jen-Chia CHANG, Chia-Ying LEE, Pai-Yen WEI, Wei-Cheng HUANG

Design of an Evaluation Methodology for the Service Design and Development Process from Concurrent Engineering: The Case of the Advertising Sector 1802
Dayni REYES, Rita PEÑABAENA-NIEBLES

Sustainable Supply and Demand Chain Integration within Global Manufacturing Industries 1807
Elmira NAGHI GANJI, Satya SHAH, Alec COUTROUBIS

Product-Service System for Indonesian Industrial Estate Firms: A Conceptual Framework 1812
Christina WIRAWAN, Gatot YUDOKO, Yuliani Dwi LESTARI

Unlocking the Economic Value and Potential of Design for Manufacture and Assembly in a Developing Country for Sustainability 1817
Wilson R. NYEMBA, Rodney MUZOROZA, Tauyanashe CHIKUKU, Charles MBOHWA

The Delivery of Service Quality to Increase Customer Repurchase Behaviour and Customer Satisfaction at Fast Food Outlets in Central Johannesburg, South Africa 1822
Save AKILIMALISSIGA, Nita SUKDEO, Andre VERMEULEN

E-Business and E-Commerce

- How Do Flexible Options Affect Customer Decision Making in an Online Configurator System? 1828
Yue WANG, Guohua TANG, Daniel MO
- ETO Bid Solutions Definition and Selection Using Configuration Models and a Multi-Criteria Approach 1833
Abdourahim SYLLA, Elise VAREILLES, Thierry COUDERT, Michel ALDANONDO, Laurent GENESTE, Yvan BEAUREGARD
- Assessing the Profitable Conditions of Online Grocery Using Simulation 1838
Ahmed ALZUBAIRI, Abdullah ALRABGHI
- Application of Revenue Management in Supply Chain of Postal Services 1843
Ahmad TEYMOURI, Amir KHATAIE, Pavel ANDREEV, Craig KUZIEMSKY
- The Study of Critical Success Factors of Cross-Border E-Commerce Freight Forwarder from China to Thailand 1848
Ting SUN, Woramol Chaowarat WATANABE
- A User Experience Evaluation for Wendy's Online Delivery Website Geared Towards Improving Customer Experience 1853
Wendy SIA, Rendell TIU, Jazmin TANGSOC

Reliability and Maintenance Engineering 2

- Intelligent Fault Diagnostic Model for Rotating Machinery 1858
Masdi B. MUHAMMAD, Umair SARWAR, Mohammadreza TAHAN, Zainal Ambri A KARIM
- Reliability Analysis for Gap Null Gate by Bivariate T-Distribution 1863
Houbao XU, Mei LI
- Performance-Oriented Preventive Maintenance Policy for Deteriorating Single-Machine Manufacturing Systems 1868
Biao LU, Xiaojun ZHOU
- Cost Sustainability of TFR Electric Locomotives Operating on the Natal Corridor 1873
Bheki MAKHANYA, Renju MATHEW, Hannelie NEL, Jan-Harm PRETORIUS
- Nonparametric EWMA Chart for Simultaneous Monitoring of Event Frequency and Magnitude 1878
Shuo HUANG, Jun YANG, Amitava MUKHERJEE
- The Characteristic of Cold Metal Transfer (CMT) and its Application for Cladding 1883
Nelson Edoh IMOUDU, Yonas Zewdu AYELE, Abbas BARABADI
- Study on Fault Diagnosis of SVM for Mechanical and Electrical Product Based on Improved Conjugate Transformation 1888
Hui ZHENG, Jun-xia ZHANG

Reliability and Maintenance Engineering 3

- A Jointly Integrated Maintenance and Emission Optimization for a Manufacturing and Remanufacturing System 1893
Zied HAJEJ, Nidhal REZG, Salim BOUSLIKHANE
- A Simple Algorithm to Verify Cycles in MSNs for a Given Demand Level 1898
Shin-Guang CHEN

Cause Analysis of Representative Troubles at Distillation Tower Using Discriminant Analysis <i>Jun OKITSU, Toshiaki MATSUO, Hiroki YAMAMOTO, Haslinda Bt ZABIRI, Lemma Dendena TUFA, Marappagounder RAMASAMY</i>	1901
Reliability Modeling of Incomplete Common Cause Failure Systems Subject to Two Common Causes <i>Jin QIN, Ruoxing GU, Guijie LI</i>	1906
Bi-Level Optimization for Maintenance Service Contracts Involving Three Parties Using Genetic Algorithm <i>Nur F. SA'IDAH, Andi CAKRAVASTIA, Udjianna S. PASARIBU, Bermawi P. ISKANDAR</i>	1911
Joint Optimization of Preventive Maintenance and Economic Production Quantity with Considering Demand Adjustment <i>Xuejuan LIU, Rui PENG, Qunxia LI, Xiaoyang MA</i>	1916

Reliability and Maintenance Engineering 4

Jointly Optimal Design of Perfect Maintenance Policy and CUSUM Control Chart <i>Yaping LI, Long CHEN, Ershun PAN, Zhen CHEN</i>	1920
Development of a Low-Cost Tool for Semi-Automatic Classification and Counting of Particles in Industrial Oils <i>Bruno Cesar CAIXETA LEME, Luis Fernando DE ALMEIDA, Jose Walter PARQUET BIZARRIA, Francisco Carlos PARQUET BIZARRIA, Alvaro Manoel SOUZA SOARES, Marcos Alessandro CRUZ RAMOS</i>	1925
Intelligent Fault Diagnosis of Rotating Machinery Using Locally Connected Restricted Boltzmann Machine in Big Data Era <i>Saibo XING, Yaguo LEI, Feng JIA, Jing LIN</i>	1930
Memetic Algorithm to Optimize Level of Repair and Spare Part Decisions for Fleet System <i>Ayush JAIN, Ganesh K. RAO, Manish RAWAT, Bhupesh Kumar LAD</i>	1935
Optimal Scheduling of Imperfect and Perfect Inspections for Systems Subject to Continuous Degradation <i>Jingyuan SHEN, Lirong CUI</i>	1940
Reliability Assessment of NAND SSD Based on Acceleration Degradation Test <i>Peng LI, Kai LIU, Wei DANG, Tianji ZOU</i>	1945
Reliability Analysis for Single-Unit System of Warship Equipment with One Repairman Having Vacations Based on Phase-Type Distribution <i>Tong CHEN, Bingqing WANG, Dongliang YIN</i>	1950

Poster

On Economizing Local Foods Networks in Developing Countries <i>Per ENGELSETH, Yuanita HANDAYATI, Maria WIDYARINI</i>	1955
Tax Policy and Sourcing Strategy – A Social Welfare Perspective <i>Huafan MA, Ziping WANG</i>	1960
On the Circular Supply Chain's Impact on Revenue Growth for Manufacturers of Assembled Industrial Products – A Conceptual Development Approach <i>Samuel B. LARSEN, Torben KNUDBY, Jacques VAN WONTERGHEM, Peter JACOBSEN</i>	1965
Pricing Decisions of Seller and Speculative Strategic Customers <i>M. LI, J. J. LU, Yongquan LAN, Z. W. MIAO</i>	1970

Strategic Organizing of Piping Supplies for Ship Construction <i>Per ENGELSETH, Bich LE</i>	1975
A Multi-Channel Sale System Under Financially Constraint <i>Xin LI, Yan CHEN</i>	1980
Optimal Multi-Period Multi-Product Supplier Selection and Order Allocation: Balancing Supplier Development and Supplier Switching <i>Lixin CUI, Lu BAI, Zhipeng CUI</i>	1985
Multi-Objective Optimization of Costs and Pollutants in Order to Manage the sustainable Supply Chain of Bio-Fuels <i>Elaheh JAFARNEJAD, Jamal ALIABADI</i>	1990
Excess Inventories Redeployment Strategy for Spare Parts Service Logistics Management <i>Daniel MO, Danny HO, Nicole CHAN</i>	1995
Status and Future of Manufacturing Execution Systems <i>Emrah ARICA, Daryl John POWELL</i>	2000
A GA-Based Method for Sales Order Allocation in a MTS/ MTO Supply Chain <i>Chin Sheng TAN, Zhong Jin NG, Chi XU</i>	2005
Using DEA Model Without Input and with Negative Input to Develop Composite Indicators <i>William CHUNG</i>	2010
Feasibility Analysis of Grid Tied PV System Based on Net-Metering Incentive for a Developing Country: A Case Study of Pakistan <i>Ayesha ZAHIR, Shoab Ahmed KHAN, Afshan NASEEM</i>	2014
Assessing the Possible Potential in the Global Energy Consumption: Integrated Artificial Neural Network and Data Envelopment Analysis <i>Oludolapo OLANREWaju, Charles MBOHWA</i>	2019
The Selection of Enterprise Technology Innovation Mode (TIM) Based on Grey-AHP Method <i>Hongjie ZHANG, Yuming ZHU, Xiaoyu SONG</i>	2024
Nested Bilevel Genetic Algorithms for Game-Theoretic Optimization of Product Line Design Considering Competition <i>Xiaojie LIU, Gang DU, Roger J. JIAO, Yi XIA</i>	2029
A Two-Stage Task Assignment Algorithm for Worker Recommendation in a Crowdsourcing Environment <i>Rong CHEN, Shifei CHEN, Xiaoyao ZHANG</i>	2034
Simulation-Driven Manufacturing Planning for Product-Production Variety Coordination <i>Xuejian GONG, Jonas LANDAHL, Hans JOHANNESSEN, Roger J. JIAO</i>	2039
Statistical Analysis of Oil Insulation Breakdown Voltage <i>Himanshu GUPTA, Supriyo DAS</i>	2044
Robust Model Predictive Control for Energy Management of Isolated Microgrids <i>Mengyan ZHAI, Yajie LIU, Tao ZHANG, Yan ZHANG</i>	2049
Resource Recovery from Municipal Waste and Bio Solids (Digestate) Through Vermicomposting: A Waste Management Initiative <i>Mercy MANYUCHI, Charles MBOHWA, Edison MUZENDA</i>	2054
Industry 4.0 Interface for Dynamic Reconfiguration of an Open Lab Size Automated Production System to Allow Remote Community Experiments <i>Safa BOUGOUFFA, Kilian MESSMER, Suhyun CHA, Emanuel TRUNZER, Birgit VOGEL-HEUSER</i>	2058

Integrated Value Stream Mapping and Simulation for Cash-to-Cash Cycle Time Improvement of a Machining Facility <i>Weidong LIN, Engsuan CHAN, Lifeng KWAN</i>	2063
Manufacturing Industry in Cloud Computing Era: Case Study <i>Yuqiuge HAO, Petri HELO</i>	2068
Modeling Ambulatory Care to Obtain a Balance Between Quantity and Quality Provided <i>Ana Cecilia LYRA FIALHO BREDA, Lays Marina FERREIRA MARQUES, Laryssa HOLANDA</i>	2073
The Advantage of the Arduino Sensing System on Parking Guidance Information Systems <i>K. Y. HUANG, Shann-Bin CHANG, P. R. TSAI</i>	2078
An Intelligent Optimization Approach for Waste Collection with Dynamic Disposal Trips <i>Qu WEI, Qi LIU, Zhaoxia GUO</i>	2083
A Sequential Multi-Objective Robust Optimization Approach Under Interval Uncertainty Based on Support Vector Machines <i>Tingli XIE, Qi ZHOU, Jiexiang HU, Leshi SHU, Ping JIANG</i>	2088
Reliability-Oriented Quality Risk Modeling and Monitoring Approach in Manufacturing Process <i>Jiaming CUI, Yihai HE, Chunling ZHU, Fengdi LIU</i>	2093
Test Stand for the Investigation of Driven Rollers <i>Benjamin KÜSTER, Malte STONIS, Ludger OVERMEYER</i>	2098
Multi-Criteria Classification for Prioritization of Preventive Maintenance Tasks to Support Maintenance Scheduling <i>Isabel LOPES, P. SENRA, Bruna NETO, R. COSTA, Miguel SOUSA, Tiago CABO, J.A. OLIVEIRA</i>	2102
A Method for Function Modules Clustering Based on the Function Analysis and the Law of System Completeness <i>Yujuan DU, Ping JIANG, Shenghui SUN, Runhua TAN</i>	2107
Analysis of Multi-State Warm Standby System Reliability Model with Repair Priority <i>Tao HU, Dongliang YIN, Tong CHEN</i>	2112
Reliability Model Analysis on Parallel System Having Multiple Vacations of One Repairman <i>Wei WANG, Dongliang YIN, Bingqing WANG</i>	2119
The Reliability Analysis of Multi-State Cold Standby System Based on Phase-Type Distribution <i>Fang LI, Tong CHEN, Peng DI</i>	2124
A Maintenance Evaluation Method for Complex Systems with Standby Structure Based on Goal Oriented Method <i>Xiaojian YI, Lei CHEN, Jian SHI, Peng HOU, Yuehua LAI</i>	2130
A Mean Life Evaluation Method for Complex Multi-Function Systems Based on GO Method: Case Study of Vehicle Transmission System <i>Ke BAO, Xiaojian YI, Yuefeng CHEN, Zhong ZHANG</i>	2135
Criticality Analysis from Maintainability Point of View <i>Javad BARABADY, Xueli GAO, Tore MARKESET</i>	2140
Research on Basic Maintenance Unit Model Under Two-Level Maintenance <i>Di ZHOU, Zhiyu JIA, Chenhui ZENG</i>	2144
Tool Condition Monitoring in Deep Hole Gun Drilling: A Data-Driven Approach <i>Jihoon HONG, Jun-Hong ZHOU, Hian Leng CHAN, Chong ZHANG, Huan XU, Geok Soon HONG</i>	2148

Modelling Electricity Spot Prices with a Three-Regime Markov Model <i>Yajna MAHARAJ, Venkata Seshachala Sarma YADAVALLI</i>	2153
Self-Organizing Network Control with a TD Learning Algorithm <i>Zhicong ZHANG, Shuai LI, Xiaohui YAN, Liangwei ZHANG</i>	2159
A Fitness Approximation and On-Line Variable-Fidelity Metamodel Based Multi-Objective Genetic Algorithm <i>Leshi SHU, Qi ZHOU, Jiexiang HU, Xiangzheng MENG, Ping JIANG</i>	2164
A Global Support Vector Regression Based on Sorted K-Fold Method <i>Xiangzheng MENG, Qi ZHOU, Jiexiang HU, Leshi SHU, Ping JIANG</i>	2169
Normal Forms of Homoclinic Bifurcation for a Rotor-Active Magnetic Bearings System <i>Fenghong YANG</i>	2174
Analysis on Factors Affecting the Configuration of Maintenance Support System <i>Xinhao YUAN, Tao HU, Chun-Hui YANG</i>	2178
Research of Silicone Oil Uniformity for Butyl Rubber Stopper and Simulation Verification <i>Yanyan ZHU, Caiyun CHEN, Pengcheng DONG, Jiping LU, Shiqi JIANG</i>	2184
The Effect of Tightness-Looseness on Well-Being : Residential Mobility as a Moderator <i>Bing HUANG, Xiaopeng REN</i>	2189
The Effect of Calling Orientations on Work Engagement of Employees in Securities Company: An Intermediary Model of Mediation <i>Jie ZHU, Yong WANG, Li-qi YI</i>	2194
The Impact of Performance Feedback on Work Engagement ---- The Mediating Effect of Psychological Empowerment <i>Jie XIAO, Tong LIU, Yi-Wen CHEN</i>	2199
Research on the Influence of Employees' Career Adaptability on Occupational Success <i>Hong XU, Tong LIU, Yi-Wen CHEN</i>	2204
The Effect of Servant Leadership on Work-Related Well-Being: The Mediating Role of Work Flow and Work Engagement <i>Li-Na JIN, Tong LIU, Yi-Wen CHEN</i>	2210
Relationships Among Personality, Calling, Career Engagement, and Self-Defeating Job Search Behavior in Chinese Undergraduate Students: The Mediating Effects of Career Adaptability <i>Yong QI, Tong LIU, Yi-Wen CHEN</i>	2215
Predictive Modeling of Potential Customers Based on the Customers Clickstream Data: A Field Study <i>Tian SUN, Mengjie WANG, Zhe LIANG</i>	2221
Service Strategy Under Online B2C Dual-Channel Competition <i>L. L. SHANGGUAN, Y. F. HE, Yongquan LAN, Z. W. MIAO</i>	2226
The Effects of Relationship Norms on On-Line New Product Development Value Co-Creation Engagement <i>Huan-Yu ZHANG, Tong LIU, Yi-Wen CHEN</i>	2231
Effect of Service Recovery on Recovery Satisfaction and Behavior Intention: An Empirical Study on Clothing Product Online Shopping <i>Yun LI, Tong LIU, Yi-Wen CHEN</i>	2236
Keyword Extraction from Online Product Reviews Based on Bi-Directional LSTM Recurrent Neural Network <i>Yue WANG, Jian ZHANG</i>	2241

Empirical Study of the Relationship Between Flow Experience, Perceived Transaction Value and Impulse Buying Behavior <i>Wen-Ji WEI, Zi-Ji MA, Yi-Wen CHEN</i>	2246
Solution to Excess Capacity in View of Stakeholders <i>Xiaoting LI, Jingling BAO, Jianguang SUN, Jinjin ZHAI</i>	2251
Understanding the Service Desk: Applied Forecasting and Analytics Approach <i>Jun Jie NG</i>	2256
Multimode Resource-Constrained Multi-Project Scheduling with Ad Hoc Activity Splitting <i>Byung Jun JOO, Ping Chong CHUA</i>	2261
Resource-Constrained Project Scheduling in Hazardous Environment <i>Shuai LI, Zhicong ZHANG, Kaishun HU, Shaoyong ZHAO, Xiaohui YAN</i>	2266
Wiki as a Research Support System – A Trial in Information Systems Research <i>Cheuk Hang AU</i>	2271
Outsourcing in Business and Management Studies: A Co-Citation Analysis <i>Keng-Chieh YANG, Conna YANG, Chia-Hui HUANG, Tai-Ch LEE</i>	2276
Applicability of Lean Product Development to a Company in the Marine Sector <i>Elisabeth SYNNES, Torgeir WELO</i>	2281
The Effect of Service Quality Among Customer Satisfaction, Brand Loyalty and Brand Image <i>Kai-Fu YANG, Hao-Wei YANG, Wen-Yu CHANG, Hsuan-Kuang CHIEN</i>	2286
Exploring the Role of Professional Development Motivation Between Work Values and Job Satisfaction <i>Jen-Chia CHANG, Kuei-Miao LIN</i>	2291
A Game-Based Learning System to Disseminate Kanban Concept in Engineering Context: A Case Study from Risk-Based Inspection Project <i>Andika RACHMAN, R.M. Chandima RATNAYAKE</i>	2296
Analysis of the A3 Report Template and Suggestions for Improvement <i>Susiwati TA, Laura Xiao Xia XU</i>	2302
Influence of Parental Rearing Patterns on Academic Burnout: The Mediating Role of Psychological Capital and Self-Control <i>Yu-Mei HE, Tong LIU, Yi-Wen CHEN</i>	2307
Safety, Sustainability, and Consumers' Perceived Value in Affecting Purchase Intentions Toward Organic Food <i>Shu-Yen HSU, Chiao-Chen CHANG, Tyrone T. LIN</i>	2312
Appraisal of Mask Manufacture Information Security Based on ISO27001 and Common Criteria <i>Cynthia WANG, Eric GUO, Sammy CHEN, Sherry ZHU, Jason WU</i>	2317
Study on Hazard Identification Method for Life Cycle of Patch Board <i>Xia LIU, Bisong LIU, Wanjin TANG, Wu QIAN, Pei FEI</i>	2321
An Improved Aircraft Landing Distance Prediction Model Based on Particle Swarm Optimization - Extreme Learning Machine Method <i>Silin QIAN, Shenghan ZHOU, Wenbing CHANG, Fajie WEI</i>	2326
Light SIEM for Semiconductor Industry <i>Wu QINGRONG, Sherry ZHU, Eric GUO, Max LU</i>	2331

An Efficient Intranet Architecture Scheme Based on Regional Function and Security Requirement in Semiconductor Manufacturing Enterprises <i>Fan SHUAIJIE, Sherry ZHU, Eric GUO, Max LU, Wu QINGRONG</i>	2336
Big Data Analytics to Improve Photomask Manufacturing Productivity <i>Xiaoming FAN, Xuan ZHU, Kuei Chi KUO, Cong LU, Jason WU</i>	2341
Failure Mode Classification for Control Valves for Supporting Data-Driven Fault Detection <i>Emanuel TRUNZER, Iris WEISS, Jens FOLMER, Carolin SCHRUEFER, Birgit VOGEL-HEUSER, Stefan ERBEN, Stefan UNLAND, Christian VERMUM</i>	2346
Development of an Entropy-Based Feature Selection Method and Analysis of Online Reviews on Real Estate <i>Hiroki HORINO, Hirofumi NONAKA, Elisa Claire ALEMÁN CARREÓN, Toru HIRAOKA</i>	2351
Abnormal Data Analysis in Process Industries Using Deep-Learning Method <i>Wen SONG, Wei WENG, Shigeru FUJIMURA</i>	2356
Implementing the Balanced Scorecard in Excel for Small and Medium Enterprises <i>Antonio VIEIRA, Nuno SOARES, Sergio D. SOUSA</i>	2361
Determining Golden Process Routes in Semiconductor Manufacturing Process for Yield Management <i>Chang-Ho LEE, Dong-Hee LEE, Young-Mok BAE, Kwang-Jae KIM</i>	2366
Nonparametric Variance Control Charts Based on Siegel-Tukey Test <i>Suyi LI</i>	2371
Optimization of Machining Parameters for Ultrasonic Assisted Vibration-Grinding (UAVG) of Ultra-Low Expansion (ULE) Optical Glass Using Taguchi Method <i>Kabwe MULENGA, Bing GUO, Xingyu FU, Qingliang ZHAO</i>	2375
The Panel Data Predictive Model for Recurrence of Cerebral Infarction with Health Care Data Analysis <i>Xiaohan LI, Wenbing CHANG, Shenghan ZHOU, Fajie WEI</i>	2380
Design and Implementation of a Dynamic Healthcare System for Weight Management and Health Promotion <i>Chin-Yuan HUANG, Ming-Chin YANG, Chin-Yu HUANG, Po-Sen CHIU, Zai-Sheng LIU, Ray-I CHANG</i>	2386
Combined Forecasting of Patient Arrivals and Doctor Rostering Simulation Modelling for Hospital Emergency Department <i>Weidong LIN, Leslie CHIA</i>	2391
Author Index	2396



IEEE IEEM2017

2017 International Conference on
Industrial Engineering and Engineering Management

10-13 Dec, Singapore

www.IEEM.org

PROOF OF ATTENDANCE

This is to certify that

Aries Susanty

Diponegoro University Indonesia

has participated in the

**2017 IEEE International Conference on
Industrial Engineering and Engineering Management**

held at

Suntec Convention & Exhibition Centre, Singapore
during the period

10 to 13 Dec, 2017

and presented the paper(s)

***IEEM17-P-0381: Performance Measurement of the Relationship Between Farmers-
Cooperatives-Industrial Processing Milk in a Dairy Supply Chain: A Balanced Supply Chain
Management Scorecard Approach***

***Aries SUSANTY, Arfan BAKHTIAR, Ratna PURWANINGSIH, Dina Firma DEWANTI
Diponegoro University, Indonesia***

