Organized by Industrial Engineering Department
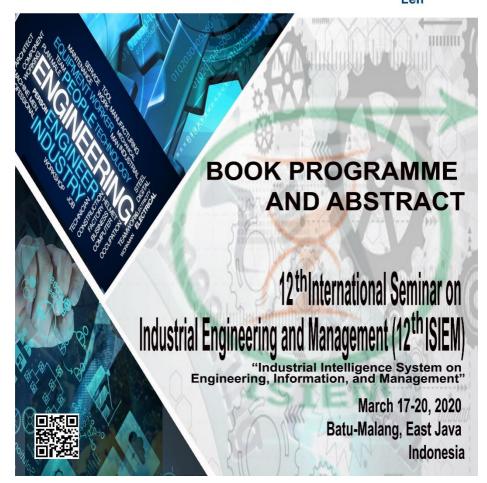
ISIEM

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BOOK PROGRAMME AND ABSTRACT

12th International Seminar on Industrial Engineering and Management (12th ISIEM)

"Industrial Intelligence System on Engineering, Information, and Management"

March 17-20, 2020
Batu-Malang, East Java
Indonesia

PROGRAM BOOK

The 12th International Seminar on Industrial Engineering and Management (12th ISIEM)

Amarta Hill Hotel & Resort, Batu Malang
March 17 – 19, 2020

Organized by :

Industrial Engineering Department of

● **Universitas Pasundan** ● **Universitas Tarumanagara** ●
● **Universitas Trisakti** ● **Al Azhar Indonesia University**●
● **Universitas Esa Unggul** ● **University of Pancasila** ●
●**Atma Jaya Catholic University of Indonesia** ●

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This program book is published in line with the Twelfth International Seminar on Industrial Engineering and Management (12th ISIEM). The International Seminars on Industrial Engineering and Management (ISIEM) is an annual seminar to provide an effective forum for invited speakers, academicians, engineers, professionals and practitioners coming from universities, research institutions, government agencies and industries to share or exchange their ideas, experiences and recent progresses in industrial engineering and management and other related fields in dealing with the dynamics and challenges of the 21st century.

This 12th ISIEM is hosted by seven universities, namely Atma Jaya Catholic University of Indonesia, Universitas Trisakti, Universitas Esa Unggul, Universitas Al-Azhar Indonesia, Universitas Tarumanagara, Universitas Pasundan, and Universitas Pancasila. The seminar main theme for this year is **Industrial Intelligence System on Engineering, Information and Management**. Under this theme, we will explore sustainable innovation in industrial technology, information, and management of global issues. The articles cover a broad spectrum of topics in Industrial Engineering and Management, namely Quality Engineering & Management (QM), Decision Analysis & Information System (DAIS), Supply Chain Management (SCM), Production System (PS), Industrial System (IS), Operation Research (OR), and Ergonomics & Product Design (ER&PD).

The articles in this issue provide an overview of critical research issues reflecting on past achievements and future challenges. Those papers were selected from 149 abstracts, and we will send these papers to IOP for publication as an Open Access Proceeding. This is the third time we have had MOU with IOP in United Kingdom to publishing the papers that is indexed by Scopus. This year's seminar become special as more delegates and papers come and received from various universities as well as countries. We are hosting more than 110 delegates both local and from abroad.

I would like to give special commendation to our keynote speakers **Prof. Dr. Abdul Talib Bon** of Universiti Tun Hussein Onn Malaysia and **Y.BHG. Dato' Professor Dr Hj Mohd Rasid Hussin** of Founder and President of International Institute of Risk Management And Crisis Strategies (IIRMACS). We are also grateful to our International partners, namely Kasetsart University Thailand, Bright Star University Libya, Chung Yuan Christian University Taiwan, and Universiti Tun Hussein Onn Malaysia, for their contribution to enrich the variety of articles and participants. We are deeply grateful to PT. LEN Industri for sponsoring our seminar. We appreciate all reviewers and

editors, for their commitment, effort and dedication in undertaking the task of reviewing all the abstracts and full papers. Examining large number of submissions in a relatively short time frame is always challenging. Highest appreciation is also given to all members of committees for their mutual efforts and invaluable contribution to success of this seminar. Without their help and dedication, it would not be possible to produce this program book in such a short time frame.

Finally, special thanks to all delegates of 12th ISIEM for their contributions. We hope the information in this Program book are useful to all of you. Thank you.

Vivi Triyanti ST., M.Sc.
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- Dr. Lamto Widodo, S.T., M.T., IPM.   Universitas Tarumanagara, Indonesia

International Partnership:

- Prof. Dr. Abdul Talib Bon   Universiti Tun Hussein Onn, Malaysia
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- Dr. Abdelnaser Omran Ali   Bright Star University, Libya
- Dr. Osama Saad Hammad Salleh
- Mr. Alzaroog Saleh Abdulali Emhamed
- Dr.Peerayuth Charnsethikul   Kasetsart University, Thailand
- Dr. Pornthep Anussornnitisarn

Day #1 – Tuesday, 17 March 2020

15.00 – 17.30	Hotel Check-in
17.30 – 18.30	Registration
18.30 – 19.30	Dinner
19.30 – 19.45	Opening Ceremony
19.45 – 21.00	Keynote Speech #1 Y.BHG. Dato' Professor Dr Hj Mohd Rasid Hussin of Founder and President of International Institute of Risk Management And Crisis Strategies (IIRMACS) - Malaysia
21.00 – 21.15	Photo Session

Day #2 – Wednesday, 18 March 2020

06.30 – 08.00	Breakfast and Registration
08.00 – 09.15	Keynote Speech #2: Prof. Dr. Abdul Talib Bon; Professor of Technology Management – Universiti Tun Hussein Onn Malaysia
09.15 – 09.30	Coffee and Tea Break
09.30 – 12.10	Parallel session #1
12.10 – 13.00	Lunch break
13.30 – 15.40	Parallel session #2
15.40 – 16.00	Coffee and Tea Break
18.00 – 19.30	Dinner

06.30 – 08.00   Breakfast
08.00 – 10.00   Parallel session #3
10.00 – 21.00   City Tour

06.30 – 08.30   Breakfast
       12.00   Check Out

Thursday, 18 March 2020

Session 1 (09.30 – 12.00)				
Track : Production & Maintenance System (PS)				
Venue :		Room 1		
Session Chairs:		Lina Gozali, Ph.D		
Paper ID	Time	Name	Title	University
42	09.30 - 09.45	Niken Parwati, Nurdina, A.T. Purwandari, and W.N. Tanjung	Prototype Design of Plastic Waste Processing Equipment	Universitas Al Azhar Indonesia
121	09.45 - 10.00	Nunung Nurhasanah, Machfud, Djumali Mangunwidjaja and Muhamamd Romli	The Application Of Soft System Methodology To Design The Conceptual Model For Intelligent Supply Chain Model Of Natural Fibre Agroindustry	IPB University
29	10.00 - 10.15	Rini Prasetyani, Siti Fatimah Aulia, Gita Timang	Design of facility location for new model of medical pharmaceutical refrigerator production area on PT. XYZ	Pancasila University
32	10.15 - 10.30	Rina Fitriana, Johnson Saragih and Dea Larasati	Production Quality Improvement Of Yamalube Bottle With Six Sigma, FMEA And Data Mining In PT. B	Universitas Trisakti
3	10.30 - 10.45	Lina Gozali, Lamto Widodo, Siti Rohana Nasution and Nicholson Lim	Planning The New Factory Layout Of PT Hartekprima Listrindo Using Systematic Layout Planning (SLP) Method	Tarumanagara University
10	10.45 - 11.00	Aditya Tirta Pratama, Triarti Saraswati, Farhan	Improving Productivity And Quality Of Medium Voltage Cable Production	Swiss German University

Paper ID	Time			Name	Title	University
				Prianggara and Theodora Savitri		
19	11.00	-	11.15	Aprilia Tri Purwandari, A Ratnamirah, N Parwati, and W N Tanjung	Determining Optimum Eco Paving Block Compositions By Using Factorial Design Method	Universitas Al Azhar Indonesia
100	11.15	-	11.30	Tai-Jung Chen, Yu-Ching Lee, Chin-Hsin Chiang Lee and Chin-Hsin Chiang	Optimizing Production Layout And Capacity Via Flexsim- A Case Study Of Y Factory	National Tsing Hua University, Taiwan
47	11.30	-	11.45	Wilson Kosasih, Lithrone Laricha Salomon and Alfred Darius Halim	Integration Of Conjoint Analysis And QFD For New Product Development In Manufacturing Small And Medium Enterprises (Case Study: A Food Company)	Universitas Tarumanagara
54	11.45	-	12.00	Sarastya Dewi, Judi Alhilman and Fransiskus Tatas Dwi Atmaji	Evaluation Of Effectiveness And Cost Of Machine Losses Using Overall Equipment Effectiveness (OEE) And Overall Equipment Cost Loss (OECL) Methods, A Case Study On Toshiba CNC Machine	Telkom University

Thursday, 18 March 2020

Session 1 (09.30 – 12.00)				
Track : Ergonomics & Product Design (ER&PD)				
Venue :	Room 2			
Session Chairs:	Dr. Lamto Widodo, S.T., M.T			
Paper ID	Time	Name	Title	University

140	09.30	-	09.45	Bambang Cahyadi, Amanda Maryanti and Gita Timang	Measurement Of Physiological And Psychological Workloads Of Mechanical Department Operator PT. XYZ	Pancasila University
5	09.45	-	10.00	Mira Rahayu, Frans Ariantono Silalahi and Erna Febrianti	Book Trolley Design For Telkom University Library Using User Centered Design (UCD) Method	Telkom University
109	10.00	-	10.15	Ibrahim Mohammed Gana, A A Shhu and A Gbabo	Optimisation of Mechanical Cassava Peeling System Parameters	Federal Polytechnic Bida, Nigeria
51	10.15	-	10.30	Daniel Siswanto, Hardianto Iridiastadi and Khoirul Muslim	The Effects of Sleep Quality on Vigilance and Driving Performance in a Train Simulator	Institut Teknologi Bandung
56	10.30	-	10.45	Muhammad Iqbal and Amalia Suzianti	The NPD Process Design Canvas: Tool for NPD Process Creation	Telkom University
81	10.45	-	11.00	Yansen Theopilus, Sugih Sudharma Tjandra and Billy Sagara	Development of Low-Cost Multi-Input Automated Storage and Retrieval System (AS/RS) for Educational Purposes	Parahyangan Catholic University
83	11.00	-	11.15	Dene Herwanto and Amalia Suzianti	Workplace Design Process at Indonesian Manufacturing SMEs	Universitas Singaperbangsa Karawang
95	11.15	-	11.30	A A Ramadhan, F A Putra, H Wirawan and Taufik Roni Sahroni	Design and Analysis of Electrical Ergonomic Bionic Grip Wrench	Bina Nusantara University
110	11.30	-	11.45	Shiru Jonathan Jocob and Ibrahim Mohammed Gana	Influence Of Moisture Dependent Physical Properties Of Fluted Pumpkin Vital To Development It's Processing Equipments	Federal Polytechnic Bida, Nigeria

| 6 | 11.45 - 12.00 | Mira Rahayu, Hilman Ardian Ekananda and Il ma Mufidah | Designing A Reading Chair Using Kansei Engineering Approach | Telkom University |

Thursday, 18 March 2020

Session 1 (09.30 – 12.00)				
Track : Industrial System (IS)				
Venue :		Room 3		
Session Chairs:		Vivi Triyanti, S.T., M.Sc		
Paper ID	Time	Name	Title	University
142	09.30 - 09.45	Sulistiandi, Budi Marpaung and Oki Sunardi	Clustering On Small-Scale Food Manufacturing Industry In West Jakarta: A Fuzzy Analytical Hierarchy Process Approach	Krida Wacana Christian University
147	09.45 - 10.00	Nina Sevani, Iwan Aang Soenandi and Fajar Saputra.	Implementation Of Backpropagation Artificial Neural Network For Early Detection Of Vitamin And Mineral Deficiency	Krida Wacana Christian University
11	10.00 - 10.15	Arif Nurrahman, Novan Pizary Husein and Otong Rukmana	Designing Information System For Student Practicum Assessment In The Laboratory	Universitas Islam Bandung
138	10.15 - 10.30	Abdelnaser Omran, Targ Ali Omar Ibrahim and Mohamed Saad Hamad Saleh	Study On Crisis Management In The Libyan Construction Industry	Bright Star University, Libya
30	10.30 - 10.45	Carla Olyvia Doaly, Lithrone Laricha Salomon and Kholid Jabal Arta A	Performance Measurement Using Balance Score Card And Analytic Network Process In Elastomer Switch	Universitas Tarumanagara

				Keypad Manufacturers Indonesia	
41	10.45	-	11.00	Steffi Ratanadewi and Marsellinus Bachtiar Wahju	Inventory And Order System Development At PT.X	Atma Jaya Catholic University of Indonesia
48	11.00	-	11.15	Wilson Kosasih, Carla Olyvia Doaly and Sabhara	Reducing Waste In Manufacturing Industry Using A Cost Integrated Value Stream Mapping Approach	Universitas Tarumanagara
68	11.15	-	11.30	Listiani Nurul Huda	Analysis Of Socio-Technical Approach And Socio User Experience Network Analysis (SNA) To Address Objections Ergonomic Loom In The Village Of Lumban Suhi-Suhi	Universitas Sumatera Utara
71	11.30	-	11.45	Arif Wicaksono, Muharman Lubis, Warih Puspitasari and Fritasya Dwiputri S.	Blueprint Of Perceived Convenience Indicators Towards The Quality Of Infrastructure Of Banking Company	Telkom University
137	11.45	-	12.00	Anas Mussa Abdulhafid Alsrah, Diara Md Jadi and Abdelnaser Omran	Relationship Between Safety Management System, Safety Climate And Safety Performance In The Libyan Construction Sites	Bright Star University, Libya

Thursday, 18 March 2020

Session 1 (09.30 – 12.00)				
Track : Supply Chain Management (SCM)				
Venue :		Room 4		
Session Chairs:		Dr. Ir. Yogi Yogaswara,M.T		
Paper ID	Time	Name	Title	University
144	09.30 - 09.45	Hassan Andrew Fornah and I Nyoman Pujawan	Assessing Supply Chain Practices And How They Are Perceived To Impact Performance Of Firms In Sierra Leone: A Case Study In A Telecommunication Company	Institut Teknologi Sepuluh Nopember
145	09.45 - 10.00	Alimamy Kamara and I Nyoman Pujawan	Investigating The Impact Of Supply Chain Management On The Performance Of Manufacturing Industries In Sierra Leone: Case Study Of Sierra Leone Bottling Company (SLBC)	Institut Teknologi Sepuluh Nopember
13	10.00 - 10.15	Teguh Sri Ngadono and Zulfa Fitri Ikatrinasari	Raw Materials Inventory Planning In Automotive Industries By EOQ Method Consider With The Contract Agreement	Universitas Mercu Buana
126	10.15 - 10.30	Ferdian Suprata, Christine Natalia and Andre Sugioko	Analysing The Cause Of Idle Time In Loading And Unloading Operation At Indonesian International Port Container Terminal: Port Of Tanjung Priok Case Study	Atma Jaya Catholic University of Indonesia
17	10.30 - 10.45	Ardvin Kester S. Ong, Rex Aurelius C. Robielos, Yung-Tsan Jou and Hui-Ming Wee Wee	Three-Level Supply Chain Considering Direct And Indirect Transportation Cost And Carbon Emissions	Chung Yuan Christian University, Taiwan

34	10.45 - 11.00	Dian Dewi, Siddhi Pittayachawan and Elizabeth Tait	A Conceptual Framework For Servitisation Of The Manufacturing Companies To Deliver Product–Service Systems Solutions: A Study Case Of The Indonesian Motorcycle Industry	Widya Mandala Catholic University Surabaya; Royal Melbourne Institute of Technology, Australia
43	11.00 - 11.15	Ahmad , Wilson Kosasih, Helena Kristina, Lamto Widodo, and Christin Pasaribu	Mitigation Of Supply Chain Risk Using HOR Model at PT. Sumber Karya Indah	Universitas Tarumanagara
63	11.15 - 11.30	Aloysius Junianto and Dewinta Sugandha	EPR Approach For Better Waste Management System For Mobile Phone Design In Indonesia	Agung Podomoro University
64	11.30 - 11.45	Satrio Mulyo Nugroho, Laila Nafisah, Muham mad Shodiq Abdul Khannan, Hasan Mastrisiswadi an d Muhammad Nasir Ramdhani	Vehicle Routing Problem With Heterogeneous Fleet, Split Delivery, Multiple Product, Multiple Trip, And Time Windows: A Case Study In Fuel Distribution	Universitas Pembangunan Nasional Veteran Yogyakarta
73	11.45 - 12.00	Parwadi Moengin and Fakhri Darussalam	Scheduling And Allocation Of Airport Service Manpower By Considering Time And Work Constraints Using M-MAPTWTC Method: A Case Study	Universitas Trisakti

Thursday, 18 March 2020

Paper ID	Time			Name	Title	University
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<table>
<tr><td colspan="7" align="center">Session 2 (13.00 – 15.30)</td></tr>
<tr><td colspan="7">Track : Decision Analysis and Information System (DA&IS)</td></tr>
<tr><td colspan="3">Venue :</td><td colspan="4">Room 1</td></tr>
<tr><td colspan="3">Session Chairs:</td><td colspan="4">Nunung Nurhasanah, S.T., M.Si</td></tr>
</table>

Paper ID	Time		Name	Title	University
8	13.00 -	13.15	Feliks Prasepta Sejahtera Surbakti	What Is Effective Use of Big Data? The Consensual Definition of Effective Use Of Big Data	Atma Jaya Catholic University of Indonesia
114	13.15 -	13.30	Dadan Umar Daihani and Sony Sonjaya	Development Of Electronic-Based Investigation Management (EMP) Of POLRI	Universitas Trisakti
115	13.30 -	13.45	Resti Afiadinie and Moses L Singgih	Optimization Of Interest Income By Determining Interest Rate Of Revolving Credit Line	Institut Teknologi Sepuluh Nopember
39	13.45 -	14.00	Rayinda Pramuditya Soesanto and Wawan Tripiawan	Design of Multi Criteria Decision Making Tools for IT Project Selection: A Case From Software House	Telkom University
70	14.00 -	14.15	Dutho Suh Utomo, Naraphorn Paoprasert and Ramidayu Yousuk	Determinants of Donation Behaviour on Flood Disasters in Indonesia	Kasetsart University, Thailand
61	14.15 -	14.30	Nuzul Fatma Septiana and Iwan Sukarno	Safety Stock Analysis of Ship Fuel In Shipping Company	Universitas Pertamina
79	14.30 -	14.45	Varis Limlawan and Pornthep Anussornnitisarn	Development Of Waiting Time Predictor Based Artificial Neural Network	Kasetsart University, Thailand
134	14.45 -	15.00	Elpawati and Nidaul Hasanati	Designing The E-Marketplace System For Agriculture Products Using Object Oriented Method	UIN Syarif Hidayatulah Jakarta

139	15.00	-	15.15	Johnson Saragih, Rina Fitriana and Tri Andryan	Quality Improvement For Product Body 2-1 At Pt X	Universitas Trisakti
135	15.15	-	15.30	Abdelnaser Omran and Yahya Saad Hamad Saleh	Environmental Management System (EMS) Within Construction Site: A Case Study In Kelantan State, Malaysia	Bright Star University, Libya

Thursday, 18 March 2020

Session 2 (13.00 – 15.30)						
Track : Quality Engineering & Management (QM)						
Venue :			Room 2			
Session Chairs:			Dr. Rina Fitriana, S.T., M.M			
Paper ID	Time			Name	Title	University
7	13.00	-	13.15	Prima Fithri, Dede Jovie Andra, Eri Wirdianto, and Taufik	The Use Of FMEA For The Quality Control Analysis Of Greige Fabrics (Case Study In The Weaving Deparment Of PT. Unitex, Tbk)	Universitas Andalas
26	13.15	-	13.30	Akhmad Wasiur Rizqi and Moh Jufriyanto	Quality Satisfaction Of Academic Service Industrial Engineering In Private Higher Education KOPERTIS VII Surabaya Area	University of Muhammadiyah Gresik
28	13.30	-	13.45	Chaerul Fahmi Yusuf and Nur Mawati Mambuhu	Services Marketing Mix Services Satisfaction Hotel In Luwuk	Universitas Muhammadiyah Luwuk
40	13.45	-	14.00	Indah Hayati and Luciana Andrawina	Comprehensive Framework Of Customer Loyalty In Fixed Broadband Industry	Telkom University

75	14.00 - 14.15	Erwin Widodo, Heri Suprayitno and Suparno	Productivity Analysis Stevedore, A Descriptive Analysis Method With Integration, Importance Performance Analysis, Quality Function Deployment (Study Case: PT. Port Indonesia III (Persero) Branch Gresiks	Institut Teknologi Sepuluh Nopember
57	14.15 - 14.30	Yati Rohayati and Rizka Hasna Delvika	Preparation For The Implementation Of ISO 21001-2018 Using Assistance Program: Case Study Of Telkom Vocational High School	Telkom University
62	14.30 - 14.45	Rahmi Ambarita Saragih, Franka Hendra Sukma, Kartiko Eko Putranto and Supriyono	Designing Templates To Support And Monitoring The Activities Of Material Requipment Planning (MRP)	Institut Sains danTeknologi Nasional
69	14.45 - 15.00	Yenny Sari, Muhammad Rosiawan and Arbi Hadiyat	The Design And Implementation Of A Performance Measurement System To Pursue School Excellence: The Integration Of Indonesian National Accreditation Standard Into Baldrige Education Criteria	University of Surabaya
125	15.00 - 15.15	Rina Fitriana, Johnson Saragih and Salma Defina Fauziyah	Quality Improvement On Common Rail Type-1 Product Using Six Sigma Method And Data Mining On Forging Line In PT. ABC	Universitas Trisakti
94	15.15 - 15.30	Erwin Widodo, Umaiyah and Bambang Syairudin	Integration Of Balanced Scorecard And Game Theory For Business	Institut Teknologi Sepuluh Nopember

	Entity's Performance Measurement.	

Thursday, 18 March 2020

	Session 2 (13.00 – 15.30)			
Track : Industrial System (IS)				
Venue :		Room 3		
Session Chairs:		Dr. Winnie Septiani, S.T., M.Si		
Paper ID	Time	Name	Title	University
76	13.00 - 13.15	Yuzar Haspani, Tien F. Kusumasari, Muharman Lubis and Chandra Wardana	The Challenges Of System Usability Scale (SUS) For Testing The Interface Of Android Mobile Application Of Hiking	Telkom University
80	13.15 - 13.30	Meilizar, Ridha Luthvina, Nurike Oktavia and Putranesia	Development Strategy Of The Virgin Coconut Oil Industry And Coconut Farmers Partnership System In Padang Pariaman Regency	Bung Hatta Univesity
136	13.30 - 13.45	Abdelsalam O. Gebril and Abdelnaser Omran	Evaluating The Importance Of Environmental Education Practice In The Libyan Schools In Al-Bayda City, Libya	Bright Star University, Libya
84	13.45 - 14.00	Bayu Dwi Aqsha, Nurhadi Siswanto and Suparno	A System Performance Analysis Of Ship To Shore Operation Considering Crane Availabilities Using Simulation Approach	Institut Teknologi Sepuluh Nopember
86	14.00 - 14.15	Adithya Sudiarno and Adiek Sudarni	Assessment Of Safety Culture Maturity Level In Production Area Of A Steel Manufacturer	Institut Teknologi Sepuluh Nopember
89	14.15 - 14.30	M. Breda Taftayani, Muharman Lubis, Soni F. Surya	Stress And Cross Browsing Testing For Educational Start Up Website Application	Telkom University

Paper ID	Time			Name	Title	University
				Gumilang and Chandra Wardana		
93	14.30	-	14.45	Muharman Lubis, Rizky Cherthio Annisyah and Lyvia Winiyanti L.	ITSM Analysis Using ITIL V3 In Service Operation In PT. Inovasi Tjaraka Buana	Telkom University
105	14.45	-	15.00	Mahya Indra Tama, Nurhadi Siswanto and Suparno	Discrete Event Simulation Modeling For Classifying The Container Yard Availability Considering Dock Unloading Activity	Institut Teknologi Sepuluh Nopember
107	15.00	-	15.15	Wisnu Dewobroto and Iveline Anne Marie	Lean Startup Approach On Product Design And Manufacture Facility Planning In Uncertain Business Climate	Podomoro University
116	15.15	-	15.30	Alfarid Hendro Yuwono, Muhammad Rivai and Tri Arief Sardjono	Solar Panel-Based Wireless Battery Charging System Using Fuzzy Control Method	Institut Teknologi Sepuluh Nopember

Thursday, 18 March 2020

Session 2 (13.00 – 15.30)						
Track : Operation Research (OR)						
Venue :			Room 4			
Session Chairs:			Dr. Ir. Tjutju Dimyati			
Paper ID	Time			Name	Title	University
149	13.00	-	13.15	Prof. Dr. Abdul Talib Bon	Optimizing Schedule In Furniture Planning	Universiti Tun Hussein Onn, Malaysia
15	13.15	-	13.30	Harummi Sekar Amarilies, A.A.N. Perwira Redi, Ilma Mufidah and Reny Nadlifatin	Greedy Heuristics for The Maximum Covering Location Problem: A Case Study Of Optimal Trashcan Location In Kampung Cipare – Tenjo – West Java	Telkom University
33	13.30	-	13.45	Yosef Daryanto, Bellachintya Reira Christata	Retailer's EOQ model considering demand and holding cost of the	Universitas Atma Jaya Yogyakarta

			and Ika Murti Kristiyani	defective items under carbon emission tax	
50	13.45	-	14.00	Tjutju Dimyati	Integrated Model For Multi-Criteria Supplier Selection And Order Allocation Problem	Universitas Pasundan
106	14.00	-	14.15	Fransiscus Pratikto and B Batara	Dynamic Pricing in a Coffee Shop	Parahyangan Catholic University
78	14.15	-	14.30	James Yu, Sri Retno Purwaningsih and Hui Ming Wee	A Multi-Objective Model For A Chemical Industry Considering Economic Risk And Environment	Chung Yuan Christian University, Taiwan
Track : Entrepreneurship & Technopreneurship (ET)						
12	14.30	-	14.45	Wydzka Tasha Aulia Akbar, Endang Chumaidiyah and Meldi Rendra	Analysis Of Choice Shrimp Technology Based On Business, Productivity, Financial And Risk Process	Telkom University
49	14.45	-	15.00	Hanaa Rosyada Wijayanti and Endang Chumaidiyah	Measurement Of Feasibility And Risk Level On Modern Embroidery Kebaya Boutique Establishment In Jakarta	Telkom University
53	15.00	-	15.15	Meuthia Murfi, Endang Chumaidiyah and Wawan Tripiawan	Feasibility Analysis And Website Design Of Najwa Collections Fashion Products	Telkom University
82	15.15	-	15.30	Muhammad Rifky Kantaprawira, Endang Chumaidiyah and Rahmat Fauzi	Business Feasibility Analysis And Website Based E-Commerce System Design Using System Usability Scale On Zauber Denim Company	Telkom University

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Paper ID	Time			Name	Title	University
Session 3 (15.45 – 18.15)						
Track : Production & Maintenance System (PS)						
Venue :				Room 1		
Session Chairs:				Dr. Ir. Arum Sari, M.Sc		
123	15.45	-	16.00	Bagus Susilo Pramuwicaksono Susanto and Nani Kurniati	Multi Sensor-Based Failure Diagnosis Using The Mahalanobis Taguchi System	Institut Teknologi Sepuluh Nopember
27	16.00	-	16.15	Lithrone Laricha Salomon, Wilson Kosasih and Carla O Doaly	Lean Service Applications Using FMEA And VSM Approaches (Case Study: Public Healthcare Unit In Jakarta)	Universitas Tarumanagara
67	16.15	-	16.30	Melviani Karolin Kamaralo, Judi Alhilman and Fransiskus Tatas Dwi Atmaji	Life Cycle Cost Analysis In Construction Of Green Building Concept, A Case Study	Telkom University
141	16.30	-	16.45	Agung Sasongko, Iveline Anne Marie and Fakhrul Arifin	Forecasting For Steel Production Using Artificial Neural Networks And Feasibility Analysis Of Plant Regeneration Acid Development In Pt. XYZ	Universitas Trisakti
Track : Quality Engineering & Management (QM)						
112	16.45	-	17.00	Arum Sari and Rifqi Yanuar	Performance Evaluation Of An EWMA P Chart Based On Improve Square Root Transformation To Detect Small Shift Process Variation	Universitas Pasundan
117	17.00	-	17.15	Yudha Prasetyawan and Naufal Ghani Ibrahim	Warehouse Improvement Evaluation Using Lean Warehousing Approach And Linear Programming	Institut Teknologi Sepuluh Nopember
118	17.15	-	17.30	Yudha Prasetyawan, Farouk	The Proposed OEE-SIGMA Prediction For Increased Profits	Institut Teknologi Sepuluh Nopember

Paper ID	Time			Name	Title	University
				Giffari and Bagas Saestu Adi Putera		
124	17.30	-	17.45	Arief Suwandi and Zulh ilmi Naufal Aulia	Improved YM Laser Machine Performance With Overall Equipment Effectiveness And Fault Tree Analysis Methods Implementation at Pt. XYZ	Universitas Esa Unggul
90	17.45	-	18.00	Muqimuddin and Moses Laksono Singgih	Integrated FMEA-MCDM For Prioritizing Operational Disruption In Production Process	Institut Teknologi Sepuluh Nopember
146	18.00	-	18.15	Mohammad Yudi Masduky Sholihin, Rini Prasetyani and Bin tang Catur Mukti Pangestu	Analysis Of The Impacts Of Motor Vehicle Exhaust Emissions at Pancasila University On Health In Order To Create A Green Campus	Pancasila University

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Session 3 (15.45 – 18.30)						
Track : Industrial System (IS)						
Venue :			Room 2			
Session Chairs:			Dr. Ir. Nofi Erni , M.M			
Paper ID	Time			Name	Title	University
20	15.45	-	16.00	Vivi Triyanti and Domia Indah Rudolf	Development Of Tool For Measuring Human Reaction Time	Atma Jaya Catholic University of Indonesia
25	16.00	-	16.15	Winnie Septiani, Gebby Aqiilah Aqiilah Divia and Sucipto Adi Suwiryo	Warehouse Layout Designing of Cable Manufacturing Company Using Dedicated Storage and Simulation Promodel	Universitas Trisakti
36	16.15	-	16.30	Kirana Rukmayuninda Ririh, Siswanto Wahyu Wibowo, Nur Yulianti Hidayah and	Risk Impact Analysis Using House of Risk Method and Probability Impact Matrix in Double-Double Track (DDT) Project PT. Hutama Karya	Pancasila University

				Desinta Rahayu Ningtyas		
77	16.30	-	16.45	Ambreen Khattak, Tayyaba Shaheen, Muhammad Hamza, Iphov Kumala Sriwana, Muhammad Shafiq, N T X Hoa and Ayesha Kamal	Factors Influencing Customers' Satisfaction: A Case Study Of SMES From Pakistan	University of the Punjab, Pakistan

Track : Ergonomics & Product Design (ER&PD)

37	16.45	-	17.00	Lamto Widodo, Silvi Ariyanti and Andreas Jason	Ergonomic Intervention To Improve The Productivity Of Brick Press Tools In Small And Medium Enterprise Akheng Kobar	Universitas Tarumanagara
113	17.00	-	17.15	Vivi Triyanti, Hastian Abdul Azis, Hardianto Iridiastadi and Yassierli	Workload and Fatigue Assessment on Air Traffic Controller	Atma Jaya Catholic University of Indonesia
131	17.15	-	17.30	Nofi Erni and Krisna Karamiko Alexander	Implementation Cognitive Ergonomic on Measurement Mental Workload (Case study : Marketing Employee of Insurance Company)	Universitas Esa Unggul

Track : Decision Analysis and Information System (DA&IS)

1	17.30	-	17.45	Wawan Tripiawan, Shofita Widiana and Yenny	Designing Bank Guarantee Website Tracking Model using UML	Telkom University
9	17.45	-	18.00	Dino Rimantho and Dwi Ardinia	Selection Strategy Implementation of Cleaner Production Using ISM and AHP Method In Chemical Laboratory Of Services Industry	Pancasila University
52	18.00	-	18.15	Judi Alhilman, Muhammad Fadhil Habibie and Wawan Tripiawan	Web-Based Application of Reliability Availability Maintainability and Cost of Unreliability Method to	Telkom University

Paper ID	Time			Name	Title	University
					Analyze Performance of the Machine	
87	18.15	-	18.30	Asrul Ismail, Natalia Hartono, S Zeybek, D T Pham[1]	Using The Bees Algorithm To Solve Combinatorial Optimisation Problems From TSPLIB	Pancasila University; University of Birmingham , UK

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Session 3 (15.45 – 18.15)						
Track : Industrial System (IS)						
Venue :			Room 3			
Session Chairs:			Aprilia Tri Purwandari, S.T., M.T			
Paper ID	**Time**			**Name**	**Title**	**University**
72	15.45	-	16.00	Alif Miftahul J., Muharman Lubis , Rd. Rohmat Saedudin and Fritasya Dwiputri S.	Designing The Smart Health Function Towards Puskesmas (Citizen Health Centre) Based On Smart City Concept	Telkom University
101	16.00	-	16.15	Muharman Lubis , Exa Parmita and Lyvia Winiyanti L.	ERP Implementation In Crisis Management: A Case Study Of Government-Owned Electricity Company	Telkom University
133	16.15	-	16.30	Fitri Suryanti and Adithya Sudiarno	Combination Of Value Stream Mapping And House Of Risk Methods To Eliminate Waste In Productivity Enhancement In Production Area Of Fertilizer Company	Institut Teknologi Sepuluh Nopember
143	16.30	-	16.45	Tiena Amran	Management Of Plastic Waste Recycling By Value Stream Mapping	Universitas Trisakti
Track : Supply Chain Management (SCM)						
85	16.45	-	17.00	Dewi Rekno and I Nyoman Pujawan	Analysis Of Comparison Of Onion Production Efficiency (Allium Ascalonicum) Tajuk	Institut Teknologi Sepuluh Nopember

Paper ID	Time			Name	Title	University
					Variety In Rejoso Sub-District – Nganjuk	
97	17.00	-	17.15	Mia Mutiasari, Widya N. Tanjung, Niken Parwati, , Aprilia Tri Purwandari, and Us Watun Islamiah	User Interface Design In Supply Chain Risk Assessment Of Excel-Based Wooden Toy Industry Using WFMECA Method	Universitas Al Azhar Indonesia
98	17.15	-	17.30	Us Watun Islamiah, Widya N. Tanjung, Niken Parwati, , Aprilia Tri Purwandari, and Mia Mutiasari	Information System Design In Supply Chain Risk Evaluation Of Excel Based Wooden Toy Industry Using Fuzzy House Of Risk (F-HOR)	Universitas Al Azhar Indonesia
Track : Decision Analysis and Information System (DA&IS)						
102	17.30	-	17.45	Muhammad Ariyon, Aldo Setiawan and Refiandi Reza	Economic Feasibility Study Of Onshore Exploration Oil Field Developmment Using Gross Split Contract	Universitas Islam Riau
Track : Ergonomics & Product Design (ER&PD)						
108	17.45	-	18.00	T Eben Haezar, W Samdan, A Yudha and Taufik Roni Sahroni	Design of Mobile and Integrated Tire Repair Tools for Motorcycle	Bina Nusantara University
148	18.00	-	18.15	Taufiqur Rachman and Stefanny Liyanawati Zalukhu.	Determination of Standard Time and Output Production of Spring Frame Mattress Components Using Work Sampling Method	Universitas Esa Unggul

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Session 3 (15.45 – 18.30)						
Track : Supply Chain Management (SCM)						
Venue :			Room 4			
Session Chairs:			Dr. Iphov Kumala Sriwana, S.T., M.Si			
Paper ID	Time			Name	Title	University
21	15.45	-	16.00	Stefani Prima Dias, Chendrasari Wahyu Oktavia,	Risk Mitigation Strategies On Supply Chain PT. X	Atma Jaya Catholic University of Indonesia

			Riana Magdalena, M A Lilajati		
23	16.00	-	16.15	Christine Natalia, Chendrasari Wahyu Oktavia and Trifenaus Prabu Hidayat	Integrated ISM-ANP Method For Supplier Selection Criteria Analysis : A Case Study Of Construction Company	Atma Jaya Catholic University of Indonesia
45	16.15	-	16.30	Yogi Yogaswara and Neng Resi Andriyani	Determination Of Multi-Product Distribution Using Capacitated Vehicle Routing Problem (CVRP) And Product Cubication Dimensions Restriction	Universitas Pasundan
74	16.30	-	16.45	Shahzada Zaman Khan, Muhammad Azhar Ashfaq, Muhammad Usman Awan, Hakeem Rehman, Ayesha Kamal, N T X Hoa and Muhammad Shafiq	Investigating Supply Chain Issues In The Food Processing Industry	University of the Punjab, Pakistan
Track : Quality Engineering & Management (QM)						
31	16.45	-	17.00	Syarif Hidayat, Syita Fauzia and Nunung Nurhasanah	Managing Internal Bullwhip Effect To Plan Product Distribution In A Garment Factory	Universitas Al Azhar Indonesia
44	17.00	-	17.15	Anggina Sandy Sundari, Eka Putri Setyawati and Dino Rimantho	Quality Control Analysis Of Tube Sandwich Using Six Sigma Method In Indonesian Cement Company	Pancasila University
111	17.15	-	17.30	Wahyukaton	Preventive Maintenance Scheduling For Sifter Machine In Flour Mills	Universitas Pasundan
Track : Operation Research (OR)						
14	17.30	-	17.45	Nur Yulianti Hidayah, Muhammad Syafrizal and	Analysis Of Textile Dye Production Scheduling Using FCFS, CDS And Heuristic Pour Methods	Pancasila University

		Muchtar Darmawan		
46	17.45 - 18.00	Riana Magdalena, Stefani Prima Dias, and A P Ginting[1]	Allocation of Maltodextrin Raw Material Orders by Fuzzy Analytic Network Process (FANP) and Goal Programming Methods (Study Case: PT. Neopangan Selaras Indonesia)	Atma Jaya Catholic University of Indonesia
119	18.00 - 18.15	Iphov Kumala Sriwana and Nadya Syauqillah	Analysis of Overall Effectiveness on Hall Separator Punching Machine at PT. DNIA	Universitas Esa Unggul
96	18.15 - 18.30	Farra Nabila Murti and Ahmad Chirzun	Balanced Scorecard Using ISM-ANP at the Directorate of Human Resources, Al Azhar University, Indonesia	Universitas Al Azhar Indonesia

Three-Level Supply Chain Considering Direct and Indirect Transportation Cost and Carbon Emissions

A K S Ong[1,3], **R A C Robielos**[1,4], **Y. T. Jou**[2,5] and **H M Wee**[2,6]
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Abstract. Managing sustainable supply chains has become a challenge for most industries primarily because environmental, social, and economic aspects must be taken into account, and the difficulty in satisfying customer demands for sustainability and environmental protection has been increasing globally, making sustainability the focus of numerous studies on green supply chains. Previous studies are usually only applicable to a specific product supply chain. Therefore, this paper review model that focuses on a general three-level supply chain considering direct and indirect transport and industrial carbon emissions and costs. Specifically, the model involves joint economic lot sizing considering a single set-up-multiple-delivery (SSMD) policy.
Keywords: carbon tax, single set-up-multiple-delivery, supply chain, sustainability

Determining optimum eco paving block compositions by using factorial design method

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Abstract. Some plastic waste processing into economically valuable recycle products has been done. By using a plastic waste processing machine, a variety of products made from plastic waste can be made, one of which is a paving block that is commonly used as building material. This paving block is called as eco paving block to show the ecology side by using plastic waste as raw material. It has been produced with various