

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

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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>

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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), Phahonyothin, 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 Akshintia, and Pradipta 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. Sharma, 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 AlRukaibi 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 AS/RS 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, 95002, 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

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Rapat Piter Sony Hutaeruk, Sri Winda Hardiyanti Damanik, Aisyah Siregar Sekolah Tinggi Ilmu Ekonomi Bina Karya Tebing Tinggi Padang Hulu, Tebing Tinggi, 20831 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 Rajaguguk 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

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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 Sarampakul, Tanapon Chansumpeo 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 Abdulrahman Al-Siddigi, 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 Muhammad 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. Robielos, 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 Alimi, Kamel Chaoui, and Khouloud 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

Khouloud 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 Khouloud, Merabet Hichem, Bahi Tahar, Alimi 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, Yakoleem Montero-Santos, Ramiro V. Saraguro-Piarpuezan 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 Ahmid, Thien-My Dao and Van Le, 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 Lumbwe, Eveth Nwobodo-Anyadiagwu, 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 Sodio 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 Anvitrida, Departement 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, Muralla St., Intramuros, Manila, Philippines

Rene D. Estembar, School of Industrial Engineering and Engineering Management, Mapua University, Muralla 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 Díaz-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 Liyanage, 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 864 A Qualitative Study of Transformational Leadership and Organization Success

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A Qualitative Study of Transformational Leadership and Organization Success

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Abstract

A leader is one of the most critical elements that will never disappear from human social life. Leaders arise because of the differences in heterogeneous human life, which then need to be unified, harmonized, and directed so that these differences do not create conflict. Leaders are there for that. He is like the "chosen one" because all parties with different opinions agree to mediate him. Therefore, most of the true leaders we know are people who have advantages over most humans. It is very natural and rightfully, so because there is no way he will be a leader if he does not have things that make other people give in. To become a leader, anyone can. However, finding a qualified leader is difficult. Leadership must bring good influence and produce good things, not vice versa; leadership brings terrible influence and destructive impact for subordinates and the organization. Transformational leadership's importance is to empower followers to perform effectively by building their commitment to new values, developing their skills and beliefs, and

creating a climate conducive to innovation and creativity. Transformational leaders motivate their subordinates to perform above and beyond their duty call. The essence of transformational leadership is the sharing of power by involving subordinates together to make changes. Leadership is one of the most decisive factors in the development and progress of an organization. Because leaders are needed to determine goals according to the organization's vision and mission, allocate resources, motivate human resources to be more competent coordinate change, and build intense empowerment with subordinates to determine the right and best direction. In achieving organizational goals, a leader will not succeed without subordinates. Conversely, subordinates will also not carry out their duties without movement and direction from a leader. For this reason, organizational success must be seen as the result of comprehensive teamwork as a mutual success (successful group effort).

Keywords

Organisation Success, leadership, and transformational leadership model

1. Introduction

The challenges facing organizations in the current era of globalization are very accelerating and are increasingly showing a fast and complex intensity. The implication is to build an image of the organization in the perspectives of society. A leader must create innovatively and accommodating change through institutional, managerial, and human resource development. It is in its consideration to improve reliable and superior performance (reliable and excellent service). Organizations can anticipate and face the dynamics of business competition in seizing "opportunities" and overcoming the "challenges". Strategically, a leader plays a crucial role in determining goals according to its vision and mission, allocating resources, motivating human resources to be more competent, coordinating change, and building intense empowerment with subordinates to set the right and most productive direction. One of the toughest challenges often faced by leaders is how they can mobilize their subordinates always to be willing and willing to exert their best ability for the organization's benefit. The organization will run well if the leadership role is carried out with dedication, responsibility, and accountability. On the other hand, if the leadership role is not well realized, various problems will arise that can hinder or affect the people they lead.

Each leader has his leadership style, which is different from one another. Often, we find leaders who use their power absolutely. Like ordering his subordinates without paying attention to his subordinates' state. Leaders place too much emphasis on rigid rules without a humanistic approach to their subordinates; a leader who gives orders with all the emotional stress without tolerance that has an impact on the psychological impact of his subordinates; leaders who do not have a social approach to their subordinates; a leader who is arrogant and insensitive, only wants to be heard but does not want to listen; and the attitude of other unwise leaders. In this way, the leader thinks that he will show his authority and strength as a superior that cannot be denied by subordinates. Without realizing that such a leader's attitude can lead to a rigid and disharmonious work relationship in the organization, psychological pressure can result in employees experiencing stress and depression and can impact lowering morale, motivation, and performance of subordinates. McShane and Von Glinov (2010: 360) argue that leadership is about influencing, motivating, and enabling others to contribute to the effectiveness and success of the organizations in which they are members. Hughes, Ginnett, & Curphy (2009: 4) states that leadership is a complex phenomenon involving leaders, followers, and situations. Leaders need to act confidently and humble enough to know that others' views are helpful too. Ideally, in building a humanistic work relationship, a leader must position himself wisely as an innovator, motivator, advisor, mediator, and mentor to his subordinates.

Everyone has the right to be a leader. Nevertheless, not everyone who, when they become a leader, can carry out their leadership duties and responsibilities properly. To become a leader, anyone can. But finding a qualified leader is difficult. Leadership must bring good influence and produce good things, not vice versa; leadership brings terrible influence and harmful impact on employees and the organization. Generally, people who work can develop themselves personally from the point of view of knowledge (mindset). However, for the formation of behavior and character (attitude), especially regarding integrity, responsibility, discipline, and work ethic, an employee needs to be motivated, build awareness and continuously directed, so that the spirit of work, concern and a sense of belonging to the organization is born.

In this case, the role of leadership and its influence on employee motivation is crucial. Motivation is essential for employees because motivation will encourage employee morale in carrying out their duties with total dedication, discipline, and responsibility, resulting in high productivity. For that, a leader must be sensitive and wise to understand

the nature of his employees. What drives them to do their best, and how to motivate them. Every employee at work has various goals and expectations, such as: to get an income or salary, for personal satisfaction from his work, an increase in status, awards from colleagues and superiors, and others. According to Anoraga (2003: 77), employees as social beings at work are not only pursuing income. They also expect that their work can be accepted and appreciated by their fellow employees. Besides, they will be happier if they can accept and help other employees. On the other hand, every leader has unique traits, habits, personalities, and characteristics, distinguishing a leader from another leader. There are still questions about the effective leadership style in daily reality or how to implement effective leadership in running an organization. An effective leader is someone who can create situations that inspire his followers to achieve optimal goals.

An effective leader can read situations, is responsive to organizational problems, is responsible, highly dedicated, and willing to develop his subordinates. The most important thing is that a leader has integrity and sound ethics because he must set an example or act as a role model for his subordinates (rule model). Leadership does not only depend on the position of status, but more because of the influences that come from his capacity because he must be able to lead himself (managing self), lead people (managing people), and leading tasks (managing jobs). The effectiveness of the leader in using his influences will determine how he can play his role well. Influences like this will provide strength for a leader in carrying out his leadership duties and responsibilities. He cannot only give orders, give instructions, give punishments, give rewards, threaten, direct, but further than that, his role as a leader will have a positive impact on the person being led or the environment. Nevertheless, the fact is that in the field, there are still complaints and perceptions of some employees about the attitude of the leader who is considered to be unwise and humanistic in treating their employees, including the leadership is not consistent, both with their words and actions, likes to admonish their subordinates emotionally in front of the crowd, which causes the shame of their subordinates. However, they ignore their attitudes and should not be criticized, the behavior of indifferent leaders, do not want to know or are less sensitive to the condition of their subordinates, leaders who do not want to accept or listen to their subordinates, and the attitude of leaders who like to look down on employees.

As a result, psychological clashes, and conflicts of interest between personal interests and organizational interests often occur. Not only between leaders, leaders, and employees or vice versa but also among employees. Of course, it can adversely affect employees' psychological work. Depression, fear, the tension in work relationships, and unsympathetic leadership attitudes can cause employees to experience stress, frustration, and even major depression. Leaders forget that an employee, even in the lowest position, is still a human who has dignity and wants to be treated humanely, valued and respected. Leaders who are not wise and humanistic towards their employees will harm employee judgment and lack of respect for their leaders and affect organizational performance. The reality is, no leader in any organization can be successful and prosperous without the support of his employees. Based on the explanation above, the subject matter of the discussion of this paper is: "How to Model Transformational Leadership and Organizational Success." Of these, this study is written to find out the transformational leadership model and analyze transformational leadership models and organizational success.

2. Literature Review

2.1 Leadership

Leadership issues always give an attractive impression. This topic always gives a strong appeal to everyone. The literature on leadership always explains how to be a good leader, attitudes and styles that are by the leadership situation, and a good leader's requirements. In a broad sense, everyone can use leadership and is not only limited to a particular organization or office. Leadership does not have to be limited by bureaucratic rules or rules and does not have to be tied to a particular organization. In general, the definition of leadership can be formulated as the ability and readiness possessed by a person to influence, encourage, force people or groups to accept this influence and then do something that can help achieve certain predetermined goals. (Rosmiati, Taty; 2009: 125). According to Robbins (1996: 39), leadership can influence a group towards achieving goals. A similar opinion is expressed by Hersey et al (1996: 99) that leadership is a process to influence individual or group activities to achieve predetermined goals. Therefore, a leader must be task-oriented and human relationships. Based on some of the definitions above, it can be concluded that leadership is a person's ability and readiness to influence, guide, direct and mobilize the people they lead so that they can work effectively to achieve the expected goals.

2.2 Conceptions of Transformational Leadership

James McGregor Burns first put forward the concept of transformational leadership. With transformational leadership, Bernard Bass (Stone et al, 2004) said: "Transformational leaders transform the personal values of followers to support the vision and goals of the organization by fostering an environment where relationships can be formed and by

establishing a climate of trust in which visions can be shared". Furthermore, operationally Bernard Bass (Gill et al. 2010) defines transformational leadership: "Leadership and performance beyond expectations. Gill et al., 2010 explain; "The process influences major changes in the attitudes and assumptions of organizational members and builds commitment to the mission or goals of the organization." According to Burns (1978), transformational leadership is "a process in which leaders and followers raise morality and motivation to higher levels." This kind of leadership style will bring awareness to followers by bringing up constructive ideas, synergistic relationships, responsibility, educational care, and shared aspirations. It is confirmed by Yulk (1994), who states that the essence of transformational leadership is to empower his followers to perform effectively by building their commitment to new values, developing their skills and beliefs, and creating a climate conducive to the development of innovation and creativity. The essence of transformational leadership is sharing of power by involving subordinates together to make changes.

In formulating change, a humane transformational approach is usually used. A participatory work environment with a collegial management model full of openness and decisions is taken together. Thus, transformational leadership is leadership capable of creating fundamental changes and based on the system's religious values and culture to create innovation and creativity for its followers to achieve the predetermined vision.

Yamarino and Bass (1990), transformational leaders must be able to persuade their subordinates to carry out their duties beyond their interests in the interests of the larger organization. Bass and Avolio (1994), suggest that transformational leadership has four dimensions which he calls "The Four I's": (a) leader's behavior makes his followers admire, respect, and trust (ideal influence). (b) Transformational leaders are described as leaders who can articulate clear expectations of subordinates' achievements (motivation-inspiration). (c) Transformational leaders must foster new ideas and provide creative solutions to problems faced by subordinates (intellectual stimulation). (d) The transformational leader is described as a leader who is willing to listen attentively to subordinates' input and is specifically willing to pay attention to subordinates' needs for career development (individual consideration).

Many researchers and management practitioners agree that the transformational leadership model is the best leadership concept in describing leaders' characteristics (Sarros and Butchatsky 1996). Meanwhile, the characteristics of transformational leadership, according to Avolio et al. (Stone et al., 2004), are as follows:

Idealized Influence (or Charismatic Influence)

Idealized influence means that a transformational leader must have the charisma that can "bewitch" subordinates to react to the leadership. In a concrete form, this charisma is shown by understanding the organization's vision and mission, having a firm stance, commitment, consistency with every decision taken, and respecting subordinates. In other words, transformational leaders become role models who are admired, valued, and followed by their subordinates.

Inspirational Motivation

Inspirational motivation means the character of a leader who can apply high standards but at the same time can encourage subordinates to achieve these standards. This kind of character can generate high optimism and enthusiasm from subordinates. In other words, transformational leaders always inspire and motivate their subordinates.

Intellectual Stimulation

Intellectual stimulation, the character of a transformational leader who can encourage his subordinates to solve problems carefully and rationally. Besides, this character encourages subordinates to find new, more effective ways of solving problems. In other words, transformational leaders can encourage (stimulate) subordinates to always be creative and innovative.

Individualized Consideration

Individualized consideration means the character of a leader who can understand the individual differences of his subordinates. In this case, transformational leaders are willing and able to listen to aspirations, educate, and train subordinates. Also, a transformational leader can see his subordinates' potential achievements and development needs and facilitate them. In other words, transformational leaders can understand and appreciate subordinates based on the needs of their subordinates and pay attention to their desires for achievement and development. The transformational leadership style is believed by many to be an effective leadership style in motivating subordinates to behave as desired. According to Bernard Bass (NN, 2009), to motivate employees, for leaders who apply a transformational leadership style, there are three ways, namely: 1) Encouraging employees to be more aware of the importance of business results; 2) Encouraging employees to prioritize group interests, and 3) Increasing higher employee requirements such as self-

esteem and self-actualization. Transformational leadership explained through the components of transformational leadership behavior, which are as follows:

Charismatic

That charisma is traditionally seen as inherent and only possessed by world-class leaders. Leaders who have these characteristics show their vision, abilities, and expertise and actions that put the interests of the organization and the interests of others (society) more than personal interests. Therefore, charismatic leaders are made role models, idols, and role models by their subordinates. Subordinates trust the leader because the leader is considered to have views, values, and goals that he considers correct. Therefore, leaders who have more extraordinary charisma can more easily influence and direct subordinates to act following what the leader wants.

Idealist Influence

Transformational leaders serve as role models for followers. Because followers trust and respect the leader, they imitate this person and internalize in him. They believe in the philosophy that a leader can influence his followers only when the leader practices what he says. It is due to behavior that prioritizes subordinates' needs, consistently shares risks with subordinates, and avoids using power for personal gain. Thus, subordinates are determined and motivated to optimize efforts and work towards common goals.

Inspirational Motivation

Transformational leaders have a clear vision that they can articulate to followers. Subordinates are given the freedom to participate optimally in terms of ideas and provide a vision of the organization's future state that promises clear and transparent expectations.

Intellectual Stimulation

The leader encourages subordinates to rethink working and looking for new ways of working in completing their tasks. The effect is expected, subordinates feel that their leadership accepts and supports them to think about their ways of working, look for new ways of completing tasks, and feel new ways of working in accelerating their tasks. Through intellectual stimulation, leaders stimulate subordinates' creativity and encourage them to find new approaches to old problems.

Individual Considerations

Individual attention, that is, leaders give personal attention to their subordinates, such as treating them as whole individuals and appreciating their caring attitude towards the organization. Leaders act as mentors for their followers and reward followers for their creativity and innovation.

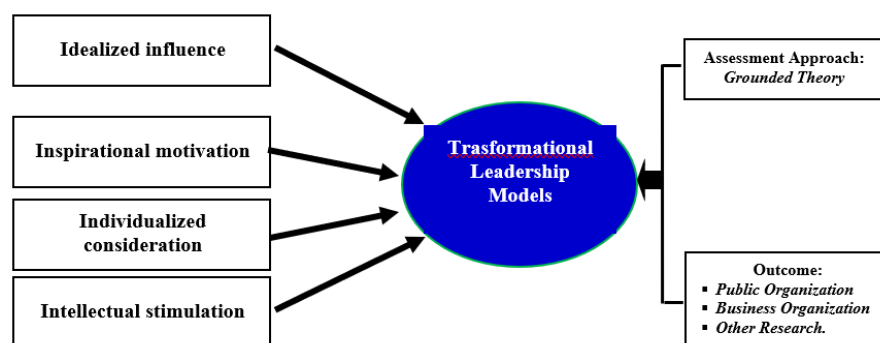


Figure 1. Research Framework

3. Results and Discussion

Leadership has received the attention of many researchers around the world. Leadership has also been extensively studied using quantitative and qualitative methods in many contexts. The approach to understanding a leader and leadership is very complex, especially studies related to leadership styles and models, because it focuses more on the behavior and character of someone who is a psychological leader. Without leadership, it will not be easy to achieve

organizational goals. So, leadership has a strategic position because its role is to bring the organization to its stated goals. Leadership can determine whether an organization can achieve the goals set. Leadership is a series of structuring activities that are manifested as the ability to influence other people in certain situations so that they are willing to work together to achieve agreed goals.

The role of leadership in an organization is not just an administrative and technical activity, but instead leads to developing the potential of employees' human resources to be creative and innovative. Each organization's effectiveness is greatly influenced by human behavior because it is an expected resource for all organizations. Organizational performance depends on individual performance, and leaders must have more than just knowledge in terms of determining individual performance. Many researchers have conducted studies on leadership styles or models, one of which is the Transformational Leadership Model. Transformational leadership is still relatively new, which is considered effective in dedicating change, especially in transitional environmental situations. The transformational leadership model essentially emphasizes a leader needs to motivate his subordinates to carry out their responsibilities more than they expect. In this context, transformational leaders must be able to define, communicate and articulate the organization's vision, and subordinates must accept and acknowledge their leaders' credibility.

However, in fact, there are not many organizational leaders who lead with a transformational leadership model. Some of the problems that become obstacles in the implementation of transformational leadership models in an organization include: 1) The old paradigm of leadership, which tends to "one-man show," slows down the formation of understanding in implementing transformational leadership; 2) The transformational leadership approach is fresh and requires particular expertise in its application; 3) Transformational leadership requires the readiness of adequate human resources, especially in developing logic thinking, analytical thinking, creativity in dealing with a problem; 4) The freedom given to develop ideas and how to solve problems cannot be maximally utilized, and 5) The implementation of transformational leadership requires a strong understanding of the vision between leaders and followers. A leader's success in carrying out leadership is measured not only by formal technical expertise, but a leader must also have social skills and humanistic behavior in managing and directing his subordinates. Efforts to empower and mobilize employees today are based on the approach that employees are social beings with dignity, feelings, aspirations, desires, tranquility, and expectations that vary from one individual to another. As human beings, every employee has dignity. They need respect according to a dignity as a human being. Davis (in Abdurrahman; 2001) asserts that human dignity is an ethical and moral basis for human relationships.

Various pressures and very rigid social interaction approach without a leader's tolerance for employees at work will impact work relationships that are not constructive and dynamic, which can directly or indirectly affect employee motivation and performance. This condition can be seen from employees' work behavior, including laziness and lack of enthusiasm at work; rigid working relationship; lack of discipline, low sense of responsibility, apathy, lack of respect for leaders, etc. Transformational leadership is a leadership model for increasing human resources. In addition to the measurable relationship between the influence of leaders and subordinates, through indicators of trust, admiration, loyalty, and respect for the leader, trying to motivate followers to do something more and do it. exceed their expectations (Bass, 1994). An effective leadership style or model is very influential in improving employee performance and organizational success in achieving goals.

A leader has the technical expertise and being able to keep up with change is essential. However, social skills are much more critical in creating a harmonious and empathetic relationship with his employees. An employee will work with high morale when he feels needed, feels essential, feels counted, feels part of the group. Leaders must be able to position themselves not only as leaders or holders of the highest power, but more than that; leaders are required to be empathetic, sensitive to employees, willing to listen, to be fair or non-discriminatory, and to become a role model (rule model) in an effort to increase employee awareness and morale in working happily and voluntarily for the realization of organizational goals.

4. Conclusion

Leadership is an integral part of organizational success. Leaders are needed to determine the organization's vision and goals, allocate and motivate resources to be more competent, coordinate change, and build intense empowerment with their followers for the achievement of mutually set organizational goals. The essence of transformational leadership is to empower followers to perform effectively by building their commitment to new values, developing their skills and beliefs, and creating a climate conducive to the development of innovation and creativity.

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