

JOURNAL INDUSTRIAL SERVICES

vol. 9, no. 1, April 2023

Published by:
Department of Industrial Engineering
Faculty of Engineering, Universitas Sultan Ageng Tirtayasa
Cilegon, Indonesia

JISS	vol. 9	no. 1	Page: 1–80	April, 2023	ISSN (Print) : 24610631 ISSN (Online): 24610623
------	-----------	----------	---------------	-------------	--

Journal Industrial Servicess

Editors and Reviewers

I. Editorial Team

Editor-in-chief

Bobby Kurniawan, Teknik Industri Universitas Sultan Ageng Tirtayasa

Associate Editors

Noni Oktiana Setiowati, S.T., M.Sc., Institut Teknologi Kalimantan, Indonesia

Indra Setiawan, ST., MT., ASTRA Polytechnic, Indonesia

Akbar Gunawan, ST., MT, Universitas Sultan Ageng Tirtayasa, Indonesia

Anik Nur Habyba, S.TP., M.Si., Universitas Trisakti, Indonesia

Area Editor: Smart Manufacturing System and IOT

Prof. Shigeru Fujimura, Waseda University, Japan

Dwinanto Dwinanto, Universitas Sultan AgengTirtayasa, Indonesia

Anastasia Kadek Dety Lestari, Universitas Timor, Indonesia

Area Editor: Supply Chain Management

Prof. Dr. Wahyudi Sutopo, Universitas Negeri Sebelas Maret, Surakarta, Indonesia

Ivonne Ayesha, Universitas Muhammadiyah Bandung, Indonesia

Rizki Prakasa Hasibuan, Universitas Putera Batam, Indonesia

Fredy Sumasto, Politeknik STMI Jakarta, Indonesia

Area Editor: Mathematical Modeling

Dr. Hennie Husniah, Universitas Langlang Buana, Indonesia

Area Editor: Ergonomic, Occupational Health and Safety Environment

Dr. Lovely Lady, ST., MT, Universitas Sultan Ageng Tirtayasa, Indonesia

Roimanson Panjaitan, Institut Agama Kristen Negeri Kupang, Indonesia

Vivi Mardian, Universitas Pendidikan Indonesia, Indonesia

Area Editor: Manufacturing Process

Dr. Mekro Permana Pinem, ST., MT., Universitas Sultan Ageng Tirtayasa, Indonesia

Area Editor: Industrial Management

M. Mujiya Ulkhaq, Diponegoro University, Indonesia

Noveri Maulana, Sekolah Tinggi Manajemen PPM-Jakarta, Indonesia

Dwi Maryani Rispatiningsih, ST Agama Buddha Negeri Raden Wijaya Wonogiri, Indonesia

Area Editor: Production Control and Scheduling

B. Handoko Purwojatmiko, Politeknik STMI Jakarta, Indonesia

Arrazy Elba Ridha, S.ST., M.T., Universitas Teuku Umar, Indonesia

II. Reviewers

Dr. Wen Song, Waseda University, Japan

Antragama Ewa Abbas, ST., MSc., Delft University of Technology, Netherlands

Fellek Getu Tadesse, School of Mechanical and industrial Engineering, Ethiopian Institute of Technology-Mekelle, Ethiopia, Ethiopia

Rafiqah Fijra, ST, MSc, Universitas Muhammadiyah Palembang, Indonesia

Agus Nurofik, STIA Adabiah Padang, Indonesia

Ni Nyoman Ayu Suciartini, UHN I Gusti Bagus Sugriwa Denpasar
Angra Meta Ruswana, Universitas Galuh
Muhammad Hasan, Universitas Negeri Makassar, Indonesia
Reza Fahlevi Lubis, S. Ak., CAP., AWP., CPMP, Universitas Nasional, Indonesia
Nidya Wisudawati, S.T., M.T., M.Eng, Universitas Muhammadiyah Palembang, Indonesia
Rurry Patradhiani, S.T., M.T., Universitas Muhammadiyah Palembang, Indonesia
Fatturroyhan Fatturroyhan, Universitas Darussalam Gontor, Indonesia
Sulfikar Sallu, Universitas Sembilan Belas November, Indonesia
Ika Rezvani Aprita, Politeknik Indonesia Venezuela, Indonesia
Adhi Putra Satria, UNTAG Semarang, Indonesia
Rosa Nikmatul Fajri, Universitas Alma Ata, Indonesia
Agus Ismail, Universitas Mercu Buana, Indonesia
Tania Avienda Gusman, Universitas Muhammadiyah Cirebon, Indonesia
Dutho Suh Utomo, Universitas Mulawarman, Indonesia
Febriza Imansuri, Politeknik STMI Jakarta, Indonesia
Dr. Surya Cipta Ramadhan Kete, M.Sc, Halu Oleo University, Indonesia
Yudha Adi Kusuma, Universitas PGRI Madiun, Indonesia
Bimastyaji Surya Ramadan, Universitas Diponegoro, Indonesia
Iing Pamungkas, Universitas Teuku Umar, Indonesia
Erni Krisnaningsih, Banten Jaya University, Indonesia
Dr. Muhammad Hisjam, Universitas Negeri Sebelas Maret, Surakarta, Indonesia
Dr. Dwi Kurniawan, ST., MT, Institut Teknologi Nasional, Indonesia
Billy Nugraha, Indonesia
Mohammad Mi'radj Isnaini, ST., MT., Ph.D, Institut Teknologi Bandung, Indonesia
Dr. Tifa Noer Amelia, SE., M.Acc, Perbanas Institute, Indonesia
Dr. Eng. Agung Sudrajad, Universitas Sultan Ageng Tirtayasa, Indonesia
Dr. Rocky Alfanz, ST., MT., Universitas Sultan Ageng Tirtayasa
Andrian Haro, S.Si., M.M., Universitas Negeri Jakarta, Indonesia
Rosita Kusumawati, S.Si., M.Sc., Universitas Negeri Yogyakarta, Indonesia
Riski Arifin, S.T., M.T., Universitas Syiah Kuala
Gama Harta Nugraha Nur Rahayu, Universitas Pancasila, Indonesia
Saiful Hendra, S. T., M. T., Universitas Mercubuana, Indonesia
Dina Rachmawaty, ST., MT, Institut Teknologi Telkom Purwokerto, Indonesia
Dr. Irvan Setiadi Kartawiria, ST., M.Sc, Swiss German University, Indonesia
Nuraida Wahyuni, ST., MT, Universitas Sultan Ageng Tirtayasa, Indonesia
Nabila Nabila Noor Qisthani, ST., MT., Institut Teknologi Telkom Purwokerto, Indonesia
Anastasia Febiyani, ST., MT, Institut Teknologi Telkom Purwokerto, Indonesia

Journal Industrial Servicess

Table of Content vol. 9, no. 1, April 2023

Editors and Reviewers	i
Table of content	iv
Editorial preface	v
Non-stationary time series data for natural rubber inventory forecasting: A case study <i>Muhammad Ilham Adelino, Meldia Fitri, Mohammad Farid</i>	1-10
Identification and strategy for the risk mitigation of supply chain with Fuzzy House of Risk: A case study in pallet products <i>Maria Ulfah, Achmad Bahauddin, Dyah Lintang Trenggonowati, Ratna Ekawati, Faula Arina, Atia Sonda, Asep Ridwan, Putro Ferro Ferdinandt</i>	11-22
A comparative study on e-wallet user perceptions: Pre- and post-COVID-19 analysis using e-SERVQUAL <i>Nuraida Wahyuni, Zahran Fauzan, Akbar Gunawan, Shanti Kirana Anggraeni, Evi Febianti, Ratna Ekawati</i>	23-28
Ant Colony Optimization algorithm for determining the shortest routes to reduce distribution costs <i>Yusraini Muharni, Evi Febianti, Febby Chandra Adipradana, Muhammad Adha Ilhami, Ade Irman Saeful Muttaqin, Kulsum Kulsum, Lely Herlina, Anting Wulandari, Hartono Hartono</i>	29-36
Literature review using the concept of Value Stream Mapping in the manufacturing industry <i>Tito Antonio, Sunu Surya Anggara, Elkiopas Sedubun, Siti Farah Nurhaliza, Rohmat Setiawan, Indra Setiawan, Shafa Azzahra</i>	37-46
Design of LPG transport aids to prevent musculoskeletal risks <i>Nustin Merdiana Dewantari, Aditya Rahadian Fachrur, Ade Sri Mariawati, Rizky Akbari, Muhammad Ferdiansyah, Findi Choerun Annisa</i>	47-52
Product quality control analysis using the six sigma method <i>Asep Ridwan, Atia Sonda, Amelia Amelia</i>	53-58
How to choose the best promotion strategies for increasing prospective students: The role of risk management factors <i>Yudha Adi Kusuma</i>	59-66
Optimizing packaging process efficiency and quality control at a black carbon manufacturer through lean six sigma and design of experiment <i>Achmad Bahauddin, Dyah Lintang Trenggonowati, Atia Sonda, Vira Aleyda Yusuf, Ade Irman Saeful Muttaqin, Ani Umyati</i>	67-74
Supply chain performance analysis using discrete system simulation method: A case study in a furniture company <i>Dyah Lintang Trenggonowati, Maria Ulfah, Asep Ridwan, Achmad Bahauddin, Ratna Ekawati, Atia Sonda, Ani Umyati, Aditya Rahadian Fachrur, Yayan Harry Yadi</i>	75-80
Index of authors	vi

Editorial Preface

Greetings,

The editorial board expresses deep gratitude to the authors who have submitted their articles to the Journal Industrial Services (JISS) in this issue. In addition, we want to thank the editorial board and reviewers who have contributed to this edition.

This issue is the second issue where all articles are in English. Journal of Industrial Services (JISS) vol. 9 no. 1 consists of 10 articles submitted by authors from 4 universities in Indonesia. It is an honor for us, who have won the trust of various writers.

The editorial board always strives to improve the quality of JISS. JISS is a journal accredited by Dikti with the rank of Sinta 4. Therefore, the editorial board is trying to improve the JISS rating. We also in the process to submit the ICI Coppernicus and DOI proposal. One of the efforts made by the editorial board is to add an editorial advisory board from Waseda University, Prof. Shigeru Fujimura. We also increased the number of international reviewers (Dr. Wen Song and Fellek Getu Tadesse) to improve the quality of submitted articles.

The next edition of JISS will be published in October 2023. We always welcome constructive criticism and suggestions to improve the quality of JISS.

Sincerely,

Editorial Office