2021 Asia Pacific Industrial Engineering & Management Systems 5th Webinar

(2021 APIEMS Online Symposium)

December 3rd - 4th, 2021

"Industrial Engineering in Practices"
www.apiems2021.org

Conference Chairs

Ming-Lang Tseng, Asia University, Taiwan
Anthony SF Chiu, De La Salle University, Philippines
Remen CW Lin, Asia University, Taiwan
Mohd Helmi Ali, Universiti Kebansaan Malaysia

Table of Contents

Organizers

Conference Organized and Supported by:

Asia Pacific Industrial Engineering & Management Systems

International Society for Business Innovation and Technology Management (ISBITM)

Ministry of Education Republic of China (Taiwan)

Institute of Innovation and Circular Economy, Asia University, Taiwan

De La Salle University, Philippines

Universiti Kebansaan Malaysia

Rajamangala University of Technology, Thailand

Chinese Institute of Innovation Management Development, Taiwan.

International Advisory Team

The 2021 APIEMS 5th Webinar Schedule

Day 1: December 3rd, 2021

Time	
13:50-14:00	The online system will be open
14:00-14:10	Opening remarks: Prof. ***Kono Hirokazu*** President, APIEMS (2021 - 2022) Keio University, Japan
14:10-14:20	Opening remarks: Prof. ***Chen Fu Chien*** President, CIIE Tsinghua University, Hsinchu, Taiwan
14:20-14:50	***Keynote Speaker:*** Prof. Dr. ***Kanchana Sethanan*** Khon Kaen University, Thailand *Topic: IE at Work in Thailand*
14:50-15:20	***Keynote Speaker:*** Prof Dr. ***Charlle Sy*** De La Salle University, Philippines *Topic: Integrating Uncertainty in Decision Planning Systems: A Target Oriented Robust Optimization Approach*
15:20-15:50	***Keynote Speaker:*** **Assoc. Prof Dr. *Yudi Fernando*** Universiti Malaysia Pahang, Malaysia *Topic: The Implications of Industry 4.0 for Circular Economy-Based Reverse Logistics*

Day 2: December 4th, 2021

Time	
08:20-08:30	The online system will be open
08:30-08:40	Welcome speech Yeneneh Tamirat Negash Department of Business Administration, Asia University, Taiwan Institute of Innovation and Circular Economy, Asia University, Taiwan
08:40-09:10	**Plenary Speech: Municipal solid waste management technological barriers under industry 4.0 practices** Dr. Tat-Dat Bui Institute of Innovation and Circular Economy, Asia University, Taiwan

SESSION PROGRAM
(Day 2: December 4th, 2021)

Parallel section I – Moderated by Raditia Yudistira Sujanto

09:10-09:25	**APIEMS_2021_001:** Sustainable recyclate packaging in Indonesian food and beverage industry: a consumption process integration
09:25-09:40	**APIEMS_2021_003:** A Spherical Fuzzy Subjective Weighting Method to Evaluate Critical Risks on Agribusiness Supply Chain Under COVID-19 Impacts
09:40-09:55	**APIEMS_2021_005:** Causality of circular business strategy under uncertainty in the seafood processing industry in Vietnam
09:55-10:10	**APIEMS_2021_007:** Nexus of Sustainable Social Supply Chain Practices, Local Supplier Development and Safety Performance
10:10-10:25	**APIEMS_2021_009:** Sentiment Analysis of 5G Implementation and Its Impact on Technological Developments in Jakarta using the Latent Dirichlet Allocation Model
10:25-10:40	**APIEMS_2021_0011:** Developing food and beverage corporate sustainability performance structure in Indonesia: enhancing leadership role and tenet value in ethical perspective
10:40-10:55	**APIEMS_2021_0013:** Hybrid approach to corporate sustainability performance in Indonesia's cement industry
10:55-11:05	**APIEMS_2021_0015:** internet of things technology for operational efficiency strategies in freshwater fish cultivation business in Indonesia
11:05-11:20	**APIEMS_2021_0017:** 3 dimensional object marketplace application design for building information modeling
11:20-11:35	**APIEMS_2021_0019:** Interplay between Supply Chain Visibility and Cyber Security Performance
11:35-11:50	**APIEMS_2021_0021:** AI-Improved in Identifying Chained Virus Transmissions for COVID-19
11:50-12:05	**APIEMS_2021_0023:** The Business Process of Domain Architecture Design on Electronic-Based Governance System in Bogor City
12:05-12:20	**APIEMS_2021_0025:** Augmented Reality Technology Development in Indonesia
12:31-12:45	**APIEMS_2021_0027:** Economic status grouping system using naive bayes algorithm in citizens of rt. 002 rw.04 kampung kekupu pancoran mas depok west java indonesia

Parallel section II– Moderated by Viqi Ardaniah

09:10-09:25	**APIEMS_2021_002:** Constructing the corporate sustainability transition practices within port and shipping industry: a hierarchical structure approach
09:25-09:40	**APIEMS_2021_004:** A Data-driven Analysis on a Hierarchical Circular Supply Chain Structure
09:40-09:55	**APIEMS_2021_006:** Exploration of Fishing Ground Model Combination of Backpropagation Neural Network and Generalized Additive - Genetic Algorithm
09:55-10:10	**APIEMS_2021_008:** LOW COST 2G TECHNOLOGY BASE ON GSM FOR INTERNET OF THINGS (IOT) APPLICATION
10:10-10:25	**APIEMS_2021_0010:** TIKTOK, A New Business Model That So Adorable
10:25-10:40	**APIEMS_2021_0012:** MULTIPLE CRITERIA TRANSPORTATION APPLICATION WITH FUZZY COST PARAMETERS USING GENETIC ALGORITHM
10:40-10:55	**APIEMS_2021_0014:** Analysis of Sharia Banking Management Strategies In The Digital Era
10:55-11:05	**APIEMS_2021_0016:** Trend Issue Artificial Intelligence for Industrial Engineering in Post Pandemic Covid-19 Era
11:05-11:20	**APIEMS_2021_0018:** Low Carbon Warehousing Practices and Its Challenges: Insights from Emerging Country
11:20-11:35	**APIEMS_2021_0020:** Green Technopreneurship: A Content analysis review using social network analysis
11:35-11:50	**APIEMS_2021_0022:** Scared of the Coronavirus Disease Covid-19 Risk? Avoid By Using an Online Fiqh Learning Management System
11:50-12:05	**APIEMS_2021_0024:** Evaluation And Monitoring Of Electronic-Based Government System Using Maturity Model E-Government (Case In Banten Regional Government)
12:05-12:20	**APIEMS_2021_0026:** Corporate Sustainability Transition in Indonesia Banking Industry: economic-environmental transition drives the socio-economy and socio-environment transition
12:20-12:25	**APIEMS_2021_0028:** Classification system of palawija plant potential using K-means method

Conference chair

Prof. Dr. Ming-Lang TSENG
Chair Professor, Department of Business Administration,
Director, Institute of Innovation and Circular Economy (Ext. 1770), Asia University, Taiwan

Prof. Dr. Anthony Shun Fung Chiu
BSME MEng IE&M DBA PIE ASEAN ENG FAPIEMS
University Fellow, Professor and Research Fellow, JM Reyes Professorial Chair, De La Salle University, Manila, Philippines

Prof. Chun-Wei Remen Lin

Distinguished Professor, Department of Business Administration, Asia University, Taiwan
Director, Center for Creative Innovation and Leadership, Asia University, Taiwan,
Vice-Director, Institute of Innovation and Circular Economy, Asia University, Taiwan

Assoc. Prof. Dr. Mohd Helmi Ali

Faculty of Economics and Management, Universiti Kebangsaan Malaysia.

Opening Remarks

Prof. Dr. Kono Hirokazu

President, APIEMS (2021 - 2022)
Keio University, Japan

Prof. Chen Fu Chien

President, CIIE
Tsinghua University, Hsinchu, Taiwan

Conference Keynotes

Assoc. Prof Dr. Yudi Fernando
Universiti Malaysia Pahang, Malaysia

Prof. Dr. Charlle Sy
De La Salle University, Philippines

Prof Dr. Kanchana Sethanan

Khon Kaen University, Thailand

Plenary Speaker

Dr. Tat-Dat Bui

Associate researcher, Institute of Innovation and Circular Economy, Asia University, Taichung, Taiwan
Assistant professor, Department of Business Management, Asia University, Taichung, Taiwan

ID no. 018

Low Carbon Warehousing Practices and Its Challenges: Insights from Emerging Country

Azian Ibrahim[1], Yudi Fernando[1], Ming-Lang Tseng[2,3,4]

[1]Faculty of Industrial Management, Universiti Malaysia Pahang, 26300, Pahang, Malaysia
[2]Institute of Innovation and Circular Economy, Asia University, Taiwan
[3]Department of Medical Research, China Medical University Hospital, China Medical University, Taiwan
[4]Faculty of Economic and Management, University Kebangsaan Malaysia, Malaysia.
Corresponding Author: yudi@ump.edu.my

Abstract

This study aims to identify the issues and challenges for the manufacturing industry to adopt low carbon warehousing. This paper has utilized the cross-case analysis, and data were collected from various manufacturing industries operating in Malaysia, such as aerospace, automotive, and electrical and electronic. Face-to-face semi-structured interviews and telephone calls were used to collect the data. The findings reveal that all companies have shown proactive action on low carbon warehousing. Even though the low carbon warehouse practices are only partially involved, the company has put more effort into considering low carbon warehouses in their company. The study contributed to the practical understanding of the issues and challenges in adopting low carbon warehouses in Malaysian manufacturing; hence, it provides useful insights for the industry on low carbon warehousing practices. This study investigated the low carbon warehouse (LCW) practices and its challenges in adopting it from emerging country perspective. The result will fill in the gaps in the literature because previous studies focus on wide-ranging area of low carbon process in supply chain from a multidisciplinary approach.

Keywords*: Low carbon warehousing, Sustainability, Cross Case Analysis, manufacturing, qualitative research*

ID no. 019

Interplay between Supply Chain Visibility and Cyber Security Performance

Anisha Banu Dawood Gani[1], Yudi Fernando[1], Ming-Lang Tseng[2,3,4]

[1]Faculty of Industrial Management, Universiti Malaysia Pahang, 26300, Pahang, Malaysia
[2]Institute of Innovation and Circular Economy, Asia University, Taiwan
[3]Department of Medical Research, China Medical University Hospital, China Medical University, Taiwan
[4]Faculty of Economic and Management, University Kebangsaan Malaysia, Malaysia.
Corresponding Author: yudi@ump.edu.my

Abstract

Manufacturing industry is highly targeted and susceptible to cyberattacks given its interconnected and global supply chain that is rich with design, customer, and financial data. Hence, this study was undertaken to examine if the cyber supply chain risk management (CSCRM) practices adopted by firms can protect their supply chain from intrusions and how effective their practices are in securing their CSC. In addition, the role of CSC visibility as a mediator in achieving CSC performance was also tested. A survey method was used to gather data from E&E manufacturing firms that were registered with Federation of Malaysian Manufacturers (FMM). A total of 130 respondents' data was analyzed using IBM SPSS 24 and PLS SEM 3.3.3 tools to answer the research objectives stipulated. This study managed to prove empirically the integral role a dedicated governance team can bring into setting the security tone within its CSC. The result from the study also confirms the significant role that CSC visibility plays in achieving CSC performance. Moreover, there is also a strong direct relationship between CSC visibility and CSC performance as theorized, giving affirmations to manufacturing firms that investments and policies devised to improve CSC visibility will fare well in a secure supply chain. Thus, manufacturing firms need to fully evaluate its network perimeter and prioritize integration effort and governance of standards and policies that would improve its visibility among its supply chain partners, both internally and externally. Inherently, this implies assessing the cybersecurity maturity level of its supply chain partners, beyond first tier suppliers, in their ability to protect integrated devices and remote-access connections from being exploited

Keywords: *Cybersecurity, Supply chain visibility, Supply chain risk management, Cyber supply chain, CSCRM*

ID no. 020

Green Technopreneurship: A Content analysis review using social network analysis

Nur Nadiah Salihah Mat Razali[1], Yudi Fernando[1*], Ming-Lang Tseng[2,3,4]

[1]*Faculty of Industrial Management, Universiti Malaysia Pahang, 26300, Pahang, Malaysia*
[2]*Institute of Innovation and Circular Economy, Asia University, Taiwan*
[3]*Department of Medical Research, China Medical University Hospital, China Medical University, Taiwan*
[4]*Faculty of Economic and Management, University Kebangsaan Malaysia, Malaysia.*
**Corresponding Author: yudi@ump.edu.my*

Abstract

Aware the important of the success of new start-up business which not only able to manage the business properly, the experience and technical knowhow also equality plays important role. Unfortunately, the technical based entrepreneurs and they intention are not well discussed in the literature. The aim of this paper is to explore the concept of green technopreneurship and its past, current, and future direction. The debate on technopreneurship intention has expanded, however, a systematic review of lessons learned, and future research opportunities is not cover widely. This study has conceptualized the technopreneurship based on a review of the literature and social network analysis. The data has processed English articles published by multiple databases found through the Web of Science and Scopus. We reviewed, collected, and sorted articles from 2755 publications and then identified 669 as being relevant to the research scope. The implication of this study is the young green technopreneurs could be comprehends talents and skills in larger sector with their expertise and subsidies from the authority of policymaker or investor from big companies. The entrepreneurs should have proper retirement planning to ensure their interest achieved and their decision to manufacture the green products not wasted by hanging it in laboratory. The high risky investment needs more resilient. Paradoxically, we find the engineers find limited ways to implement the green business without the government aid.

Keywords: *Green Technopreneurs, Green Business Green Technological business, Green Technology, Technopreneurship*