

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

Judul Jurnal Ilmiah (Artikel) : Joint Decision on Integrated Supplier Selection and Stock Control of Inventory System Considering Purchase Discount  
 Nama/Jumlah Penulis : **Widowati** , Sutrisno, R. Heru Tjahjana/ 3 orang  
 Status Pengusul : penulis ke- 1  
 Identitas Jurnal Ilmiah : a. Nama Jurnal : International Journal of Supply Chain Management  
 b. Nomor ISSN : 2050-7399 (Online), 2051-3771 (Print)  
 c. Volume, nomor, bulan tahun : Vol 6, No 4 (2017)  
 d. Penerbit : ExcelingTech Publishers  
 e. DOI artikel (jika ada) : <https://doi.org/10.1016/j.proenv.2015.01.044>  
 f. Alamat web jurnal :  
 URL JURNAL : <https://ojs.excelingtech.co.uk/index.php/IJSCM/article/view/1649>  
 URL ARTIKEL : <https://ojs.excelingtech.co.uk/index.php/IJSCM/article/view/1649/965>  
 g. Terindeks di Scopus : Scimagojr dan Scopus, SJR (2017) 0.206 Q3  
<https://www.scimagojr.com/journalsearch.php?q=21100429502&tip=sid&clean=0>

Kategori Publikasi Jurnal Ilmiah :  Jurnal Ilmiah Internasional Terindeks  
 (beri ✓ pada kategori yang tepat)  Jurnal Ilmiah Nasional Terakreditasi  
 Jurnal Ilmiah Nasional Tidak Terakreditasi

Hasil Penilaian *Peer Review* :

Komponen Yang Dinilai	Nilai Reviewer		Nilai Rata-rata
	Reviewer I	Reviewer II	
a. Kelengkapan unsur isi jurnal (10%)	4,00	4,00	4,00
b. Ruang lingkup dan kedalaman pembahasan (30%)	11,40	10,00	10,70
c. Kecukupan dan kemutakhiran data/informasi dan metodologi (30%)	11,76	10,83	11,29
d. Kelengkapan unsur dan kualitas terbitan/jurnal (30%)	10,80	11,17	10,98
<b>Total = (100%)</b>	<b>37,96</b>	<b>36</b>	<b>36,98</b>
<b>Nilai Pengusul = 60% x36</b>	<b>22,78</b>	<b>21,6</b>	<b>22,18</b>

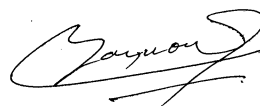
**Catatan:** Sebagai penulis pertama dari 3 penulis (60% x 40 )

Reviewer 2



Prof. Dr. St. Budi Waluya, M.Si  
 NIP. 196809071993031002  
 Unit kerja : Matematika FMIPA UNNES

Semarang, April 2020  
 Reviewer 1



Prof. Dr. Basuki Widodo, M.Sc  
 NIP. 19650506 1989031002  
 Unit kerja : Matematika FSAD ITS

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

Judul Jurnal Ilmiah (Artikel) : Joint Decision on Integrated Supplier Selection and Stock Control of Inventory System Considering Purchase Discount  
 Nama/Jumlah Penulis : **Widowati**, Sutrisno, R. Heru Tjahjana/ 3 orang  
 Status Pengusul : penulis ke- 1  
 Identitas Jurnal Ilmiah : a. Nama Jurnal : International Journal of Supply Chain Management  
 b. Nomor ISSN : 2050-7399 (Online), 2051-3771 (Print)  
 c. Volume, nomor, bulan tahun : Vol 6, No 4 (2017)  
 d. Penerbit : ExcelingTech Publishers  
 e. DOI artikel (jika ada) : <https://doi.org/10.1016/j.proenv.2015.01.044>  
 f. Alamat web jurnal :  
 URL JURNAL : <https://ojs.excelingtech.co.uk/index.php/IJSCM/article/view/1649>  
 URL ARTIKEL : <https://ojs.excelingtech.co.uk/index.php/IJSCM/article/view/1649/965>  
 g. Terindeks di Scopus : Scimagojr dan Scopus, SJR (2017) 0.206 Q3  
<https://www.scimagojr.com/journalsearch.php?q=21100429502&tip=sid&clean=0>

Kategori Publikasi Jurnal Ilmiah :  Jurnal Ilmiah Internasional Terindeks  
 (beri ✓ pada kategori yang tepat)  Jurnal Ilmiah Nasional Terakreditasi  
 Jurnal Ilmiah Nasional Tidak Terakreditasi

Hasil Penilaian *Peer Review* :

Komponen Yang Dinilai	Nilai Maksimal Jurnal Ilmiah			Nilai Akhir Yang Diperoleh
	Internasional Terindeks <input checked="" type="checkbox"/>	Nasional Terakreditasi <input type="checkbox"/>	Nasional Tidak Terakreditasi <input type="checkbox"/>	
a. Kelengkapan unsur isi jurnal (10%)	4,00			4,0
b. Ruang lingkup dan kedalaman pembahasan (30%)	12,00			11,40
c. Kecukupan dan kemutakhiran data/informasi dan metodologi (30%)	12,00			11,76
d. Kelengkapan unsur dan kualitas terbitan/jurnal (30%)	12,00			10,80
<b>Total = (100%)</b>	<b>40,00</b>			<b>37,96</b>

**Nilai Pengusul = 60% x 37,96 = 22,78**

**Catatan Penilaian artikel oleh Reviewer :**

**1. Kesesuaian dan kelengkapan unsur isi jurnal:**

Penulisan artikel sudah bagus dan mengikuti standard penulisan artikel di jurnal, yaitu Introduction, Methodology, Result and Discussion (IMRaD), Conclusion, Acknowledgement dan didukung dengan referensi yang sesuai.

**2. Ruang lingkup dan kedalaman pembahasan:**

Lingkup bahasan dari artikel ini adalah bidang matematika terapan, khususnya pada bidang pemodelan matematika. Dalam artikel ini dibahas dengan baik tentang bagaimana menyelesaikan permasalahan penentuan strategi optimal pemilihan pemasok yang terintegrasi dengan kontrol stok multiproduk dari sistem persediaan yang mempertimbangkan diskon pembelian. Model matematika diselesaikan menggunakan metode pemrograman kuadrat integer campuran dengan piecewise fungsi objektif. Relevansi hasil terkait dengan kebijakan volume produk optimal yang dibeli terhadap pemilihan pemasok dan tingkat persediaan / stok.

**3. Kecukupan dan kemutakhiran data/informasi dan metodologi :**

Informasi yang disajikan cukup baru dan hasil yang diperoleh memuat substansi orisinil dengan aspek aplikasi yang penting Sumber gagasan penulis untuk artikel ini sangat banyak, komprehensif dan update, yang lebih sepuluh tahun terakhir hanya 2 paper dari 28 sumber yang dirujuk. Metodologinya baik dan tertulis terstruktur.

4. **Kelengkapan unsur dan kualitas terbitan:**

Artikel memenuhi standard penulisan dan isi untuk journal internasional. Makalah diterbitkan di journal internasional yang terindeks di Scopus (Q3).

Surabaya, 16 April 2020  
Reviewer 1



Prof. Dr. Basuki Widodo, M.Sc  
NIP. 19650506 1989031002  
Unit kerja : Matematika FSAD ITS

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

Judul Jurnal Ilmiah (Artikel) : Joint Decision on Integrated Supplier Selection and Stock Control of Inventory System Considering Purchase Discount

Nama/Jumlah Penulis : **Widowati** , Sutrisno, R. Heru Tjahjana/ 3 orang

Status Pengusul : penulis ke- 1

Identitas Jurnal Ilmiah : a. Nama Jurnal : International Journal of Supply Chain Management  
 b. Nomor ISSN : 2050-7399 (Online), 2051-3771 (Print)  
 c. Volume, nomor, bulan tahun : Vol 6, No 4 (2017)  
 d. Penerbit : ExcelingTech Publishers  
 e. DOI artikel (jika ada) : <https://doi.org/10.1016/j.proenv.2015.01.044>  
 f. Alamat web jurnal

URL JURNAL : <https://ojs.excelingtech.co.uk/index.php/IJSCM/article/view/1649>

URL ARTIKEL : <https://ojs.excelingtech.co.uk/index.php/IJSCM/article/view/1649/965>

g. Terindeks di Scopus : Scimagojr dan Scopus, SJR (2017) 0.206 Q3  
<https://www.scimagojr.com/journalsearch.php?q=21100429502&tip=sid&clean=0>

Kategori Publikasi Jurnal Ilmiah :  Jurnal Ilmiah Internasional Terindeks  
 (beri ✓ pada kategori yang tepat)  Jurnal Ilmiah Nasional Terakreditasi  
 Jurnal Ilmiah Nasional Tidak Terakreditasi

Hasil Penilaian *Peer Review* :

Komponen Yang Dinilai	Nilai Maksimal Jurnal Ilmiah			Nilai Akhir Yang Diperoleh
	Internasional Terindeks <input checked="" type="checkbox"/>	Nasional Terakreditasi <input type="checkbox"/>	Nasional Tidak Terakreditasi <input type="checkbox"/>	
a. Kelengkapan unsur isi jurnal (10%)	4,00			4,00
b. Ruang lingkup dan kedalaman pembahasan (30%)	12,00			10,00
c. Kecukupan dan kemutakhiran data/informasi dan metodologi (30%)	12,00			10,83
d. Kelengkapan unsur dan kualitas terbitan/jurnal (30%)	12,00			11,17
<b>Total = (100%)</b>	40,00			36,00

Nilai Pengusul = 60% x36=21,60

**Catatan Penilaian artikel oleh Reviewer :**

**1. Kesesuaian dan kelengkapan unsur isi jurnal:**

Kesesuaian dan kelengkapan unsur isi jurnal sudah baik terdiri atas 4 bagian: Introduction, Methodology, Numerical Experiment, Conclutions and Future Work, didukung 26 referensi yang up to date Lingkup artikel Matematika Terapan sesuai dengan bidang ilmu pengusul.

**2. Ruang lingkup dan kedalaman pembahasan:**

Substansi artikel sesuai dengan ruang lingkup jurnal dengan area subyek Matematika Terapan. Pembahasan berkaitan dengan mathematical model in a mixed integer quadratic programming with piecewise objective function. Kedalaman pembahasan baik

**3. Kecukupan dan kemutakhiran data/informasi dan metodologi :**

Kemutakhiran data/informasi dan metodologi baik. Terdapat 26 buah referensi yang digunakan dari jurnal dan prosiding.,

4. **Kelengkapan unsur dan kualitas terbitan:**

Artikel memenuhi standard penulisan dan isi untuk journal internasional. Makalah diterbitkan di journal internasional yang terindeks di Scimagojr dan Scopus, SJR (2017) 0.206 Q3. Hasil Turnitin SIMILARITY INDEX 8%.

Semarang, April 2020

Reviewer 2



Prof. Dr. St. Budi Waluya, M.Si

NIP. 196809071993031002

Unit kerja : Matematika FMIPA UNNES



# Document details

< Back to results | < Previous 32 of 39 Next >

↗ Export ↓ Download 🖨️ Print ✉️ E-mail 📄 Save to PDF ☆ Add to List More... >

International Journal of Supply Chain Management  
Volume 6, Issue 4, 2017, Pages 61-69

## Joint decision on integrated supplier selection and stock control of inventory system considering purchase discount (Article)

**Widowati** ✉️, Tjahjana, R.H. ✉️, Sutrisno ✉️

Department of Mathematics, Diponegoro University, Jl. Prof. Soedarto, SH, Semarang, Indonesia

### Abstract

View references (28)

Stock control and supplier selection are two vital parts on supply chain and management. Integrating these parts by solving them simultaneously is a good idea for cost reducing. Furthermore, if some suppliers give a purchase discount for their product, how to determine the optimal strategy is interesting. In this paper, the authors propose a mathematical model in a mixed integer quadratic programming with piecewise objective function that can be used to determine the optimal strategy for integrated supplier selection problem and stock control problem of multiproduct inventory system considering purchase discount. Stock control refers to bring the stock level of each product to a reference level given by the decision maker. The authors formulate two mathematical models which are a model in deterministic environment where all parameters are known and a model in probabilistic environment where the demand is random. The authors perform two numerical experiments to evaluate the proposed model. From the results, the optimal strategy was obtained i.e. the optimal product volume purchased from each supplier and the stock level of each product follows the reference level with minimal total cost. © ExcelingTech Pub, UK.

### SciVal Topic Prominence ⓘ

Topic: Supplier selection | Decision making | Sustainable supplier

Prominence percentile: 99.242 ⓘ

### Author keywords

Probabilistic multi-stage programming Purchase discount Stock/inventory control Supplier selection

### Funding details

Funding sponsor	Funding number	Acronym
Universitas Diponegoro		

### Funding text

This work was supported by DIPA PNBPN Universitas Diponegoro under Professorship Research Program 2016.

### Metrics ⓘ View all metrics >

2 Citations in Scopus  
42nd percentile

0.27 Field-Weighted  
Citation Impact



### PlumX Metrics

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

### Cited by 2 documents

Quadratic programming model for optimal decision making of supplier selection problem integrated with inventory control problem

Hakim, D.U.H.E. , Sutrisno ,  
Widowati  
(2019) *Journal of Physics: Conference Series*

Single Product Inventory Control Considering Unknown Demand Using Linear Quadratic Gaussian

Sutrisno , Widowati , Heru  
Tjahjana, R.  
(2019) *Proceedings of the 2018 International Conference on Robotics, Biomimetics, and Intelligent Computational Systems, Robionetics 2018*

View all 2 citing documents

Inform me when this document is cited in Scopus:

Set citation alert >

Set citation feed >

### Related documents



# Source details

## International Journal of Supply Chain Management

Scopus coverage years: from 2012 to Present

Publisher: ExcelingTech Publishers

ISSN: 2051-3771 E-ISSN: 2050-7399

Subject area: Decision Sciences: Information Systems and Management Computer Science: Information Systems  
Business, Management and Accounting: Management Information Systems

CiteScore 2018 **0.63** ⓘ

SJR 2018 **0.199** ⓘ

SNIP 2018 **0.599** ⓘ

[View all documents >](#)

[Set document alert](#)

[Save to source list](#) [Journal Homepage](#)

[CiteScore](#) [CiteScore rank & trend](#) [CiteScore presets](#) [Scopus content coverage](#)

CiteScore 2018 ▾

Calculated using data from 30 April, 2019

### CiteScore rank ⓘ

$$0.63 = \frac{\text{Citation Count 2018}}{\text{Documents 2015 - 2017}^*} = \frac{173 \text{ Citations} >}{275 \text{ Documents} >}$$

\*CiteScore includes all available document types

[View CiteScore methodology >](#) [CiteScore FAQ >](#)

Category	Rank	Percentile
Decision Sciences	#66/97	31st
Information Systems and Management		

### CiteScoreTracker 2019 ⓘ

Last updated on 09 April, 2020  
Updated monthly

$$1.20 = \frac{\text{Citation Count 2019}}{\text{Documents 2016 - 2018}} = \frac{700 \text{ Citations to date} >}{584 \text{ Documents to date} >}$$

[View CiteScore trends >](#)

[Add CiteScore to your site](#) 🔗

Metrics displaying this icon are compiled according to Snowball Metrics ↗, a collaboration between industry and academia.

### 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](#)

- Regulatory and environmental issues in supply chain operations
- 

## Section Policies

### Articles

- Open Submissions
  - Indexed
  - Peer Reviewed
- 

### Peer Review Process

All manuscripts will be subject to a well-established, fair, unbiased peer review and refereeing procedure, and are considered on the basis of their significance, novelty and usefulness to the Journals readership. The review output will be either accept or reject. A paper once rejected will not be considered again for review. The review process may take approximately one month to be completed. For accepted paper, should authors be requested by the editor to revise the text and minor changes, the revised version should be submitted within 15 days

---

### Open Access Policy

This journal provides immediate open access to its content on the principle that making research freely available to the public supports a greater global exchange of knowledge.

---

### Archiving

This journal utilizes the LOCKSS system to create a distributed archiving system among participating libraries and permits those libraries to create permanent archives of the journal for purposes of preservation and restoration. More...

---

## Editorial Board

### **Editor-in-Chief**

**Prof. Dr. Md. Mamun Habib,**

School of Business, Independent University, Bangladesh

Visiting Scientist, University of Texas - **Arlington (UTA), USA**

**E-mail:** [mamunhabib@gmail.com](mailto:mamunhabib@gmail.com), [mamunhabib@iub.ac.bd](mailto:mamunhabib@iub.ac.bd), [mohammad.habib@uta.edu](mailto:mohammad.habib@uta.edu),

### **Editorial Board Members**

- **Prof. Dr. Hui-Ming Wee**, Dept. of Industrial & Systems Engg., Chung Yuan **Christian University, Taiwan**
- **Prof. Dr. R.P Mohanty**, Ex-Vice-Chancellor, Siksha O Anusandhan **University, India**
- **Dr. Erick C. Jones**, Dept. of Industrial & Manufacturing Systems Engineering, University of Texas, Arlington, USA
- **Prof. Prem Kumar Rajagopal**, Vice-Chancellor, Malaysia university of **Science & Technology, Malaysia**
- **Dr. Ali Turkyilmaz**, Dept. of Industrial Engineering, Fatih University, Turkey
- **Dr. Ayon Chakraborty**, School of Business, **James Cook University Singapore**
- **Dr. Murad Ali**, Kohat University of Science & Technology, Pakistan
- **Dr. Nachiappan Subramanian**, Business School, University of Nottingham, China
- **Dr. Teh Pei Lee**, School of Business, Monash University, Malaysia
- **Dr. Lu Qing**, Logistics Institute - Asia Pacific, National University of Singapore, Singapore



# Page Header

[HOME](#)   [ABOUT](#)   [LOGIN](#)   [REGISTER](#)   [SEARCH](#)   [CURRENT](#)  
[ARCHIVES](#)   [ANNOUNCEMENTS](#)   [EDITORIAL BOARD](#)   [ONLINE](#)  
[SUBMISSION](#)   [PUBLICATION ETHICS](#)

Home > Archives > **Vol 6, No 4 (2017)**

## Vol 6, No 4 (2017)

### International Journal of Supply Chain Management (IJSCM)

#### Table of Contents

##### Articles

<a href="#">The Environmental Perspectives of Apple Fruit Supply Chain Management in Chitral, Northern Pakistan</a> Muhammad Khan, Jung Han Bae	<a href="#">PDF</a> 1-16
<a href="#">Achieving Optimal Safety Inventory Levels for Oil Companies using the CONWIP Approach</a> Laquanda Leaven, Shengbin Wang, Linda Silver Coley, Silvanus Udoka	<a href="#">PDF</a> 17-21
<a href="#">Warranty and Maintainability Analysis for Sensor Embedded Remanufactured Products in Reverse Supply Chain Environment</a> Ammar Yahya Alqahtani, Surendra M. Gupta	<a href="#">PDF</a> 22-42
<a href="#">Supply Chain Complexity Drivers and Solution Methods</a> Sujan Piya, Ahm Shamsuzzoha, Mohammad Khadem, Mahmoud Al-kind	<a href="#">PDF</a> 43-50
<a href="#">The Influence of Supply Chain Management and Net Trade Cycle on Financial Performance</a> Haitham Nobanee, Fadhel Juma Abbas, Mehmood Khan, Jose Varas	<a href="#">PDF</a> 51-60
<a href="#">Joint Decision on Integrated Supplier Selection and Stock Control of Inventory System Considering Purchase Discount</a> Widowati Widowati, Sutrisno Sutrisno, R. Heru Tjahjana	<a href="#">PDF</a> 61-69
<a href="#">The Impact of SCRM strategies on supply chain resilience: A quantitative study in the Moroccan manufacturing industry</a> Zineb Elandaloussi, Brahim Benbba, Houdaifa Ameziane	<a href="#">PDF</a> 70-75
<a href="#">Value Chain Map of Small Agricultural Product-Processing Enterprises in Bandung, Indonesia</a> Endang Chumaidiyah	<a href="#">PDF</a> 76-82
<a href="#">Distribution Center Location Selection using an Extension of Fuzzy TOPSIS Approach</a> Tuan Nguyen Anh, Hien Hoang Thi	<a href="#">PDF</a> 83-89
<a href="#">Prioritizing the Intangibles among Management Graduates of an Educational Supply Chain; An AHP Approach</a> Haidar Abbas, Zaheer Ahmed Khan	<a href="#">PDF</a> 90-97
<a href="#">Supply-Chain Management Capabilities Practices in Industrial Organization in Republic of Yemen</a> Hussein Abu Al-Rejal, Jamal D. Abu Doleh, Shahimi Mohtar	<a href="#">PDF</a> 98-109
<a href="#">Quantitative Estimate of CO2 Emission Reduction from Reuse of Automobile Parts in Japan</a>	<a href="#">PDF</a> 110-122

##### USER

Username

Password

Remember me

##### JOURNAL CONTENT

Search

Search Scope

All ▼

##### Browse

- [By Issue](#)
- [By Author](#)
- [By Title](#)
- [Other Journals](#)

##### FONT SIZE

##### INFORMATION

- [For Readers](#)
- [For Authors](#)
- [For Librarians](#)

Masato Inoue, Sota Takahashi, Mitsunobu Fujita, Takao Mori,  
Motohiro Tamaki, Shigeyuki Suzuki, Akihiro Hayakawa

- [Agile Parameter Affecting Supply Chain Management Strategy](#) [PDF](#)  
Aarti Karande, Dhananjay Kalbande 123-133
- [The impact of quality management systems on improving logistics customer service in distribution processes](#) [PDF](#)  
Dominik Zimon 134-138
- [Retail Store Brand Commitment Study of Big Bazaar and Pantaloons](#) [PDF](#)  
Shivaji Mohinta, Uma Shankar Singh, Uma Sankar Mishra 139-145
- [Social Responsibility in Global Supply Chain: Research Trend from 1999 to 2014](#) [PDF](#)  
Md Tareq Bin Hossain, Roslan Abdul Hakim, Che Azlan Bin Taib, Md Julker Naim 146-156
- [Proposal of an Evaluation System for Monitoring Suppliers and Controlling Risks in the Hospital Sector](#) [PDF](#)  
Kaoutar JENOUI, Abdellah ABOUABDELLAH 157-166
- [Application of Theory of Constraint Supply Chain Replenishment System in Fast Moving Consumer Goods Company](#) [PDF](#)  
Taufik Roni Sahroni, Margaretha Margaretha, Dyah Budiastuti 167-175
- [Zakah Economic Concept in the Determination of Pricing on Islamic Banking Products](#) [PDF](#)  
Riris Aishah Prasetyowatir, Muhammad Said 176-190
- [An Empirical Study on Bandarban, Bangladesh: Integrating Destination Branding and Supply Chain Management Opportunities](#) [PDF](#)  
Rahma Akhter 191-198
- [Consumer Consideration in Purchase Decision of Specs Sports Shoes Product through Brand Image, Product Design and Price Perception](#) [PDF](#)  
Sri Widyastuti, Muhammad Said 199-207
- [Factors That Influence the Consumer Purchase Intention in Social Media Websites](#) [PDF](#)  
Tan Pei Kian, Goh Hong Boon, Stany Wee Lian Fong, Yeow Jian Ai 208-214
- [The Impact of Green Supply Chain Management on Firm Competitiveness](#) [PDF](#)  
Arman Marhamati, Iman Azizi 215-223
- [Influence of Social Networks and Social Media toward Satisfaction through Apparel Purchase Decision on Adolescents in East Java](#) [PDF](#)  
Christina Esti Susanti 224-233
- [Supply & Demand of Rice in Malaysia: A System Dynamics Approach](#) [PDF](#)  
Farah Hanim Abdul Rahim, Nurul Nazihah Hawari, Norhaslinda Zainal Abidin 234-240
- [Generalized Modified Group Chain Sampling Plan based on Non-symmetrical Data](#) [PDF](#)  
Nazrina Aziz, Abdur Razzaque Mughal, Zakiyah Zain, Nor Hisham Haron 241-245
- [Analysing the Effect of Conflict on Nutrition Supply: Evidence from Conflict-affected South Asian Countries](#) [PDF](#)  
Sithy Jesmy Abdul rasheed, Mohd Zaini Abd Karim, Shri Dewi Applanaidu 246-253
- [Linking Human Capital, Information Technology and Material Handling Equipment to Warehouse Operations Performance](#) [PDF](#)  
Azahari Ramli, Muhammad Shukri Bakar, Buba Musa Pulka, Najafi Auwalu Ibrahim 254-259
- [The Significant Role of Communication, Price, and Quality in](#) [PDF](#)

<a href="#"><u>Creating a Brand Trust to Achieve Purchase Behavior Antecedents and Consequence of Consumer Brand Trust</u></a>	260-268
Jamal Mohammed Esmail Alekam, Nik Kamariah Nik Mat, Salniza Md. Salleh	
<a href="#"><u>The Role of Full or Partial Mediation of Intention between Patriotism, Trust, Government Support through Structural Equation Modeling (SEM) Effect on Actual Purchase toward Malaysia Brand</u></a>	<a href="#">PDF</a> 269-277
Jamal Mohammed Esmail Alekam, Nik Kamariah Nik Mat, Farouk Djermani	
<a href="#"><u>Comparative Study of Lean Practices between Japanese and Malaysia Automotive Service Centres: A Survey Result</u></a>	<a href="#">PDF</a> 278-283
Md Fauzi Ahmad, Neo Yeong Ting, Nik Hisyamudin Muhd Nor, Chan Shiw Wei, Mohd Fahrul Hassan, Nor Aziati Abdul Hamid	
<a href="#"><u>Deterministic Inventory Routing Problem (DIRP): A Literature Review</u></a>	<a href="#">PDF</a> 284-288
Mohd Kamarul Irwan Abdul Rahim, Afif Zuhri Muhammad Khodri Harahap	
<a href="#"><u>The Integration of Fuzzy Analytic Hierarchy Process and VIKOR for Supplier Selection</u></a>	<a href="#">PDF</a> 289-293
Nazihah binti Ahmad, Maznah Mat Kasim, Hawa Ibrahim	
<a href="#"><u>Construction of Vehicle Theft Index by Using TOPSIS Method with Entropy Based Criteria Weights</u></a>	<a href="#">PDF</a> 294-298
Mohd Firdaus, Maznah Mat Kassim, Malina Zulkifli	
<a href="#"><u>The Application of Procurement Systems in IBS Housing Project</u></a>	<a href="#">PDF</a> 299-307
Md Azree Othuman Mydin, Ahmad Abdul Jalil, Mastura Jaafar, Azlan Raofuddin Nuruddin	
<a href="#"><u>The Role of Distribution Channels and Educational level towards Insurance Awareness among the General Public</u></a>	<a href="#">PDF</a> 308-318
Waseem-Ul- Hameed, Muhammad Azeem, Mohsin Ali, Shahid Nadeem, Tayyab Amjad	
<a href="#"><u>Analysis of factors affecting decision to use Thai Airline service using Nested Logit Model</u></a>	<a href="#">PDF</a> 319-321
Piyoros Youngyoodee	
<a href="#"><u>Long Bus Vehicle Rear Swing Out Impact Assessment Using On-Board Video Camera</u></a>	<a href="#">PDF</a> 322-325
Muhamad Shaharudin Osmin, Jezan Md Diah, Sariwati Mohd Sharif, Wan Mazlina Wan Mohamed, Nur Quratul Aini Hamidun	
<a href="#"><u>Malaysian SMEs Performance and the Government Business Support Service: The Moderating Effects of Absorptive Capacity</u></a>	<a href="#">PDF</a> 326-331
Jauriyah Shamsuddin, Mohammad Nizam Sarkawi, Abdul Rahman Jaafar, Noor Fareen Abd Rahim	
<a href="#"><u>The Influence of Organization Capability On Preventive Maintenance Practices and SMEs Performance in Malaysia</u></a>	<a href="#">PDF</a> 332-340
Che Azlan bin Taib, Halim Mad Lazim, Hendrik Lamsali, Mohamed Najib Saleh, Chandrakantan Subramaniam	
<a href="#"><u>Islamic Microfinance Institutions in Indonesia and The Challenges in the Supply Chain Perspectives</u></a>	<a href="#">PDF</a> 341-350
Dian Masyita	



# Quantitative Estimate of CO<sub>2</sub> Emission Reduction from Reuse of Automobile Parts in Japan

Masato Inoue<sup>#1</sup>, Sota Takahashi<sup>#2</sup>, Mitsunobu Fujita<sup>#, \*3</sup>, Takao Mori<sup>\*\*4</sup>,  
Motohiro Tamaki<sup>\*5</sup>, Shigeyuki Suzuki<sup>\*6</sup>, Akihiro Hayakawa<sup>\*7</sup>

<sup>#</sup>*Department of Mechanical Engineering Informatics, Meiji University  
1-1-1 Higashi-Mita, Tama-ku, Kawasaki, Kanagawa 214-8571, Japan*

<sup>1</sup>m\_inoue@meiji.ac.jp

<sup>2</sup>ai3.st6@gmail.com

<sup>\*</sup>NGP Corporation

3-25-33 Takanawa, Minato-ku, Tokyo 108-0074, Japan

<sup>3</sup>mitsunobufujita@b-star.jp

<sup>5</sup>tamaki@ngp.gr.jp

<sup>6</sup>s\_suzuki@ngp.co.jp

<sup>7</sup>hayakawa@ngp.co.jp

<sup>\*\*</sup>*Department of Mechanical Systems Engineering, Toyama Prefectural University  
5180 Kurokawa, Imizu, Toyama 939-0398, Japan*

<sup>4</sup>tmori@pu-toyama.ac.jp

**Abstract**—In general, reusing automobile parts reduces not only the cost of replacing the failed parts but also the environmental load of manufacturing new parts. However, these effects have not yet been quantified. The present study focuses on determining the emitted CO<sub>2</sub> during production and quantitatively evaluating its reduction by the reuse of automobile parts. First, CO<sub>2</sub> emissions are calculated during the reused parts production process at the factory site. Thirty-nine automobiles from 27 models prepared in Japan are examined to measure the amount of CO<sub>2</sub> emitted in the production of new parts. Furthermore, the CO<sub>2</sub> emission reduction effect for different automobile models is estimated through multiple regression analysis. The CO<sub>2</sub> emissions are assumed to be the objective variable, whereas the explanatory variables are derived from the data provided in the automobile inspection certificates. The presented quantitative estimate of CO<sub>2</sub> emission reduction owing to the exploitation of reused parts is expected to promote policies for further reducing CO<sub>2</sub> emissions and arouse public awareness regarding the benefits of recycling automobile parts.

**Keywords**—CO<sub>2</sub> emissions, reuse, life-cycle assessment, multiple regression analysis, automobile

## 1. Introduction

As world population increases, more natural resources are being consumed to satisfy customer demand, leading to more generated waste [1]. At present, approximately 3.5 million automobiles are discarded every year in Japan [2]. Therefore, when all of the discarded automobiles are simply scrapped, they result in about 3.5 million tons of annual waste, which corresponds to approximately 8% of the total volume of waste per year in Japan (45 million tons) [3]. From the viewpoint of environmental issues such as the depletion of natural resources and reduction of CO<sub>2</sub> emissions, closed-loop product supply chains are essential for achieving a sustainable society [4]. Approaches to implement a green supply chain include efforts to minimize the negative impact on the environment [5]. Promotion of the three Rs, i.e., “reduce, reuse, and recycle,” is one of the approaches for realizing a sustainable society. Recycling and reusing involve the recovery of materials from the scrap of end-of-life products [6].

A 2005 legislation, which governs automobile recycling in Japan [7], has imposed fees on the purchasers of automobiles to attempt enforcing the recycling of end-of-life vehicles by using their parts or resources to repair other vehicles. The

# Achieving Optimal Safety Inventory Levels for Oil Companies using the CONWIP Approach

Laquanda Leaven<sup>1</sup>, Shengbin Wang<sup>2</sup>, Linda Coley<sup>3</sup>, Silvanus Udoka<sup>4</sup>

<sup>1-3</sup>Department of Marketing, Transportation and Supply Chain, <sup>4</sup>Department of Management

<sup>1-4</sup>North Carolina A&T State University

1601 East Market Street, Greensboro, NC 27411, USA

<sup>1</sup>tleaven@ncat.edu

<sup>2</sup>swang@ncat.edu

<sup>3</sup>lscoley@ncat.edu

<sup>4</sup>udoka@ncat.edu

**Abstract**— Oil Companies are faced with many operational challenges as it relates to key process functions within their selected manufacturing strategy. These challenges include: high safety stock levels, long lead times, inefficient floor utilization and production planning in regards to bulk/pack raw material receipt, blending, and packaging. The goal of this research study is to address the challenge of high safety stock levels of lubricant products manufactured by oil companies, and to conduct a value stream map (VSM) exercise to frame near term and future state opportunities to optimize cost structures and operational excellence parameters. Based on the analysis of the current VSM for a specified oil company from a lean supply chain perspective, we apply the CONWIP (Constant Work In Progress) approach to optimize the safety inventory levels, which successfully decreases the costs associated with both raw material and finished goods inventory. In particular, a 3.1 million dollar reduction in finished goods inventory and a 1.4 million dollar reduction in raw material inventory were achieved for a large oil company through implementation of the CONWIP approach. The results of this study indicate this pull-oriented production and inventory control system can certainly benefit additional oil manufacturing companies and help them achieve significant safety inventory cost savings.

**Keywords**— Inventory, CONWIP, Kanban, Oil Industry

## 1. Introduction

Manufacturing plants in different industries, all around the world strive to improve their manufacturing operations, to gain and maintain competitive advantages through product quality, waste and cost management and most importantly, being able to respond to changes in customer demand. Traditional production systems often

experience excess inventory, higher WIP levels, and longer lead time from order to delivery time. Just-in-time production responds better to changing customer demands, because it ensures producing the right products at the right time and in the right quantity. To achieve this, engineers in different manufacturing facilities are trying to achieve a lean manufacturing system, which is a systematic method for eliminating waste. A lean manufacturing system is one that meets high throughput or service demands with a very low level of inventory.

Different approaches have been implemented in different manufacturing industries to control the lean manufacturing systems. This research will focus on the Kanban and CONWIP approaches, both of which have been studied and implemented separately and also in a hybrid way. The Kanban control uses the levels of buffer inventories in the system to regulate production. When a buffer reaches its preset maximum level, the upstream machine is told to stop producing that part type. The Kanban control ensures that parts are not made except in response to demand.

CONWIP stands for Constant Work-In-Process, and designates a control strategy that limits the total number of parts allowed into the system at the same time. Once the parts are released, they are processed as quickly as possible until they wind up in the last buffer as finished goods. The CONWIP system is different from Kanban in some ways, even though they are both identified as a “pull” system and respond to actual demand. But unlike Kanban, any part released to the system will move to finished goods, leaving all buffers in the system empty. New parts will not be released if the finished goods buffer is full.

Several studies have researched the implementation of the Kanban and CONWIP systems in different manufacturing settings and have identified some of the advantages, including reduction in product flow time, reduction in Work-

# The Environmental Perspectives of Apple Fruit Supply Chain Management in Chitral, Northern Pakistan

Muhammad Khan<sup>#1</sup> Bae, Jung Han<sup>\*2</sup>

<sup>\*2</sup> Corresponding Author

<sup>#</sup> PhD candidate, School of International Economics and Business Yeungnam University, South Korea

<sup>\*</sup> Professor, School of International Economics and Business Yeungnam University, South Korea

<sup>1</sup> Muhammadkhan@awkum.edu.pk

<sup>2</sup> jhbae@yu.ac.kr

**Abstract-** With increasing population the demand for fresh fruits is on the rise in Pakistan. Because of perishing nature and short shelf life, fruits require proper and effective supply chain management (SCM) for securing them to be wasted. Fruits of Chitral, Northern Area of Pakistan face supply chain (SC) issues and challenges. The main purpose is to conduct a detailed insight of the present apple fruit SCM system in Chitral for identifying the related environmental perspective of apple. That small subsistence farming should be view as a business. As compare to the producers' income with others intermediaries, (27% to 73%) it is significantly lower. Focus should be given that the distribution of the marketing margin across the players can be measured fairly. The anticipated research work is exploratory in nature using secondary data, undertakes a meticulous review of basic and up to date literature available and tried to explain the factors affect the supply chain of Apple Fruit sector in Chitral, Northern Area of Pakistan. Thus, the purpose of this study is to develop a research framework that improves understanding of SCM, stimulates, and facilitates researchers to undertake both theoretical and empirical investigation on the critical constructs of SCM, and the exploration of their impacts on supply chain performance. This is the first study to examine the environmental perspectives of apple fruit SCM in Chitral, northern Pakistan. This study could provide a lesson for many developing countries.

**Keywords-** Supply Chain (SC), Supply Chain Management (SCM), Constraint, Apple Fruit, Cold Chain, Pakistan

## 1. Introduction

Apple is a sign of health and attractiveness. Apple has worldwide growing and consuming fruit. Apple is a highly nutritive fruit having necessary food elements such as carbohydrates 14.9% sugar 11%, fat 0.4%, protein 0.3%, and in a balanced condition vitamins A, B & C. After citrus and banana, it position third in consumption and is approximately available in every season [5].

Commercially worldwide, about 75 billion tonnes of Apples produced in 2012. Out of these 10% are traded internationally in their fresh state. In 2012, there was a quantity of 8.2 million tonnes with a net value of \$ 8 billion. China is the largest Apple producer, produced 37 million tonnes, followed by United States of America (USA) (4.1), Turkey (2.9), Poland (2.9), India (2.2), Italy (2.4) and France (1.9) [5].

### 1.1 World Fresh Apple Fruit Forecast

Apple fruit production in year 2017 worldwide are forecasted to go up 1.2 million metric tonnes to 77.6 million metric tonnes as Chile recovers and China continues its increasing trend. Global trade forecast up to 6.6 million tonnes as higher exports for Chile, China, and the US [31].

China's production is expected to go up about 900,000 tonnes to 43.5 million tonnes, due to cultivation of more trees and recovering from weather related losses. EU's production forecasted is to decrease faintly to 12.6 million tonnes as considerable weather-related losses in Central and East European especially in Poland.



# The Impact of SCRM strategies on supply chain resilience: A quantitative study in the Moroccan manufacturing industry

Elandaloussi Zineb<sup>#\*1</sup>, Benbba Brahim<sup>#2</sup>, Ameziane Houdaifa<sup>#3</sup>

<sup>#</sup>National school of Management and Trade, GREFAM research group, Abdelmalek Essaadi University  
90.000, Tangier, Morocco

<sup>1</sup>[elandaloussi.zineb.doc@gmail.co](mailto:elandaloussi.zineb.doc@gmail.co) <sup>\*</sup>Corresponding author

<sup>2</sup>ibenbba@gmail.com

<sup>3</sup>h.ameziane@gmail.com

**Abstract**— Both Supply Chain Risk Management (SCRM) and Supply Chain Resilience (SCRES) are emerging topics in the field of SCM which require more empirical studies. Many authors have tried to explore the link between the main supply chain risk mitigation strategies and SCRES. Through a quantitative study conducted in the Moroccan manufacturing industry context, this paper aims to shed light on the impact of flexibility, redundancy and collaboration on SCRES. Data was gathered through a questionnaire and analyzed using exploratory then confirmatory factor analysis using PLS-SEM. Findings show that redundancy practices have no significant impact on SCRES. On the contrary, increased flexibility and improved collaboration are considered to be the key factors to enhance the resilience of industrial supply chains.

**Keywords**—Supply chain risk mitigation strategies, supply chain resilience, manufacturing industry, PLS-SEM.

## 1. Introduction

Evolving in changing and turbulent environments; modern complex and global supply chains; are becoming more vulnerable than any time. The members of those structures are facing an increasing number of risks originating from different sources and threatening the supply chain performance outcomes both in the short-term and in the long-term because of their unpredictability and the severity of their impact. Thus, the aim of modern supply chain risk management (SCRM) is to allow supply chains to anticipate threats; respond to them quickly and cost effectively and recover to an equilibrium state after being disturbed. This implies the development of the resilience capability. Although the topic of supply chain resilience (SCRES) has been widely studied recently, the majority of researches have focused on defining the concept, highlighting its importance, or identifying its main characteristics. Therefore, there is a poor understanding of antecedents and outcomes of SCRES

[1]. Moreover; it has been argued that the SCRES literature lacks also theoretical justification for the established frameworks and models. In order to fill these gaps, we aim through this survey based study to explore the way SCRM strategies implemented by companies could enhance SCRES. Thus, after a brief summary of literature we will present our conceptual model and hypotheses, and then expose the methodology and the results of the research.

## 2. Theoretical background

### 1.1. Supply chain risks

The expression SCR is used to refer to a negative deviation from the expected value of performance measures which results in undesirable impacts for the firm [2]. From all works that tried to classify the risk sources (e.g. [3]-[4]), the multi-level classification of [5] has received more attention. In this classification, the supply chain risk sources are presented in three main levels which are environmental risk sources, network-related risk sources and organizational risk sources. Several risk drivers are discussed in the literature; the major are the focus on efficiency (rather than effectiveness), the trend to globalization of the supply chains, to focused factories and to outsourcing, the lean management practices, etc. (e.g. [5]-[6]-[7]). The SCR could have a severe impact on supply chain performance indicators; it could lead to financial consequences, reputation damage and health and safety concerns [5].

### 1.2. Supply chain risk management

Since a long time, companies have widely deployed risk analysis techniques to refine their decision making process. However, the real challenge lies in extending this activity to all partners involved in the supply chains. As the vulnerability of the latter increases during last decades, supply chain risk management (SCRM) has received a growing interest from the community of researchers [8]. This activity leads the members of the

# Supply-Chain Management Capabilities Practices in Industrial Organization in Republic of Yemen

Hussein M. Abualrejal<sup>#1</sup>, Jamal D. Abu Doleh<sup>\*2</sup>, Shahimi Mohtar<sup>#3</sup>

<sup>#</sup>*Knowledge Science Research Lab, School of Technology Management and Logistic, College of Business, Universiti Utara Malaysia, Sintok, Kedah, Malaysia*

<sup>1</sup>*abualrejal@uum.edu.my*, <sup>3</sup>*shahimi@uum.edu.my*

<sup>#1</sup>*Faculty of Commerce and Economics, Hodeidah University, Yemen*

<sup>1</sup>*drhusseinabualrejal@gmail.com*

<sup>\*</sup>*Faculty of Economic & Administrative Sciences, Yarmouk University, Jordan*

<sup>2</sup>*jdoleh@yu.edu.jo*

**Abstract**— Supply chain management play major role in performing manufacturing tasks inside and strength collaboration among suppliers and customers. In this paper, the main aims is to examine the level of Supply Chain Management Capabilities (SCMC) practicing in manufacturing in Yemen. To achieve this objective, geographical clustered sample was employed, Thirty nine manufacturing were surveyed in five governorates, top and middle managers were asked to answer the questionnaire. To measure the level of SCMC practice, descriptive and standard deviation employed. The findings show high level of SCMC practice in Yemen's manufacturing is high and supported with consistency in deviation scores.

**Keywords**— *Supply chain management Capabilities, Inbound Transportation, Material Warehousing, Inventory Control- Inbound, Production Support, Packaging, Finished Goods Warehousing, Inventory Control- Outputs, Outbound Transportation, Spanning Capabilities, Purchasing, Customer Order Processing, Strategy Development,, Manufacturing, Yemen, Field Study.*

## 1. Introduction

To ensure continuous competitiveness, organizations must acknowledge the importance of supply chain practices that not only enhance their own performances, but also it can create values through the way of making optimal customer satisfaction and helping to improve the overall performance of a business significantly [1].

Ref. [2] Justified that supply chain management (SCM) is a complex serving to be an important determinant of the success or failure of any manufacturing enterprise.

Organizations seek for competitive capabilities that make them exceed customers' expectations and improve both the market and financial performance [3]-[4]. Despite the significant role played by certain supply chain activities (e.g. transportation and warehousing) in cost containment, supply chain management (SCM) was an aspect long overlooked as a potential area for achieving sustainable competitive advantage [4]. Study's aim is to test the supply chain management capabilities-SCMC practices in manufacturing companies in Yemen empirically, as these manufacturing companies are seeking to secure the competitive position and organizational performance improvement.

However, there is a role shift of SCM from an emphasis on passive cost control, to a proactive role in shaping managers to having recognize that building effective supply chains opens doors of opportunities to generate sustainable competitive advantage [5]-[6]. The positive impact of SCM is evident through these qualities- product availability, efficient order to delivery cycle time, reasonable costs, and good customer service. The advantages are sustainable because success necessitates the merging of diverse and sometimes conflicting groups within the organization and between organizations towards achieving common goals.