

11th Annual International Conference on Industrial Engineering and Operations Management Singapore, March 7-11, 2021

Due to many requests and the global pandemic, submission is extended to January 15, 2021

Student Competition Submission Deadline: January 30, 2021

[CLICK HERE FOR SUBMISSION](#)

[Call for Papers – Flyer](#)

Due to the global pandemic, the event will be fully virtual via zoom.

Registration Fee: \$300 for Professional, \$150 for Students and \$100 for each additional paper.

Registration Link: <https://www.xcdsystem.com/IEOM/attendee/index.cfm?ID=ax32KF2>

[IEOM Paper Template \(*.docx\)](#) [PAPER TEMPLATE IEOM Abstract Template \(*.docx\)](#)

KEYNOTE SPEAKERS – 11th Annual IEOM Singapore Conference, March 9-11, 2020

March 9, 10:40 am, Tuesday



Hamid R. Parsael, Ph.D., P.E.
Fellow, IISE, ASEE, SME, IEOM
Professor, Department of Industrial and
Systems Engineering, Texas A&M
University, College Station, Texas, USA

March 9, 10:20 am, Tuesday



Alex Teo
Vice President & Managing Director –
South East Asia
Siemens Digital Industries Software,
Singapore

March 9, 11:30 am, Tuesday



Dr. Chung Plaw TEO
Provost's Chair Professor
Executive Director, Institute of
Operations Research and Analytics
NUS Business School
National University of Singapore

March 9, 12:00 pm, Tuesday



Benny Tjahjono, PhD
Professor of Supply Chain
Management, Sustainable
Production & Consumption Research
Cluster, Centre for Business in
Society, Coventry University, UK

March 9, 12:30 pm, Tuesday



Dr. Lu ZHEN
Dean and Professor
School of Management
Shanghai University
Shanghai, China

March 10, 9:40 am, Wednesday



**Dr. Victoria Jordan, PhD, MS,
MBA**
Vice President – Quality
Emory Healthcare
Atlanta, Georgia, USA

March 10, 10:20 pm, Wednesday



Dr Koh Niak Wu
CEO and CTO
Cosmigo International
Singapore

March 10, 11:30 am, Wednesday



Dr. Ir. Wahyudi Sutopo, IPM
Professor, Department of Industrial
Engineering and Vice Dean for
General and Financial Affairs
Universitas Sebelas Maret (UNS)
Surakarta, Indonesia

March 10, 12:00 pm, Wednesday



Prof Ruth Banomyong
Dean
Thammasat Business School
Thammasat University
Thailand

March 10, 12:30 pm, Wednesday



Dr. Alessandro ROMAGNOLI
Associate Professor
School of Mechanical and
Aerospace Engineering
Nanyang Technological University,
Singapore

March 11, 9:40 am, Thursday



Dr. Robert de Souza
Executive Director
The Logistics Institute-Asia Pacific (TLI –
Asia Pacific), Singapore, Senior Fellow,
Department of Industrial Systems
Engineering & Management
National University of Singapore

March 11, 10:20 am, Thursday



Dr Jenson Goh
Chief Information and Learning Officer
Monde Nissin Singapore Pte Ltd
Singapore

March 11, 11:30 am, Thursday



Dr. Hoong Chuin LAU
Professor of Information Systems and
Director of the Fujitsu-SMU Urban
Computing and Engineering
Corporate Lab, Singapore
Management University (SMU)

March 11, 12:00 pm, Thursday



Dr. Murphy Choy
Director of Operations and
Technology
SSON Analytics
Singapore

March 11, 12:30 pm, Thursday



Dr. Noordin Mohd. Yusof
Professor, Department of Materials,
Manufacturing and Industrial
Engineering, Faculty of Mechanical
Engineering, Universiti Teknologi
Malaysia (UTM), Former Dean of
Mechanical Engineering at UTM

IEOM Society International is organizing the 11th Annual International Conference on Industrial Engineering and Operations Management in Singapore during March 7-11, 2021. The conference aims to provide a forum for academics, researchers and practitioners to exchange ideas and recent developments in the field of Industrial Engineering and Operations Management. The conference is also expected to foster networking, collaboration and joint effort among the conference participants to advance the theory and practice as well as to identify major trends in Industrial Engineering and Operations Management. IEOM has successfully organized previous international conferences in Bangladesh (2010), Malaysia (2011), Turkey (2012), Indonesia (2014), UAE (2015), Orlando (2015), Malaysia (2016), Detroit (2016), Morocco (2017), UK (2017), Bogota (2017), Bandung (2018), Paris (2018), Washington DC (2018), Pretoria (2018), Bangkok (2019), Toronto (2019) and Riyadh (2019), Dubai (2020) and Detroit

ID 001 [Circular Economy: Exploratory Study of Steel Industry in Thailand](#)

Vichathorn Piyathanavong, School of Manufacturing Systems and Mechanical Engineering (MSME), Sirindhorn International Institute of Technology (SIIT), Thammasat University, 99 Moo 18, Paholyothin, Khlong Luang, Pathum Thani 12120, Thailand

School of Knowledge Science, Japan Advanced Institute of Science and Technology, Japan, 1-1 Asahidai, Nomi, Ishikawa, 923-1292, Japan

Jose Arturo Garza-Reyes, Centre for Supply Chain Improvement, The University of Derby, Kedleston Road Campus, Derby, DE22 1GB, UK

Van-Nam Huynh, School of Knowledge Science, Japan Advanced Institute of Science and Technology, Japan, Asahidai, Nomi, Ishikawa, Japan

Sun Olapiriyakul, School of Manufacturing Systems and Mechanical Engineering (MSME), Sirindhorn International Institute of Technology (SIIT), Thammasat University, 99 Moo 18, Paholyothin, Khlong Luang, Pathum Thani 12120, Thailand

Jessada Kamjana, National Electronics and Computer Technology Center (NECTEC), National Science and Technology Development Agency (NSTDA), 111 Thailand Science Park (TSP), Pahonyothin, Khlong Luang, Pathum Thani 12120, Thailand

ID 002 [Lean Six Sigma and Agile integration Lean Six Sigma](#)

Alessandro Laureani University of Strathclyde Leopardstown Dublin Ireland

ID 003 [Construction Material Ordering Policy Framework: Mamdani Approach](#)

Siddharth Gupta, Gunjar Ahuja, and Girish Kumar, Department of Mechanical Engineering, Delhi Technological University, Delhi-110042, India

Rajesh Kumar Singh, Management Development Institute, Gurgaon-122007, India

ID 004 [Socio-Economic Factors Affecting Environmental Awareness and Knowledge of Consumers' Purchasing Behaviour of Green Products: A Study of Semarang Regency](#)

Aries Susanty, Muhammad Mujiya Ulkhaq, Nia Budi Puspitasari, Heru Prastawa, Pradita Yusi Akshinta, and Pradhista Listyawardhani, Industrial Engineering Department, Diponegoro University, Semarang, Indonesia

ID 005 [Current Practices on Government Innovation towards Human Capital Development for achieving UAE Vision 2021](#)

Khatijah Omar, Md Khairul Azwan Md Razali, Hazman Samsudin, Muhammad Abi Sofan Abdul Halim and Norhayati Ab Manaf Institute of Tropical Biodiversity and Sustainable Development Universiti Malaysia Terengganu 21030, Kuala Nerus, Terengganu, Malaysia

Siti Nor Adawiyah Azzahra Kamaruddin and Jumadil Saputra Faculty of Business, Economic and Social Development Universiti Malaysia Terengganu 21030 Kuala Nerus, Terengganu, Malaysia

ID 006 [The Assessment of Preparedness Level of Individual and Household in Disaster Prone Area in Sleman Regency to Encounter Merapi Mountains Eruptions](#)

Naniek Utami Handayani, Tatag Wahyu Sugmasantika, Yusuf Widharto, and Zainal Fanani Rosyada, Department of Industrial Engineering, Diponegoro University, Semarang, 50275, Indonesia

ID 007 [Smart sustainable manufacturing: From Literature review to a green framework](#)

Imane Benkhati Search Results Web result with site links Faculté des Sciences Semlalia Marrakech Casablanca Grand Casablanca Morocco

ID 008 [Smart sustainable manufacturing: From Literature review to a green framework](#)

Imane Benkhati, Faculté des Sciences Semlalia Marrakech Casablanca Grand Casablanca, Morocco

ID 009 [The Performance of Project Management at Traditional Shipyard in East Java, Indonesia](#)

Yugowati Praharsi, Business Management, Shipbuilding Institute of Polytechnic Surabaya, Surabaya, Indonesia

Muhammad Abu Jami'in, Electrical Engineering Department, Shipbuilding Institute of Polytechnic Surabaya, Surabaya, Indonesia

Gaguk Suhardjito, Business Management, Shipbuilding Institute of Polytechnic Surabaya, Surabaya, Indonesia

Hui-Ming Wee, Industrial and System Engineering, Chung Yuan University, Chung Li, Taiwan

ID 010 [A Multi-Objective Optimization Model for an Algal Biofuel Supply Chain Integrating Resource Recirculation](#)

Celine Marie A. Solis, Jayne Lois G. San Juan, and Dennis E. Cruz, Industrial Engineering Department, De La Salle University, 2401 Taft Avenue, Manila, Philippines

ID 011 [Food Waste Management of Restaurants in KwaZulu-Natal South Africa](#)

Sajal Sucheran and Oludolapo A. Olanrewaju, Department of Industrial Engineering, Durban University of Technology, Durban, South Africa

Yasser Almoghathawi, Systems Engineering Department, King Fahd University of Petroleum and Minerals, Dhahran 31261, Saudi Arabia

ID 013 Implementation of Quality Management System ISO 9001 in A Telecom Network Operation Centre – A Case Study

Diana Ortiz-Rangel, and Luis Rocha-Lona, ESCA Santo Tomas, Instituto Politecnico Nacional, Mexico City, Mexico

Lila Margarita Bada-Carbajal, Instituto Tecnológico Superior de Alamo Temapache, Veracruz, Mexico

Jose Arturo Garza-Reyes, and Simon Peter Nadeem, Centre for Supply Chain Improvement, University of Derby, Derby, UK

ID 015 Culture & Personality: Directional influence on Consumer Switching

Anjali Sharma, R.R.K. Shama, Dept. of Industrial & Management Eng., Indian Institute of Technology-Kanpur, India

Kuei-Kuei Lai, Department of Business Administration, Chaoyang University of Technology, Taiwan

ID 026 Optimizing bus frequency in Kuwait to minimize total cost and satisfy the average daily demand

Sharaf Alkheder, Fahad AlRukabi and Areej Zaqqouq, Civil Engineering Department, College of Engineering & Petroleum, Kuwait University, Kuwait

ID 027 Conceptual Framework of Performance Improvement in Coffee Production Using Integrated Lean Technique

Yotsaphat Kittichotsatsawat, Ph.D.'s Program in Industrial Engineering, Department of Industrial Engineering, Faculty of Engineering, Chiang Mai University, Chiang Mai 50200, Thailand

Korakot Yaibuathet Tippayawong, Department of Industrial Engineering & Excellence Center in Logistics and Supply Chain Management, Chiang Mai University, Chiang Mai 50200, Thailand

ID 028 Assessment of the Health Problems and Health Hazards Prevalent among the Garment Workers of Bangladesh – An Approach with Risk Priority Number and Best-Worst Method

Ahmed Shoyeb Raihan, Department of Industrial & Production Engineering, Bangladesh University of Engineering & Technology, Dhaka, Bangladesh

Farzana Islam, Department of Industrial & Production Engineering, Bangladesh University of Engineering & Technology, Dhaka, Bangladesh

ID 029 Throughput Rate Calculation for Mobile Racks ASRS using Timed Petri Nets

Yassine BOUDGHENE STAMBOULI, Faculty of Technology – MELT Laboratory, University Abou-Bakr, BELKAID of Tiemcen, Algeria

Samir HAMACI, Quartz Laboratory (EA 7303), ECAM-EPMI, 13, Bvd de l'Hautil, 95082, Cergy-Pontoise, France

ID 030 Traceability Architecture Technology for Short Commercial Exchange

John Jairo Aguilera Camacho, Jeniffer Paola Torres Salazar, Angela Maritza Mora Gómez and Lina Nataly Alvarado Riaño, Research Group EGE, Early Career Researcher Grizzly, Fundación Universitaria Panamericana – UNIPANAMERICANA, Bogotá D.C., Colombia

ID 031 Life Cycle Assessment of Ordinary Portland Cement (OPC) using Damage Oriented (Endpoint) Approach.

Busola Dorcas Olagunju, and Oludolapo Akanni Olanrewaju, Department of Industrial Engineering, Faculty of Engineering and the Built Environment, Durban university of Technology, Durban, South Africa

ID 032 Marine Predators Algorithm and Tunicate Swarm Algorithm for Power System Economic Load Dispatch

Oluwafemi Ajayi, Reolyn Heymann and Ewaoche John Okampo, Centre for Collaborative Digital Networks

Department of Electrical and Electronic Engineering Science, University of Johannesburg, South Africa

ID 033 Analysis and operational planning for a kitchen equipment company facing new market needs as a consequence of the COVID-19 pandemic

Carlos M. Linares, and Jorge A. Peinado, Department of Engineering Management, Universidad de Monterrey, San Pedro Garza Garcia, N.L. México

Ricardo Ramirez, Department of Industrial and Systems Engineering, Universidad de Monterrey, San Pedro Garza Garcia, N.L. México

Fernando González-Aleu, Department Engineering, Universidad de Monterrey, San Pedro Garza Garcia, N.L. México

Jesús Vázquez, Innovation and Strategic Intelligence, Advanced Value Chain Institute, San Pedro Garza Garcia, N.L. México

ID 034 Potential effectiveness of quality tools and techniques to introduce Total Quality Management (TQM) in ready-made garment (RMG) manufacturing industries in Bangladesh

Md Mazharul Habib (PhD student), Michele Cano (DoS, Senior Lecturer), Evi Viza, (Sr. Lecturer) and Andishes Bakhshi (Teaching Fellow), Department & University: School of Computing Engineering and Physical Sciences (CEPS), University of the West of Scotland (UWS), Paisley, UK

ID 035 The Effect of Population Growth on Economic Growth: An Evidence from Indonesia

Mahdawi, Nirdukita Ratnawati Department of Economic Universitas Trisakti Grogol, 11440, Jakarta Barat, Indonesia

Jumadil Saputra Faculty of Business, Economics and Social Development Universiti Malaysia Terengganu 21030 Kuala Nerus, Terengganu, Malaysia

Rico Nur Ilham Faculty of Business and Economics Universitas Malikussaleh Blang Pulo, Muara Satu, Aceh Utara, 24355 Aceh, Indonesia

Rumiris Siahaan, Suci Etri Jayanti, Mangasi Sinurat Sekolah Tinggi Ilmu Ekonomi Bina Karya Tebing Tinggi Padang Hulu, Tebing Tinggi, 20631 Sumatera Utara, Indonesia

Pinondang Nainggolan Department of Economic Universitas Simalungun Pematang Siantar, 21142 Sumatera Utara, Indonesia

ID 036 The Effect of Local Own-Source Revenue and Capital Expenditure on Economic Growth: An Empirical Evidence from Aceh Province, Indonesia

Mahdawi, Komaidi Notonegoro, Rinaldi Rustam Department of Economic Universitas Trisakti Grogol, 11440, Jakarta Barat, Indonesia

Jumadil Saputra Faculty of Business, Economics and Social Development Universiti Malaysia Terengganu 21030 Kuala Nerus, Terengganu, Malaysia

Rapat Piter Sony Hutauruk, Sri Winda Hardiyanti Damanik, Aisyah Siregar Sekolah Tinggi Ilmu Ekonomi Bina Karya Tebing Tinggi Padang Hulu, Tebing Tinggi, 20631 Sumatera Utara, Indonesia

ID 037 Manufacturing Process and Mechanical Properties of Hemp Reinforced PLA Composite: A Review

Praveen Kumar Azad and Rishabh Rathore, Department of Mechanical Engineering, Delhi Technological University, Delhi, India; Department of Production and Industrial Engineering, Delhi Technological University, Delhi, India

Ranganath. M. Singari and Ravi Butola, Department of Mechanical Engineering, Delhi Technological University, Delhi, India; Department of Production and Industrial Engineering, Delhi Technological University, Delhi, India

ID 038 Cost Optimization of Blockchain Technology-enabled Supply Chain System using Evolutionary Computation Approach

Hossein Havaeji, Ph.D. student, Mechanical Engineering Department, École de technologie supérieure, Montreal (Quebec) H3C1K3, Canada

Thien-My Dao, Professor, Mechanical Engineering Department, École de technologie supérieure, Montreal (Quebec) H3C1K3, Canada

Tony Wong, Professor, Department of Systems Engineering, École de technologie supérieure, Montreal (Quebec) H3C1K3, Canada

ID 039 Product Defects Analysis Using Six Sigma Method – A Case Study at Rice Milling Company

Indah Chyntia Bella Rosa, Tiara Risa Damayanti, Ade Lita Kusumaningrum, and Sri Susilawati Islam, Industrial Engineering Study Program, Sampoerna University, Jakarta, Indonesia

ID 040 The Role of Economic Growth and Information Technology in Military Development

Wilson Rajagukguk Faculty of Economics and Business, Universitas Kristen Indonesia Jakarta 13630, Indonesia

John Tampil Purba and Sidik Budiono, Department of Management Faculty of Economics and Business, Universitas Pelita Harapan, Tangerang-15811, Indonesia

ID 041 Evaluation of Window Parameters of Noncontrast Cranial CT Brain Images for Hyperacute and Acute Ischemic Stroke Classification with Deep Learning

Supatta Viriyavisuthisakul and Natsuda Kaothanthong, School of Management Technology, Sirindhorn International Institute of Technology (SIIT), Thammasat University, Pathum Thani, Thailand

Natsuda Kaothanthong School of Management Technology, Sirindhorn International Institute of Technology (SIIT), Thammasat University Pathum Thani, Thailand

Parinya Sanguansat, Panyapiwat Institute of Management, Nonthaburi, Thailand

Choochart Haruechaiyasak, National Electronics and Computer Technology Center, Pathum Thani, Thailand

Minh Le Nguyen, Japan Advanced Institute of Information Technology (JAIST), Nomi city, Japan

Soawapot Sarampakhul, Tanapon Chansumpao and Dittapong Songsaeng, Department of Radiology, Siriraj Hospital, Faculty of Medicine, Mahidol University, Bangkok, Thailand

ID 042 Integrated Sustainability Assessment of Sharing Economy Models: The Case for Qatar

Hussein Al-Yafei, Saleh Aseel, Murat Kucukvar, Anwa Al-Karbi, Ahmed Al-Sulaiti, Abdulla Al-Hajri, and Abdurahman Al-Siddiqi, College of Engineering, Qatar University, Doha, Qatar

ID 043 Observations on New Initial Basic Feasible Solution (IBFS) Methods Published in the Literature for Transportation Problem

1. Mathirajan, Department of Management Studies, Indian Institute of Science, Bangalore-560012, India
2. Vimala Rani, Vinod Gupta School of Management, Indian Institute of Technology, Kharagpur-721302, India

ID 044 Critical Factors of Supplier Selection in the Food and Beverage Industry of Saudi Arabia a Fuzzy-TOPSIS Approach

Khaled A. Alshehri and Ahmed A. Albukhari, Department of Industrial Engineering, Faculty of Engineering – Rabigh, King Abdulaziz University, Jeddah, Saudi Arabia

ID 045 An Investigation into Campus Safety and Security

Nokwanda Dlamini, Department of Industrial Engineering, Durban University of Technology, Durban, South Africa

Oludolapo A. Olanrewaju, Department of Industrial Engineering, Durban University of Technology, Durban, South Africa

ID 046 A Review of Green Marketing Strategy Literature: MiniReview Approach

Ryan Firdiansyah, Monizahsra Mohamed, Mohd Yusoff Yusliza, Jumadil Saputra and Zikri Muhammed Faculty of Business, Economics and Social Development Universiti Malaysia Terengganu 21030 Kuala Nerus, Terengganu, Malaysia

Abdul Talib Bon Department of Production and Operations Universiti Tun Hussein Onn Malaysia 86400 Parit Raja, Johor, Malaysia

ID 047 A Sequential Heuristic for Production-Inventory Planning and Supplier Selection based on Quantity Discounts in a Component Remanufacturing Environment

M. Agnel Xavier Fernando and M. Mathirajan, Department of Management Studies, Indian Institute of Science, Bengaluru, India

ID 048 Another Empirical Application of the Similarity Confirmation Method in Evaluating the MADM Methods for a Type-selection Decision Case before Bulk Purchase

Zheng-Yun Zhuang, Department of Civil Engineering, National Kaohsiung University of Science and Technology, Sanmin District, Kaohsiung, 807, Taiwan (ROC)

Shu-Chin Chang, Department of Accounting, Chung Yuan Christian University, Zhongli District, Taoyuan City, 320, Taiwan (ROC)

ID 049 Influence of Substrate Temperatures on Morphological TiO₂ Nano-layers Properties

Bedoud Khouloud, Merabet Hichem, Graine Redouane, Alimi Latifa, and Driol Djalel, Research Center in Industrial Technologies (CRTI), P.O. Box 64, Cheraga, Algeria

Agum Setyo Bintoro, Refiantika Rachma Utami and Suci Amalia Putri, Departement of Marine Transportation Engineering, Faculty of Marine Technology, Institut Teknologi Sepuluh Nopember, Surabaya East Java, Indonesia

Wimolo Katamsi, Department of Naval Architecture, Faculty of Marine Technology, Institut Teknologi Sepuluh Nopember, Surabaya, East Java, Indonesia

ID 051 [Application of Lean Six Sigma for Improving the Overall Equipment Effectiveness in a Semiconductor Company in the Philippines](#)

Felix C. Veroya, School of Industrial Engineering and Engineering Management, MAPUA University, Intramuros, Manila 1002

Rex Aurelius C. Robialos, School of Industrial Engineering and Engineering Management, MAPUA University, Intramuros, Manila 1002

Ma. Janice J. Gumasing School of Industrial Engineering and Engineering Management Mapu University Intramuros, Manila 1002

ID 052 [High-Speed Rail Transit Development in Indonesia, Lesson Learned from Developing Countries](#)

Aleksander Purba, Civil Engineering Department, Engineering Faculty, the University of Lampung, Bandar Lampung 35145 Indonesia

John Tampil Purba, Department of Management Faculty of Economics and Business, Universitas Pelita Harapan, Tangerang-15811, Indonesia

Sidik Budiono, Department of Management Faculty of Economics and Business, Universitas Pelita Harapan, Tangerang-15811, Indonesia

ID 053 [Fighting Poverty Gap through Literacy and Electricity: A Case from Indonesia](#)

Sidik Budiono, Department of Management Faculty of Economics and Business, Universitas Pelita Harapan, Tangerang-15811, Indonesia

John Tampil Purba, Department of Management Faculty of Economics and Business, Universitas Pelita Harapan, Tangerang-15811, Indonesia

Aleksander Purba, Civil Engineering Department, Faculty of Engineering, Universitas Lampung-Bandar Lampung 35145, Indonesia

ID 054 [Robust Least Square Model: Increasing Literacy through Sanitation and Electricity in Indonesia](#)

Sidik Budiono, Department of Management Faculty of Economics and Business, Universitas Pelita Harapan, Tangerang-15811, Indonesia

John Tampil Purba, Department of Management Faculty of Economics and Business, Universitas Pelita Harapan, Tangerang-15811, Indonesia

Wilson Rajaguguk, Faculty of Economics and Business, Universitas Kristen Indonesia, Jl. Mayjen Sutojo No.2, Cawang, Jakarta 13630, Indonesia

ID 055 [COVID-19 Surge Planning in Response to Global Pandemic in a Healthcare Setting: A Lean Six Sigma Approach](#)

Pawan Bhandari, Department of Management Engineering and Consulting, Mayo Clinic, Rochester, Minnesota, USA

M. Afan Badar, Department of Applied Engineering and Technology Management, Indiana State University, Terre Haute, Indiana, USA

Vincent Childress, Department of Graphic Design Technology, North Carolina A&T State University, Greensboro, North Carolina, USA

ID 056 [Systematic Literature Reviews in Supply chain resilience: A Systematic Literature Review](#)

Dario Simbizi, Loubna Benabbou and Bruno Urli, Département Sciences de la Gestion, Université du Québec à Rimouski (UQAR) Campus de Lévis, Québec, Canada

ID 057 [Reliability of a Polyethylene Pipe based on the PENT Model](#)

Latifa Aïmi, Kamel Chaoui, and Khoulood Bedoud, Research Center in Industrial Technologies CRTI P.O. Box 64, Cheraga, Algeria

Mechanics of Materials & Plant Maintenance Research Laboratory (LR3MI), Mechanical Eng. Dept., Badji Mokhtar University, Annaba, Algeria,

Kamel Chaoui, Mechanics of Materials & Plant Maintenance Research Laboratory (LR3MI), Mechanical Eng. Dept., Badji Mokhtar University, PO Box 12, Annaba 23000, Algeria

Khoulood Bedoud, Research Center in Industrial Technologies CRTI P.O. Box 64, Cheraga, Algeria

ID 075 [A ASDP Ship Conversion Into Suramadu River Cruise](#)

Agum Setyo Bintoro, Refiantika Rachma Utami, and Suci Amalia Putri, Departement of Marine Transportation Engineering, Faculty of Marine Technology, Institut Teknologi Sepuluh Nopember, Surabaya, East Java, Indonesia

Wimolo Katamsi, Department of Naval Architecture, Faculty of Marine Technology, Institut Teknologi Sepuluh Nopember, Surabaya, East Java, Indonesia

ID 076 [Modeling and Fuzzy Control of a PWM Converter Feeding DC Machine](#)

Bedoud Khoulood, Merabet Hichem, Bahi Tahar, Aïmi Latifa, Drici Djalel and Oudjani Brahim, Research Center in Industrial Technologies (CRTI), P.O. Box 64, Cheraga, Algeria

Bahi Tahar, Automatic Laboratory and Signals (LASA), Badji Mokhtar University, Annaba, Algeria

ID 077 [Optimization of the Aggregate Production Plan in the Floriculture Industry: Case Study](#)

Edison A. Gómez-Chávez, Yakloem Montero-Santos, Ramiro V. Saraguro-Piarquezan and Karla Paola Negrete, Facultad de Ingeniería en Ciencias Aplicadas, Universidad Técnica del Norte, Ibarra, Ecuador

Research group Fortalecimiento de las Capacidades Productivas (FOCAPRO)

ID 078 [Enhanced Hyper Cube Framework ACO For Structural Combinatorial Optimization Problems](#)

Ali Ahmad, Thien-My Dao and Van La, Department of Mechanical Engineering, École de Technologie Supérieure ÉTS, Montreal, CANADA

ID 079 [The importance and satisfaction of location decision factors of South African manufacturing and service SMMEs: An Exploratory Factor Analysis](#)

Alice Kabamba Lumbwa, Eveh Nwobodo-Anyadiegwu, and Charles Mbohwa, Department of Quality and Operations Management, University of Johannesburg, Johannesburg, South Africa

ID 080 [An Efficient Heuristic Method for Dynamic Berth Allocation Problem](#)

P. U. Ankita and M. Mathirajan, Department of Management Studies, Indian Institute of Science, Bangalore, India

Arvind Jayant, Department of Mechanical Engineering, SLIET Deemed to be University, Longowal, Sangrur, Punjab, India

ID 082 Development of a Low-Cost Blackbody Target/Source for Infrared Radiation Thermometer Calibration from Sub-zero to Below Ambient Celsius

Frederick C. Bueno, School of Graduate Studies, Mapua University, Intramuros, Manila, Philippines and National Metrology Laboratory – ITDI, Department of Science and Technology, Taguig City, Philippines

Rene D. Estembar, School of Industrial Engineering and Engineering Management, Mapua University, Intramuros, Manila, Philippines

ID 083 Sustainable Subgrade Stabilization for Transport Infrastructure Development in Australian Sodic Soils

Raghavendra Vasudeva Upadhyaya, PhD student, College of Engineering and Aviation, Central Queensland University, Melbourne, VIC, Australia

Jerome Egwurube, Lecturer, College of Engineering and Aviation, Central Queensland University, Rockhampton, QLD 4701, Australia

Prince Bhandari, Laboratory Supervisor, College of Engineering and Aviation, Central Queensland University, Melbourne, VIC 3000, Australia

ID 084 Freight Matching Strategies in Online Spot Market for Balancing Shipper and Platform Performance

Lala Ayu Kantari, I Nyoman Pujawan, and Niniet Indah Anitrida, Departemen of Industrial and Systems Engineering, Institut Teknologi Sepuluh Nopember, Surabaya, Indonesia

ID 85 Development of Solution Methodologies for Online Order Fulfillment in Omnichannel Retailing

Kosha Joshi, M. Mathirajan, Department of Management Studies, Indian Institute of Science Bengaluru, India

ID 086 Strategy of Technology Services for Customers in Pandemic Covid19 Situation: A case from Indonesia

John Tampil Purba, Department of Management Faculty of Economics and Business, Universitas Pelita Harapan, Tangerang-15811, Indonesia

Sidik Budiono, Department of Management Faculty of Economics and Business, Universitas Pelita Harapan, Tangerang-15811, Indonesia

Wilson Rajagukguk, Faculty of Economics and Business, Universitas Kristen Indonesia, Jl. Mayjen Sutojo No.2, Cawang, Jakarta 13630, Indonesia

ID 087 Modeling an Efficient Cold Chain for Ice Cream Manufacturing in Papua New Guinea

Benedict C. Tarala, School of Graduate Studies, Mapua University, Intramuros, Manila, Philippines

Josephine D. German, School of Industrial Engineering and Engineering Management, Mapua University, Intramuros, Manila, Philippines

ID 088 Perception of Hotel Customers Based on Nationality: A Comparative Analysis of Reviews and Ratings

Adrian A. Amador, School of Graduate Studies, Mapua University, Murala St., Intramuros, Manila, Philippines

Rene D. Estembar, School of Industrial Engineering and Engineering Management, Mapua University, Murala St, Intramuros, Manila, Philippines

ID 089 Economic Analysis of Liquid Loading Solutions in a Gas Well

Jonathan Francis, Institute of Petroleum Studies, IPS/ IFP School, France and University of Port Harcourt, Port Harcourt, Nigeria

Omowunmi Iledare, Ghana National Petroleum Corporation (GNPC) Professional Chair in Oil and Gas Economics and Management, Institute of Oil and Gas Studies, University of Cape Coast, Cape Coast, Ghana

ID 090 Comparing Ph.D. in Engineering Management and Technology Management Programs

Sheikh F. Ferdous, M. Affan Badar, James N. McKirahan, and A. Mehran Shahhosseini, Department of Applied Engineering and Technology Management, Indiana State University, Terre Haute, IN 47809, USA

ID 091 Online Learning Transformation Technology in Higher Education: Challenges & Strategy

John Tampil Purba, Department of Management Faculty of Economics and Business, Universitas Pelita Harapan, Tangerang-15811, Indonesia

Sidik Budiono, Department of Management Faculty of Economics and Business, Universitas Pelita Harapan, Tangerang-15811, Indonesia

Aleksander Purba, Civil Engineering Department, Faculty of Engineering, Universitas Lampung-Bandar Lampung 35145, Indonesia

ID 100 A new approach for remaining useful life estimation using deep learning

Drici Djalel, Biskra University, ALGERIA and Research Center in Industrial Technologies CRTI, ALGERIA

Kourd Yahia, LEER, Souk-Ahras University, ALGERIA

ID 101 Routes Optimization with Cluster-Dependent Costs for Convenience Stores

Francisco Alejandro-Ugarte, Gianna Noemí Cárdenas-de la Fuente and Gloria Catalina García-Martínez, Engineering and Technologies Department, University of Monterrey, San Pedro Garza García, NL 66238, México

Jenny Diaz-Ramírez, Engineering and Technologies Department, University of Monterrey, Nuevo León, México

ID 102 Trading System Design Based on Cooperative Game for a Two-Level Supply Chain

Kotomichi Matsuno Department of Business Design and Management, Graduate School of Creative Science and Engineering, Waseda University 3-4-1 Okubo, Shinjuku-ku, Tokyo, Japan

ID 103 A Framework to Develop and Evaluate Circular Economy Readiness within the Rail Sector

Carl Waring, College of Science and Engineering, University of Derby, Derby, DE22 3AW, UK

Kapila Liyanaga, College of Science and Engineering, University of Derby, Derby, DE22 3AW, UK

ID 104 Internal and external factors of improving television e-waste management through the supply chain infrastructure in Jakarta-Indonesia

Jerry Kuswara Piton, Rahmat Nurcahyo, and Farizal, Department of Industrial Engineering, Universitas Indonesia, Depok, Indonesia

ID 850 **Investigation of Cracks and Damages at the Bends of Soot Blower tubes**

Nkosinathi Siyabonga Kubheka and Daramy Vandi Von Kallon, Department of Mechanical and Industrial Engineering Technology, University of Johannesburg, Level 7, John Orr Building, 47 Nind Street, Doornfontein, Johannesburg, 2092, South Africa

ID 851 **Prejudice on Indonesia Social Media**

Yusdianti Tenriawali, M Chairul Basrun Umanailo, Universitas Iqra Buru, Maluku, Indonesia

Kaharuddin Kaharuddin, Cultural Sciences Faculty, Hasanuddin University, Indonesia

Johana Tandisalla, Electronita Duan Polytechnic of Perdamaian Halmahera Tobelo, 97762, Indonesia

Busyairi Ahmad, Hamja Bonso Institut Ilmu Sosial dan Ilmu Politik Yapisi Biak, Indonesia

ID 852 **Singapore Airlines: Profit Recovery and Aircraft Allocation Models during the COVID-19 Pandemic**

Michelle L.F. Cheong, Ulysses M.Z. Chong, Anne N.T.A. Nguyen, Su Yiin Ang, Gabriella P. Djojoputro, Gordy Adiprasetyo, and Kendra L.B. Gadong, School of Computing and Information Systems, Singapore Management University Singapore

ID 853 **A Study of Corporate Social Responsibility Policy Implemented by Private Companies and Its Impact to Surrounding Community: A Case Study of Indonesian Port Company**

Tarmizi, Department of Public Administration, Postgraduate Program, Universitas Islam Riau, Pekanbaru, Riau 28284, Indonesia

Latip and Dewi Jannah, Institute of the Malay World and Civilisation, Universiti Kebangsaan Malaysia, UKM Bangi, 46300, Selangor, Malaysia

Teuku Afrizal, Department of Public Administration, Faculty of Social Science and Political Science, Universitas Diponegoro, Tembalang, Semarang, Jawa Tengah 50275, Indonesia

Jumadil Saputra, Faculty of Business, Economics and Social Development, Universiti Malaysia Terengganu, Kuala Nerus, Terengganu, Malaysia

ID 854 **Optimizing Car Safety and Function using Mixture DOE and Physics**

Arhan Surapaneni, Stanford Online High School, United States

Mason Chen Stanford University Online High School Redwood City, CA 94568, USA

Conference Committee

Conference Chairs

- **Assoc. Prof. Tan Yan Weng**, Head of Programme, Logistics & Supply Chain Management, School of Business, Singapore University of Social Sciences, Singapore
- **Dr. Ahad Ali**, Associate Professor and Director of Industrial Engineering Program, Lawrence Technological University, Michigan, USA

Honorary Chair

- **Dr. Robert de Souza**, Executive Director, The Logistics Institute – Asia Pacific and Senior Fellow, Department of Industrial Systems Engineering and Management, National University of Singapore

Program Chairs

- **Dr. Aldy Gunawan**, Assistant Professor of Information Systems (Practice), School of Computing and Information Systems, Singapore Management University, Singapore
- **Dr. Tan Kok Choon**, Associate Professor (Practice) & Deputy Head of Department, Department of Analytics & Operations, NUS Business School, National University of Singapore

Technical Chairs

- **Dr. M. Affan Badar**, Professor and Former Chair, Applied Engineering & Technology Management Dept., Indiana State University, Terre Haute, IN, USA
- **Dr. Sugoutam Ghosh**, School of Business, Singapore University of Social Sciences, Singapore
- **Dr. Tay Huay Ling**, School of Business, Singapore University of Social Sciences, Singapore

IEOM Global Engineering Education Chairs

- **Dr. Abu Masud**, Boeing Global Engineering Professor, Industrial and Manufacturing Engineering Department, Wichita State University, Kansas, USA
- **Dr. Hamid Parsaei**, Professor of Industrial and Systems Engineering, Texas A&M University (College Station), USA

IEOM Global Business Management Education Chairs

- **Prof. Jose Arturo Garza-Reyes**, Professor of Operations Management and Head of the Centre for Supply Chain Improvement, College of Business, Law and Social Sciences, The University of Derby, UK
- **Prof. Vikas Kumar**, Director of Research and Scholarship and Professor of Operations and Supply Chain Management, Bristol Business School, University of the West of England, UK

A Study of Corporate Social Responsibility Policy Implemented by Private Companies and Its Impact to Surrounding Community: A Case Study of Indonesian Port Company

A. Tarmizi

Department of Public Administration
Postgraduate Program
Universitas Islam Riau
Pekanbaru, Riau 28284, Indonesia
tarmiziuir@soc.oir.ac.id

Latip and Dewi Jannah

Institute of the Malay World and Civilisation
Universiti Kebangsaan Malaysia
UKM Bangi, 46300, Selangor, Malaysia
latip.stiadmi@gmail.com, jhodyfendy@gmail.com

Teuku Afrizal

Department of Public Administration
Faculty of Social Science and Political Science
Universitas Diponegoro
Tembalang, Semarang, Jawa Tengah 50275, Indonesia
teukurian@lecturer.undip.ac.id

Jumadil Saputra

Faculty of Business, Economics and Social Development
Universiti Malaysia Terengganu
21030 Kuala Nerus, Terengganu, Malaysia
jumadil.saputra@umt.edu.my

Abstract

This study focuses on Corporate Social Responsibility policy implemented by private companies in the Indonesian Port Company Area (PELINDO) and its impact on the surrounding community. The purpose is to assess companies' environmental impact and implement CSR programs and analyze CSR implementation on the community. CSR considers the impact of company activities on the environment and community, including their responsibility to the community. The study is based on the concept of corporate citizenship by Gilmour and Caplan. The theory of policy implementation by George Edward, with indicators of communication, bureaucratic structures, resources and dispositions. This study conducted in Dumai, Riau. Based on explanatory qualitative research trace and describes facts and makes a comprehensive view and tries to create a complex picture of a problem and issue under study. The study found that implementation of policy on CSR and Environment is immensely top-down bases. The government was also un-perform in implementing the policy while the regulation in 2012. Both vertically and horizontally, local governments' communication is ineffective due to bureaucratic structures' weaknesses in implementing CSR. Also, the

attitude showed that the implementation of CSR policies also seems less responsible. As a result, the community still affected environmentally by the company's operations. Ideally, the government must be able to be a facilitator between communities and companies. The companies must have consciousness on the urgency of the CSR program in reducing the operational risk.

Keywords

Corporate social responsibility, environment, private companies, policy implementation, business activities, Indonesia port company

1. Introduction

Realizing Corporate Social Responsibility (CSR) consistently to the communities in industrial and trade companies' operational areas is crucial due to environmental and surrounding impact. Companies were started to switch to using public spatial planning. For the people around the port of Dumai, they utilize the area as a place for their socio-economic activities and a place for people's livelihoods. Thus, the spatial condition has turned into a closed "business" area with no companies' contribution to the surrounding community. So the community is marginalized and become victims. As time went by, the people were silent and relented. The business management operations of the companies continued as if there were no complications around them. Several decades ago, the Dumai port area was bustling with social and economic activities. However, now it has turned into a closed area. The industrial area is located adjacent to the Central Business District (CBD) where the companies run without interacting with the surrounding community. The industrial area is fortified with a high wall along Jalan Datuk Laksamana, Dumai City, where this area has been known as a natural port area and international port.

In its activities, negative impacts occurred on the surrounding environment and people. Among other things, smoke and air pollution, pungent odors, and noise pollution from palm oil mills located near residential areas. Second, the impact of coastal reclamation when building up the industrial and business areas. Also, activity to blocking ditches and creek to the sea, so that floods often occur in Dumai City. It sparked a public demonstration. However, the companies ignored it. Third, the loss of clean water sources, such as rainwater, is damaged, dirty, and polluted due to houses' roofs. It makes clean water hard to get. Fourth, if the water does not flow into the sea, the sewers in this city will not run smoothly; the stagnant water creates an unpleasant smell and disturbs the small traders along the city's roads. The activities of industries have damaged urban planning, and at the same time, it spoils the beautiful scenery due to ongoing factory activities.

Ideally, these negative impacts caused by various factors should be resolved or minimized by the business management action process. The role of public administration in regulation and discipline can create harmony between stakeholders, where companies at ports are managed wisely and create balance through the concept of Planet-People and Profit. Besides, wisdom in managing regional spatial planning that is distributed, benefited, maintained, and guarded. In the process of seizing opportunities and seeking profit, companies should not harm the environment and the surrounding community. Harmonization can be realized by implementing Corporate Social Responsibility (CSR) in a planned and consistent. At least there are efforts to minimize management risk from the various effects of business operations caused by physical and non-physical effects. Sukandarumidi, (2012) straightforwardly made a CSR concept, namely "Whoever pollutes himself must clean up. Whoever harms the community must organize and implement CSR. The community must receive compensation as "compensation for losses that do not appear real" such as the result of environmental changes and pollution. Mohan (2019) defined CSR Strategy Model is a strategy for progress in corporate social responsibility initiatives. It's a strategy planning aid. The model is meant to be implemented through individual, corporate, community, governmental, and non-governmental organisations. CSR is seen from the ground up, from ideas to implementation (See Figure 1).

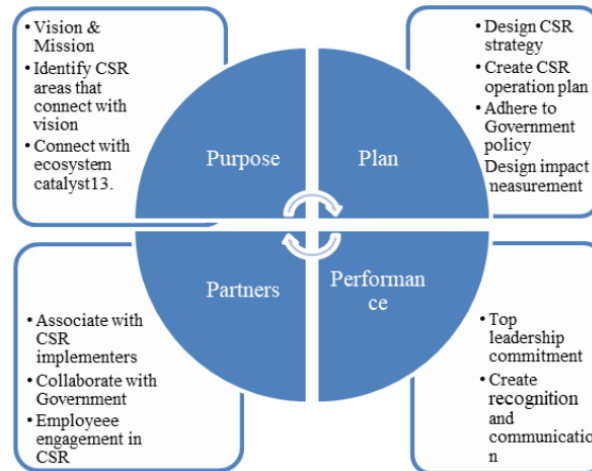


Figure 1. Model of Corporate Social Responsibility Strategy

Source: Adopted from Mohan (2019).

The Indonesian Government's CSR policy based on Provincial Regulation No. 6/2012 on CSR and the environment prioritizes companies that exploit natural resources. Among them are the vital mission, namely improving the welfare of the community around the company. In particular, society's socio-economic aspects and without ignoring environmental factors that are engaged to natural resources. The Riau Provincial Government is taking this matter seriously because it has potential natural resources such as mining, minerals, forests, land, and marine resources. In general, these natural resources must be protected and preserved for future generations' benefit in a sustainable and prosperous manner.

Riau province's CSR policy has environmental implications. If we see from its history, the people's social anthropology is very close to their ecosystem, cultivated through local wisdom as a coastal community. It is suspected that the impact of company activities through CSR is a mediation process in a mutually beneficial between the business world and the surrounding community. CSR realization will create a climate of harmony and a sense of mutual understanding between the two parties. If this is done programmatically and continuously, it must realize the sustainable development goals (SDGs). Hence, CSR also must pay attention to SDGs 1, namely no poverty. Especially in pandemic conditions, the company's attention is expected to foster a partnership climate. Dumai port's position as a natural port and an international port has contributed significantly as a supplier of goods and potential natural resources for Riau and Sumatra. Dumai Port was initially known as a supplier and export port for petroleum, Riau as the second largest mining and mineral producing province in Indonesia. Recently the function of Dumai port has improved if palm oil has become Riau's favorite commodity. Oil palm plantations in Riau have exceeded three million hectares so that from the port of Dumai in 2020, 4.49 million tonnes of palm oil has been supplied. Dumai Port is projected to become the largest CPO export port in Indonesia (Erinsyah, Antara News, February 5, 2021).

In terms of business and the Environment, Ezra Mishan in (Andre Gorz. 2003) states: "if the damage caused by growth is included in the calculation, then" growth "indicates a decline and not a development." The costs incurred are higher than the benefits it provides. Natural resource exploration, especially forest clearing in Indonesia, causes environmental effects and local communities' social conflicts. As Hai (2013) noted that while concern over deforestation was the initial focus. The impact of deforestation on the lost biodiversity, land, and social conflict. These intense and significant activities have had the impact mentioned before. However, industrial activities continue without taking the impacts of their production activities seriously. The people living in the vicinity and small traders who trade close to in port feel the impact. Dumai Provincial Government should consistently implement development programs through its CSR, which can reduce the burden on the affected parties. For almost a decade, the Riau Provincial Government has established regional policies through Regional Regulation no. 6/2012 concerning CSR and the environment, essentially realizing CSR and its management efforts. However, the extent to which the Dumai Government has implemented CSR policies and the extent to which the Dumai port area's implications concern sustainable development goals.

1.1 Research Objectives

Despite the pollution and inconvenience of the surrounding environment, business activities are still running as if there are no problems. The rise of business activities in Dumai City has forgotten the historical, sociological, anthropological, and local wisdom aspects. The process of change and control of public spatial here reflects that there

has been a unilateral and centralized policy setting without regard to the impact on the environment, especially for the people living along with the port of Dumai City. Of course, the big question arises whether the lousy face of disharmonious business activities will remain sustainable without considering sustainable development. The conference and Rio de Janeiro's declaration based on principle 1 state; Humans are the centers of attention for sustainable development. They have the right to a healthy and productive life in harmony with nature.

Meanwhile, the administration is a process of "human cooperation efforts and humanitarian processes. The magnitude of this incident occurred in the last two decades, to be precise, in the era of regional autonomy and reformation. The quality of democracy should be improved, and human rights and justice have become more evident. However, this is a challenge for public administration in this modernization process to demonstrate its capability and maturity. Local governments are here to protect and protect individual rights and contribute to the welfare of the nation. On the whole (Freman 1968) Haferkamp and Smelser put it, the new social movements champion "cultural creativity and autonomy and the capacity to act on all aspects of the human experience." The study objectives, namely, first, to determine the implementation of the Riau Province environmental CSR policy at companies in the port of Dumai. Second, to find out the environmental and CSR implications for the community around the port of Dumai. Meanwhile, the problem statement is whether the provincial CSR policy has been implemented, following the community's needs around the port of Dumai, and whether the environmental impact of business operations here is a critical consideration of implementing CSR in the environment.

2. Literature Review

Corporate Social Responsibility is the company's responsibility to continue to create harmonious, balanced, and harmonious relationships with the community's environment, values, norms, and culture. CSR and the environment's existence, also minimizing the risk of industrial production, must also display its integrity in an environmentally sustainable manner. Further, according to the World Bank, sustainable development is defined as of opportunity for the future generation. The framework of the rule that good governance plays in the genuine commitment to advancing the sustainable agenda. (World Bank Development Report 1994: 1-8). Corporate social responsibility (CSR) for short and also called corporate conscience, citizenship, social performance, or sustainable (Fontaine: 2013). In the business practice experience of companies in Dumai port from an administrative approach, should create a human being process, not the other way around ego and self-isolation, and not reflect an attitude of justice and humanity. According to Frederickson (1989), the new public administration prioritizes the principles of justice and social equality for public welfare. So it seems that the government in the process of government administration displays the character of wisdom where the authority can regulate and enforce justice with the authority it has. The current reforms must be followed by a responsive and consistent attitude and capable of effective facilitators. Where the government can realize the process of fostering a climate of harmony between the private and the public as a governance administrator (Tarmizi Yusa, 2018)

In managing a transitional society, the government should be consistent in presenting a governance model because regulating and enforcing laws has been realized. Public administration should have realized three legs of governance. Government administration, governance politics, and economic governance in harmony and balance. The current public administration character is government serving people and implies sustainable development (Rondinelli, 2007). Local governments should also harmonize the 3P (Planet, People, and Profit) concepts properly, fairly, and harmoniously to not appear to be exploitation of people by business activities without being adequately controlled. Through the sizeable administrative domain managing the public sector, good government governance should have been realized through a good public policy process through the hands of professional power. Consistently applying democratic philosophy can raise the welfare and dignity of society fairly and equally.

Public policy is a picture of the government's achievement, whether in doing something or not. Public policy is also a means of government organizing the government process, solving public problems, and enhancing their dignity. However, in the wisdom process, sometimes some ways are not usually done. Even though it is philosophically carried out in the public interest, hidden political content is also unavoidable. Ideally, improving state performance creates new problems for society. Therefore, Tammosoli (2007:78) says that public policy is a unique approach for a country in a weak state to recover from the great conflict; therefore, public policy can make social tensions worse or better. So in this context, both the role of the public administration "government" and the public policy process in companies' business management process are in question. ISO 26000 on CSR emphasizes several essential aspects of corporate social responsibility, including 'organizations worldwide and their stakeholders, who are becoming increasingly aware of the need for and benefits of socially responsible behavior. An organization's performance about the society in which it operates, and its impacts on the environment has become a critical part of measuring its overall performance and its ability to continue operating effectively. The objective of social responsibility is to contribute to sustainable

development. According to Bertucci and Allan Rosenbaum (2007) the achievement of any set of policy goals, and wildly any as ambitious as the Millennium Development Goals, requires more than just good public policy.

According to Hecló in Candace (2013), the relationship between policy and administration is vital. According to Anderson, "Public policies are those policies developed by government bodies and officials," public policies are policies developed by government agencies and their apparatus. Policy implementation is an essential step in the policy process; without proper implementation, a policy is just a meaningless document in people's lives. "Policy implementation is the translation of a policy statement to action" (Cooper, 1998). In principle, the implementation of public policy is a way for a policy to achieve its goals, nothing more or less (Nugroho, 2009: 618). Grindle (in Thoha, 2008) said that implementation is a general administrative action process that can be researched at a specific program level. Van Meter and Van Horn in Winarno (2007: 155), noted "that the consensus factor between the parties involved in the policy implementation process will determine the policy's impact.

Even though a policy is considered good, it will fail to achieve the stated goals if its implementation is incorrect (Edward III, 1980: 1). Edward in (Hesel Nogi, 2003; Widodo, 2012) that four aspects can be used parameters that can influence a policy's implementation, namely: (1). Communication; communication is delivering policy information from policymakers to policy implementers (2). Resources; resources are positioned as inputs in the organization and as a system with economic and technological implications (3). Disposition; the disposition is the willingness, desire, and tendency of the policy implementers to seriously carry out the policy and (4)—structure of the bureaucracy. The bureaucracy is one of the most frequent and even overall institutions that implement activities. Edwards developed another Top-Down model. In this model, four of the reasons that influence policy implementation are identified. Gholipour (et al.) 2012 1) communication, 2) resources, 3) enforcement trends, 4) bureaucratic structure.

3. Methods

This study applies qualitative and exploratory methods. Creswell (2013) explored the hidden factors in the form of direct observations in the field. Then trace it with in-depth interviews with affected communities and other relevant informants such as community leaders who live near the industry. It aims to compare the conditions and realities they experienced before and after the emergence of industrial and trade activities around the port of Dumai. Furthermore, it is added with documents, reference material, and journals.

4. Results

The results of the research found that bureaucratic structure factor is not influential in implementing CSR and environmental policies. They have not been able to build a good team with the local community. Amir Atan, General Secretary of the Riau Malay Customary Institution, Dumai City, regrets the local government's uncooperative attitude to build good communication and join together to think about local community problems and provide CSR programs according to community needs. Community reactions related to the impact of company operations have not been taken into account. The bureaucratic structure also has not developed intense communication with the provincial government, including the regional regulations on CSR and the environment that are not socialized. As a result, the company does not pay attention to this bureaucratic behavior reflects a lack of responsibility for top-down CSR policies.

Meanwhile, the Dumai city bureaucracy itself has not provided what programs should be suitable for the affected community. So far, the local government has asked for charity from companies in the port to build green open space "RTH" on Jalan Datuk Laksaman, but it is not practical; the plants are arid and dead. Researchers found that RTH from Bank Riau Kepri, which was not related to environmental damage, was successfully carried out on Jenderal Sudirman Street. Second, the communication factor carried out by the local government is also ineffective, starting from the CSR mission that is not socialized to companies and local communities. Communication in the auction process for coordination, synchronization, and integration is also done well. Among them, the provincial government's mission in CSR and the environment should be known by the company and the community around the company. The city government also failed to become a mediator between the community and the company. It should be with good communication links to administer properly, just like building a sense of mutual understanding. The local government's role can also be a facilitator for many interests, especially in realizing sustainable development. In details, there are four elements of CSR (see Figure 2).



Figure 2. Elements of Corporate Social Responsibility

Source: Adopted from <https://www.spectrum.life> (2021)

Third, the resource factor: the resource factor is not an obstacle because the absence of work is already supported by financial, technology, power, regulation, and official authority. It is just that the existing resources have not been optimized by factors that have not worked wholeheartedly. In this day and age, mechanisms have been supported by materials and technology to build teamwork and practical work, such as building communication between parties or holding administrative communications. However, because the program to be implemented is not yet available, the resources cannot be used and empowered. Fourth, the behavioral factor is crucial and essential in the bureaucracy's work mechanism, especially for transition countries, which tend to be ambiguous and inconsistent. Finally, no matter how good the policies are formulated and defined, the products will be useless if they are not carried out thoughtfully and thoroughly responsibly. After fourteen years, the Limited Liability Company Law emphasizes CSR on natural resource exploration companies. It has been nine years since regional regulations as regional government policies were enacted at the provincial level. Yet, the implementation has not yet appeared in the community.

Suppose the negative impact felt by the community is not a concern of the local government. In that case, it means that their sense of sensitivity and responsiveness is minimal, so that the issue of environmental and socio-economic impacts seems to be neglected. When companies are looking for profit, it does not seem that they have problems with their surrounding. Mrs. Ariana, a Ketenga oil trader in Pinggir, was looking for an alternative after her rice shop went bankrupt. The reason was that buyers did not want to come to her shop because of the pungent smell of fabric pollution, dust on the road, and pungent ditches. According to him, there has been no effort to facilitate the community with the company, according to interviews with Ibuk Ariana and Pak Irwan. They live and try to be right at the former Seismic Port entrance at the Sudirman-Laksamana intersection.

In the context of sustainable development related to the 5 P's, companies during their economic activities use natural and public "planet" spatial planning to get "profit", seemingly ignoring the impact of their business on the environment, be it physical, aesthetic, social, economic or cultural. Meanwhile, the negative impacts are related to poverty (poverty), such as community businesses' death both by environmental conditions and area closure. The disharmony of communication between the company and the public (people) shows that the company's partnership (partnership) towards the community is not tangible. In this case, there is no permanent program and practice to consciously towards the community. The effort to restore and rehabilitate environmental conditions. that are arid or mitigating the environment does not occur. It means that the practice of sustainable development has not become a significant concern; what is sustainable is their business efforts that ignore the "surrounding environment" with business management that seems closed and exclusive. Comprehensively, the relationship between Sustainable Development and Corporate Social Responsibility can be seen in Figure 3 below:

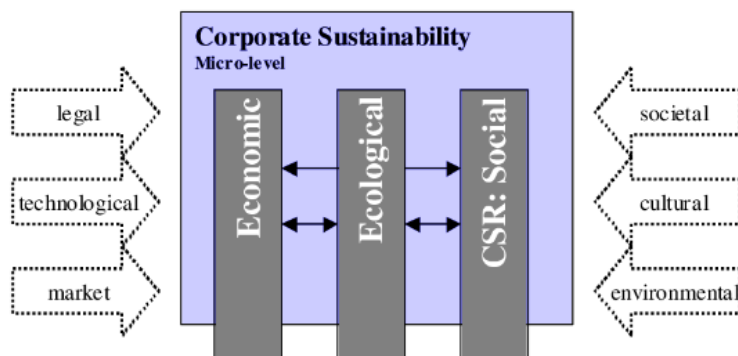


Figure 3. The relationship between Sustainable Development and Corporate Social Responsibility

Source: Adopted from Ebner & Baumgartner (2006)

Research findings are politically and economically controversial. Policies to implement environmental protection and preservation through environmental laws, on the other hand, are issued policies to increase state revenue through industrialization and trade processes that ignore environmental effects. Politically, the government also made a policy to determine ports' location as industrial trade areas unilaterally; this should be done through compromise by building consensus with local communities and respecting the climate of regional autonomy, which should increase the values of democratization. However, research shows that port corporations carry out centralized central regulations that are not quite adaptable with the surrounding community and are too chasing profit. So the impression is that there is something controversial between investment policies with environmental policies and CSR policies that are not integrated. It seems that efforts to achieve sustainable development goals have not become a priority and have not been implemented consistently.

5. Conclusion

The bureaucratic structure of the Dumai city government has not been effective in implementing CSR and environmental policies. It includes not socializing CSR policies, whether in national "top-down" policies or "bottom down" provinces. In contrast, the communities around the port need economic recovery programs, health care and sanitation, and restoration of environmental conditions due to pollution besides clean water assistance and vocational programs in the form of training to provide skills to the community or attract them to participate the work process. The government does not seem to have studied the implications of the environmental effects associated with CSR. The port of Dumai plays a crucial role in channeling palm oil from the upstream to downstream industries as an "export" supply port. In using urban and public spatial planning, the reality of environmental conditions and the city's beauty seems less to be considered by the government, especially the consequences of carrying out communication.

Finally, it was concluded that the Provincial TJSP local regulation had not been successfully implemented "unsuccessful to implementation. It is not yet severe and has not been followed by a race of responsibility. There needs to be active on the second level of CSR implementation; namely, the company minimizes its negative impact of their operational activities based on existing regulations (legality). Nevertheless, it is necessary to pay attention to fulfilling the social rights of the politically and economically appropriate community. Regional Regulation No. 6/2012 on CSR has not been implemented by the bureaucratic structure either in Riau Province or in the City of Dumai at companies in Dumai port. Likewise, the spirit of "philanthropy" and "volunteering" among entrepreneurs and the City Government of Dumai has not yet been developed. Specifically did not prepare the programs needed by the affected community. In addition to mitigating environmental and community problems, it should help build a real commitment to environmental protection and conservation in realizing the goals of sustainable development.

References

- Bertucci Guido dan Rosenbaum Allan. 2007. Implementing the Millennium Development Goals: Challenges and Responses for Public Administration Contribution of the United Nations Committee of Experts on Public Administration. United Nations New York, 2007
- Cooper. J Philip . (dkk) 1998. *Public Administration for the Twenty First Century*. USA: Harcourt Brace College Publishers

- Ebner, D., & Baumgartner, R. J. (2006, September). The relationship between sustainable development and corporate social responsibility. In *Corporate responsibility research conference* (Vol. 4, No. 5.9, p. 2006). Queens University, Belfast Dublin
- Edward III, George C. 1980. *Implementing Public Policy*. Washington, DC. Congressional Quarterly Press.
- Fontaine.Michael.*Corporate Social Responsibility and Sustainability: The New Bottom Line?International Journal of Business and Social Science Vol. 4 No. 4; April 2013*
- Frederickson H. G 1985. *The Line age of New Public Administration*.Allyn and Bacon. London
- Freeman . T W. 1968 *Geography and regional administration*. . Hutchinson university library. London
- Grindle S. Merilee, 2007. *Going Local Decentralization, Democratization, and the Promise of Good Governance*. New Jersey.
- Hans Haferkamp and Neil J. Smelser 1992. (ed) . *Social Change and Modernity*.University Of California Press Berkeley . Los Angeles .
- Hogwood, Brian W dan Lewis A. Guun. 1988. *Policy Analysis for the Real Word*. Basil Black Well. Oxford.
- Mohan, L. (2019). Integration of CSR Strategy Model in Organisations. *International Journal of Innovative Technology and Exploring Engineering*, 8(12S), 796-801
- Nugroho, Riant. 2009. *Public Policy Dinamika Kebijakan - Analisis Kebijakan -Manajemen Kebijakan*, Jakarta. Elex Media Komputindo.
- Responsibility and Guidance on Social, Responsibility As Per ISO 26000ISO 26000 Pedoman Pelaksanaan CSR*
- Tarmizi.AHarmonisasi Administrasi Publik Dan Bisnis, Meningkatkan Peranan Administrasi Dalam Pemanfaatan Hutan Dan Lahan Mewujudkan Tujuan Pembangunan Berkelanjutan” Pengalaman Di Riau ¹ Disampaikan pada Seminar Nasional Bussiness, *Government dan the Public : Optimalisasi Government-Bussiness Partnership* (GBP-s) untuk Tujuan Nasional Pembangunan Berkelanjutan, Bandung 28 November 2018
- Rahmatollah Gholipour (et.al) *Introducing a Model for Implementation of Industrial Policies : A Case Study in Qom Province, Iran*.American Journal of Economics June 2012, Special Issue: 1-5 DOI: 10.5923/j.economics.20120001.01
- RondinelliA. Dennis. *Governments Serving People: the Changing Roles of Public Administration in Democratic Governance*. 7th Global Forum on Reinventing Government Building Trust in Government 26-29 June 2007, Vienna, Austria public administration and democratic governance: Governments Serving Citizens
- Sambodo Widodo, Asisten Deputi Urusan Peningkatan Peran Organisasi Kemasyarakatan Kementerian Lingkungan Hidup. Forum Nasional CSR Bidang Lingkungan Seni 17 Desember 2012.
- Sukandarrumudi. 2012. *Corporate Social Responsibility (CSR) Usaha Meredam Unjuk Rasa Akibat Gangguan Lingkungan*. Yogyakarta. Bajawa Press
- Teoh Cheng Hai. 2013. *Malaysian Corporations As Strategic Player in Southeast Asia's Palm Oil Industry*. (Ed) Oliver Pye and Jayati Bhattacharya. The Palm Oil Controversy in Southeast Asia. A. Transnational Perspective. ASEF-IQA and ISEAS. Singapore
- The Rio Declaration of enviroment and development) the united Nations Cnfrnce on Enviroment and development Having met at Rio de Jeneiro from 3 to June 14 1992
- Thoha Miftah. 2010. *Peran Ilmu Administrasi Publik Dalam Mewujudkan Tata Kepemerintahan Yang Baik*. Yogyakarta : Pasca Sarjana Universitas Gajah Mada.
- Tommasoli.Massimo 2007.Representative Democracy and Capacity Developmentfor Responsible Politics. Public administrationAnd democratic governance:Governments Serving Citizens. 7th Global Forum on Reinventing GovernmentBuilding Trust in Government 26-29 June 2007, Vienna, Austria
- Word Bank Development Report. Washington D.C., 1994-p 1-8)
- Willson W. 1887.*The Study of adminis tration*. 1887. (ed) Jay M. Shafritz dan Hyde. C. Albert. *Classic of Public Administration*.Moore Publishing Company. Illinois. USA

Acknowledgements

We would like to thank you for Universiti Malaysia Terengganu for this excellent collaboration work.

Biographies

A.Tarmizi is a lecture of Department Public Administration, Post Graduate Program, Universitas Islam Of Riau Pekanbaru. Master of Political Science University Kebangsaan of Malaysia. He holds a Ph. D. in Public management College of Law Government and International Studies from Universitas Utara Malaysia Kedah.

Latip is a lecturer of Institute of Administrative Science Lancang Kuning Dumai (STIA), Riau. He obtained a Bachelor's Degree in State Administration in June 1994 at the Lancang Kuning University, Pekanbaru, Indonesia and a Masters degree in Administration and Public Policy at Riau University Pekanbaru, Indonesia. Currently, he is doing Doctor of Philosophy at the Institute of the Malay World and Civilization Universiti Kebangsaan Malaysia.

Dewi Jannah is a PhD. Candidate at the Institute of The Malaysia World and Civilization, Universiti Kebangsaan Malaysia. She is also a lecturer at the Academy of Administrative Sciences (STIA) Lancang Kuning Dumai. She is active in various social and scientific activities as a speaker and trainer. Master of Ceremony Instructors, Character Building Motivators, and Art Loving Student Community either.

Teuku Afrizal is a senior lecturer in the Department of Public Administration, Universitas Diponegoro, Indonesia, and a researcher at the university's SDGs Center. He is an expert on Development Studies, especially on environmental sociology and anthropology, anthropology of development, community development studies, social theory, and demography. He gained research experience in several projects funded by Ford Foundation, Toyota Foundation, UNDP, Scalabrini Migration Center, IKMAS, UKM, National Grant (Malaysia Government), BorIIS, UMS, Sabah Forestry Department, Jhon Hopkins University, Boston University, Sultan Mizan Royal Foundation (YDSM) and Malay Strategy Foundation. He has published several articles in international refereed journals, chapter in books and book. He is a member of the Malaysia Social Science Association

Jumadil Saputra is a PhD holder and works as a senior lecturer in the Department of Economics, Faculty of Business, Economics and Social Development, Universiti Malaysia Terengganu, Malaysia. He has published 125 articles Scopus/ WoS indexed. As a lecturer, he has invited as a speaker in numerous universities, the examiner (internal and external), the reviewer for article journal and proceeding, the conference committee, journal editorial board, and others. He is a professional member of the International Business Information Management Association (IBIMA), Ocean Expert: A Directory of Marine and Freshwater Professional, and Academy for Global Business Advancement (AGBA). His research areas are Quantitative Economics (Microeconomics, Macroeconomics, and Economic Development), Econometrics (Theory, Analysis, and Applied), Islamic Banking and Finance, Risk and Insurance, Takaful, i.e., financial economics (Islamic), mathematics and modelling of finance (Actuarial). His full profile can be accessed from <https://jumadilsaputra.wordpress.com/home-2/>.



IEOM Society International

The 11th Annual International Conference
Industrial Engineering and Operations Management
Singapore during March 7-11, 2021

Certificate of Presentation

This is to certify that

A. Tarmizi

Universitas Islam Riau, Pekanbaru, Indonesia

Delivered an Oral Presentation entitled “A Study of Corporate Social Responsibility Policy Implemented by Private Companies and Its Impact to Surrounding Community: A Case Study of Indonesian Port Company” at the Eleventh Annual International Industrial Engineering and Operations Management Conference Virtually via Zoom.

Professor Donald M. Reimer
Director of Membership and Chapter Development
IEOM Society International
President, The Small Business Strategy Group
Detroit, Michigan, USA

Dr. Ahad Ali - Conference Co-Chair
Associate Professor and Director of Industrial
Engineering
Lawrence Technological University, Michigan, USA
Executive Director – IEOM Society International

Sponsors and Partners



IEOM Society International, 21415 Civic Center Dr., Suite # 217, Southfield, Michigan 48076, USA, www.ieomsociety.org