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“ASIA-EUROPE Connectivity for Sustainable Competitiveness”

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INTRODUCTION

This is the 7th international conference organised by the Centre for Logistics Research at Thammasat Business School, Thammasat University and the Excellence Centre in Logistics and Supply Chain Management, Chiang Mai University. This is major event for researchers in transport, logistics, supply chain and value chain management especially in the Asia Pacific region. This year's event in Lyon, France will be the first time the conference is being held in Europe and is a continuation of past successful conferences held in ChiangMai (Thailand), 2009; Queenstown (New Zealand), 2010; Male (Maldives), 2011; ChiangMai (Thailand), 2012; Kyoto (Japan), 2013 and Kuala Lumpur (Malaysia), 2014. This year's event is held during November 17th to 20th, 2015 and is hosted by Université Lumière Lyon 2, Lyon, France.

Under the theme of “Asia-Europe Connectivity for Sustainable Competitiveness”, the following topics were welcomed at the conference:

Procurement & Supply Management	Supply Chain Design/Configuration
Planning & Forecasting	Supply Chain Risk Management
Relationship & Collaboration	Sustainable Supply Chain
Production Planning & Operations	Production & Inventory
Inventory Fulfilment	Supply Chain Performance
International Logistics	Global Supply Chain
Humanitarian Logistics	Multimodal Transport
Maritime Logistics	Freight Logistics
Logistics Services Providers	E-Logistics
Logistics Development Policies	Logistics Facilitation

The conference best paper will be invited and considered for publication in the International Journal of Physical Distribution and Logistics Management [ABS: 2*, Impact Factor: 2.617] and there will be a special ICLT2014 issue in the International Journal of Logistics Research and Applications [ABS: 2*, Impact Factor: 0.357] if there are sufficient papers.

WELCOME ADDRESS FROM THE CONFERENCE CHAIRS

On behalf of the organizing committee, we would like to welcome all participants to the 7th International Conference on Logistics and Transport (ICLT2015). It has been 7 years since the first conference hosted in Chiang Mai (Thailand). This ICLT conference is expected to continue on an annual basis in order to facilitate the sharing of ideas, research findings, and teaching directions related to logistics and supply chain from an academic perspective.

The theme for this year's event is "Asia-Europe Connectivity for Sustainable Competitiveness". As technology has posited considerable impact to the current logistics and supply chain practices, distances from channel members has been extended. This has allowed companies to gain competitive advantage through cost and value. However, due to the current market situation, searching for sustainable competitiveness is one of the key topic in today's business world.

"Asia-Europe for Sustainable Competitiveness" is an important concept for industries in all scales. It can be seen as a guidance to help in improving companies' resources, capabilities and operational efficiencies through sustainability across the entire supply chain continuum. The challenge to harmonise these subtle changes in between each members of the supply chain remains an elusive challenge.

Nonetheless this concept does lead to greater opportunities in reviewing and revising processes, operations, and production activities that can comply with this given paradigm. Other potential advantages of sustainability in supply chain management is cost reduction, waste reduction, cycle time reduction, risk mitigation, and asset utilisation.

We would like to sincerely thank all presenters, reviewers, our scientific committees, and keynote speakers for their appreciated contribution. We also apologise in advance if there are any difficulties you may encounter while participating the conference. Finally, we hope that you will enjoy this conference and we hope that the deliberations will be fruitful and successful.

Ruth Banomyong

Apichat Sopadang

ICLT General Chairs

CONTENTS

A PRACTICAL IMPLEMENTATION OF TIME-DEPENDENT FASTEST PATH ALGORITHM: A CASE STUDY OF BANGKOK ROAD NETWORK <i>Kriangsak Vanitchakornpong, Nakorn Indra-Payoong, and Peerapol Sittivijan</i>	1
AN ASSESSMENT OF MULTIMODAL TRANSPORT CORRIDORS: EUROPE – IRAQ <i>Ziad al Hashimi, Anthony Beresford and Stephen Pettit</i>	2
ACTOR ROLES IN MANAGING SERVICE VALUE RISK IN MULTIMODAL SUPPLY CHAINS <i>Jyri Vilko and Teemu Santonen</i>	3
COMPETITIVE NEUTRALITY AND STATE-OWNED ENTERPRISES: CASE OF E-LOGISTICS IN THAILAND <i>Dr. Yudh Jayapavitra and Viktória Horváth</i>	4
COSTCO'S SUCCESS AND IMPACT IN JAPANESE MARKET <i>Jung-Yim Baek</i>	5
CREATING A LOGISTICAL-MEGA-GATEWAY: THE EMIRATE OF DUBAI POTENTIALS <i>Dr. Syd Gilani, Shahrin Osman</i>	6
CUSTOMS BONDED TRUCK SERVICE PROVIDER SELECTION IN AIR TRANSPORTATION, CASE STUDY: LAO PDR <i>Tipavinee Suwanwong and Apichat Sopadang</i>	7
EFFICIENCY IMPROVEMENT OF DRIED LONGAN PRODUCTION LINE USING ECRS PRINCIPLES <i>Wassanai Wattanutchariya and Atitaya Ounjai</i>	8
ENHANCING SUSTAINABLE COMPETITIVENESS TO THAI SME BY USING LOGISTICS AND SUPPLY CHAIN MANAGEMENT <i>Taweesak Theppitak</i>	9
ENERGY EFFICIENCY ANALYSIS OF WIND TURBINE SUPPLY CHAINS <i>Toni Maetze and Henning Strubelt</i>	10
ENERGY RECOVERY AS A SUSTAINABLE MEANS TO MANAGE POSTCONSUMER FOOTWEAR WASTE <i>Nakorn Tippayawong and Korrakot Yaibuathet Tippayawong</i>	11
EXPLORING VIETNAMESE LOGISTICS SERVICE QUALITY IN THE RUN-UP TO AEC 2015 <i>David B. Grant, Trinh Thi Thu Huong, and Chandra Lalwani</i>	12
IMPROVEMENT OF POSTCONSUMER FOOTWEAR SUPPLY CHAIN BY LEAN CONCEPT <i>Jureerut Somboon and Korrakot Yaibuathet Tippayawong</i>	13
IMPACT OF PORT PRICING POLICIES FOR INCREASING THE EFFICIENCY OF PORT UTILIZATION <i>Pairoj Raothanachonkun, and Nakorn Indra-payoong</i>	14
MEASURING THE EFFECTIVENESS OF NATIONAL SINGLE WINDOW AS TRADE FACILITATION TOOL IN MALAYSIA <i>Nor Bakhriah Sarbani and Harlina Suzana Jaafar</i>	15
MULTI-PERIOD HUMANITARIAN LOGISTICS MODEL CONSIDERING TEMPORARY DEPOT LOCATION IN FLOOD DISASTER <i>Wapee Manopiniwes and Takashi Irohara</i>	16
PLANT LAYOUT IMPROVEMENT OF SUPPLEMENTARY FOOD FACTORY USING SYSTEMATIC LAYOUT PLANNING TECHNIQUE <i>Chonnanath Kritworakarn, Jitsiri Sirikulpitukdech and Chavisa Sangkrajang</i>	17
PORTFOLIO SELECTION IN AGRICULTURAL PRODUCT PROCESSING INDUSTRY <i>Pisit Bungbua, Pairoj Raothanachonkun, and Nakorn Indra-payoong</i>	18

PUBLIC PRIVATE PARTNERSHIPS IN LOGISTICS AND TRANSPORT DEVELOPMENT: THE SINGAPORE EXPERIENCE <i>Yan Weng Tan and Ruth Banomyong</i>	19
STRATEGIES FOR THE REDUCTION OF GREENHOUSE GASES EMISSIONS FROM CONTAINER TRANSPORT FOR THE HANSHIN PORT, JAPAN <i>Jimyoung Lee</i>	20
THE CHANGES OF THE AIR TRANSPORT MARKET AND THE INTERNATIONAL TRANSPORT AROUND THE REPUBLIC OF KOREA <i>Sunsook Kim</i>	21
THE INFLUENCE OF QUANXI ON SUPPLY CHAIN COLLABORATION <i>Zhang Chi, Hong Seock-Jin, and Ohana Marc</i>	22
THE CAPABILITY EVALUATION OF AIRLINES IN THAILAND AND EAST ASIA COUNTRIES <i>Varattaya Jangkrajarn and Ekkaphon Jaiyen</i>	23
TRANSPORT COST DISTORTION: THAILAND TRANSPORTATION ON THE ROUTE OF NSEC <i>S. Tanratanawong, M. Pinitjitsamut, B. Panitchkarn, P. Pitchayapan and D. Satirasetawee</i>	24
TRACING OF HALAL MEAT SUPPLY CHAIN WITH CLOUD TECHNOLOGY FOR ENHANCING CONSUMER SATISFACTION <i>Onthida Khamsiriwong, Salinee Santiteerakul, Aicha Sekhari and Harlina Suzana Jaafar</i>	25
TRACEABILITY AS AN INTEGRAL PART OF SUPPLY CHAIN LOGISTICS MANAGEMENT: AN ANALYTICAL REVIEW <i>Dharmendra K. Mishra, Sebastien Henry, Aicha Sekhari and Yacine Ouzrout</i>	26
TOURISM LOGISTICS STRATEGY WITH SUSTAINABLE DEVELOPMENT: BANG SAEN BEACH, AS ECO-TOURISM DESTINATION IN THAILAND <i>Taweesak Theppitak</i>	27
THAILAND TRANSPORTATION INFRASTRUCTURE PERFORMANCE: DEVELOPMENT AND MEASUREMENT <i>Krirkchai Assavavipapan and Sathaporn Opananon</i>	28
3PL USAGE, PRACTICES AND DECISION PROCESS: BANGLADESH PERSPECTIVE <i>Nasrin Akter, Prem Chhetri and Shams Rahman</i>	29
WORKER SELECTION WITH MULTIPLE SKILLS IN LABOR-INTENSIVE INDUSTRY <i>Teeraphattara Songsiri and Ronnachai Sirovetnukul</i>	30

A PRACTICAL IMPLEMENTATION OF TIME-DEPENDENT FASTEST PATH ALGORITHM: A CASE STUDY OF BANGKOK ROAD NETWORK

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ABSTRACT

Purpose: Fastest path algorithms tries to find a path with minimum travel time. The resulted fastest path would be reasonable when the variation of travel time on that path is small. However, when the variation of travel time is large the resulted fastest path would be unreasonable and inapplicable. For example, in large cities, travel time between peak and off-peak periods can be obviously different. An alternative is to apply time-dependent travel time e.g. a set of travel time during peak period and another set for off-peak period to the fastest path algorithms. However, the implementation of time-dependent fastest path is problematic when there are many periods. In this case, the computational complexity and required data to be processed can be enormous. In this paper, the pre-processing step and database architecture of time-dependent fastest path were introduced.

Design/methodology/approach: The pre-processing and databased architecture were applied to Dijkstra algorithm to reduce computational time for time-dependent fastest path algorithm. The fastest paths for all pairs between origins and destinations in the network in each period were pre-calculated and stored in the database based on travel time in each period. These fastest paths will be retrieved and combined to find the fastest paths between an origin and destination at the specified starting time at origin node. The database is designed so that the pre-calculated fastest paths for all pairs between origins and destinations will be easily retrieved.

Findings: It can be empirically illustrated that the pre-processing and database architecture can largely improve computational time of time-dependent fastest path algorithm and make it more implementable, especially, for real-time service applications. A case study of 3500 by 3500 nodes of the real road network in Bangkok were used to prove the algorithm efficiency. The developed algorithm were applied to find the time-dependent fastest path for every 5-minute period with fixed arrival time windows at a destination and with multiple drops.

Originality/value: The proposed time-dependent fastest path algorithm with pre-processing and database architecture can largely improve computational time of time-dependent fastest path algorithm.

Keywords: time-dependent fastest path, pre-processing Dijkstra algorithm, database architecture

AN ASSESSMENT OF MULTIMODAL TRANSPORT CORRIDORS: EUROPE - IRAQ

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ABSTRACT

Purpose: The growth in Europe – Middle East unitised trade has generated demand for a wider range of multimodal services focused on either shipping or long haul land transport. The purpose of this paper is to highlight the range of routeing options and modal alternatives for containerised transport between Europe and Iraq. The options for transporting containers between Germany and Baghdad use ‘sea maximising’ routes, and ‘sea - land’ bridging via, for example, Aqaba. Overall the objective is to identify the most cost effective, time effective or least risk solutions.

Design/methodology/approach: The assessment of these corridors is carried out using ‘real-time’ data obtained from UASC and other service providers as appropriate. These data were then analysed in order to clarify whether the prevailing solutions are based upon a time, cost, or risk minimising philosophy. Analysis was carried out using an established operations management-based model to assess the relative qualities of the routeing alternatives.

Findings: Where shipping represents the highest proportion of the overall door-to-door service, risk would appear to be minimised. Overland routeing of consignments via Turkey would appear to increase risk without offering significant cost advantages. The sea-land alternative, where containers are transferred from sea to road at, for example, Aqaba could offer a competitive alternative by commercial criteria but the route would bring increased risk.

Research limitations/implications: As the data were obtained from corporate sources they reflect operational characteristics and other limitations which relate to the case company. Implications: The findings could be strengthened with a wider dataset.

Practical implications: The routes assessed above are based on real-time data collected prior to the current period of increased political instability. For the purpose of this paper, relatively normal trading conditions are assumed. Differences between the routeing options in cost terms are very small. Differences between the routes in distance and time terms are substantial, but the monetary cost per unit of transporting goods into Baghdad by the respective routes is similar, whichever route is chosen. This implies that the competitive position of one route over another, considering only commercial measures, is probably only marginal.

Originality/value: Robust statistical data for multimodal transport between North West Europe and Iraq are difficult to obtain. By implication, the value of the study, especially in terms of highlighting the trade-offs between speed, cost and risk in a volatile environment, is high.

Keywords: Multimodal transport, Europe, Iraq

ACTOR ROLES IN MANAGING SERVICE VALUE RISK IN MULTIMODAL SUPPLY CHAINS

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ABSTRACT

Purpose: One of the major challenges organizations face today is the increasing complexity of supply service chain. In order for the organizations to manage the customer value in a complex network of actors they need to have a clear picture of the connections and abilities different actors have in the supply chain. From risk management perspective this is especially important when organizations are trying to manage the risks related to the end customer value. This study gives light to the roles inherent in a multimodal supply chain governed by a logistics service provider.

Design/methodology/approach: The study is based on both the integrated literature review and empirical case study evidence. A discovery-oriented approach was applied with literature review based interviews and social network analysis as the primary methods of data collection. The interviews were conducted to the focal actors with different perspectives and different roles in the supply chain. The data was verified following the Delphi method in group discussions.

Findings: This study provides an important, yet sparsely addressed viewpoint to the supply chain risk management literature by illustrating the roles of value risk management in supply chain context. The findings of the paper suggest that the value risk management in supply chain context requires special attention in terms of the understanding the roles and abilities different actors have in terms of value creation process.

Practical implications: The presented study offers a new viewpoint to be considered in supply chain risk management. By better understanding the abilities of different actors to manage the risk in value and their relevance in supply chain, the managers can improve the effectiveness of value creation activities and the resiliency of them.

Originality/value: The paper provides new information about value risk management in supply chain context presenting the network perspective of different roles in logistics service value management.

Keywords: Supply chain risk management, value creation, network, actor, roles, multimodal supply chain.

COMPETITIVE NEUTRALITY AND STATE-OWNED ENTERPRISES: CASE OF E-LOGISTICS IN THAILAND

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ABSTRACT

Purpose: This research aims to falsify the statement that State-Owned Enterprises (SOEs) have competitive advantages over Private Enterprises (PEs). . It seeks the answers to the following research question (RQ): Do SOEs always have competitive advantages over PEs?

Design/methodology/approach: This research follows the holistic single-case methodology, described in the Case Study Research (Yin, 2009). It studies the case of Thailand Post Distribution (THPD) Co., Ltd., a logistics SOE in Thailand.

Findings: This research finds that, compared to PEs, THPD has not only no competitive advantages (i.e., Cost Leadership, Differentiation, Cost Focus, and Differentiation Focus) but also competitive disadvantages in some specific situations, such as e-logistics service developments.

Research limitations/implications: The new knowledge has strong values and implications for government's market intervention policy in general and the competitive neutrality policy in specific, especially in the digital era.

Practical implications: The new knowledge has strong values and implications for government's market intervention policy in general and the competitive neutrality policy in specific, especially in the digital era.

Originality/value: For the first time, this research has investigated the case of THPD and falsified the existing knowledge stating that SOEs have competitive advantages over PEs. It argues that SOEs do not always have competitive advantages over PEs, especially in the case of subsidiary SOEs who are not market incumbents.

Keywords: competitive neutrality, state-owned enterprises, e-logistics, Thailand

COSTCO'S SUCCESS AND IMPACT IN JAPANESE MARKET

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ABSTRACT

Purpose: This paper aims to promote our understanding of how a foreign retailer influences local environment in a mature market with differentiated business models. Specifically, we focus on simultaneously Costco's retail mix, resources and the host market's condition and even the impact on host market. Also, we focus on Costco's operational methods in a mature market, its appeal to well-informed consumers, and its impacts on manufacturers, suppliers, retailers, and developers.

Design/methodology/approach: Secondary sources include the Costco annual reports and reputable Japanese-language newspapers and business journals.

Findings: We could find Costco' impact on manufacturers, suppliers, retailers, and developers. Despite that one third of its merchandize offerings were imports, Costco sourced large quantities of goods from domestic manufacturers and suppliers. That means that some Japanese manufacturers were using Costco as a platform for their market expansion. Costco often acted as a complement, instead of rivals, to the established Japanese retailers, and developed a cooperative relationship with local developers. Costco even worked with shopping agents to reach far-away consumers. The shopping agents provided shopping services to consumers whose community did not have a Costco Club yet. With the variety of new products introduced by Costco, particularly the imported products, many Japanese consumers developed new recipes. The spread of these recipes online and the desire to try these recipes induce more consumers to purchase ingredients from Costco.

Research limitations/implications: The theoretical significance of the interaction with manufacturers, suppliers, retailers, developers, and more informed consumers has led some to wonder if the data requires further analysis for showing the factors contributing to success of a foreign retailer in Japanese market.

Practical implications: There is a similar type of localization strategy for a global retailer even in a maturing market.

Originality/value: The rare research of globalization of a retail company in a maturing country. Product differentiation from local retailers gave Costco a competitive edge. When local retailers as well as foreign retailers attached importance to "core competence", a smart and careful consumer would be stimulated to enjoy higher satisfaction.

Keywords: Costco, Kou's, International retailing, Japanese market, Global strategy

CREATING A LOGISTICAL-MEGA-GATEWAY: THE EMIRATE OF DUBAI POTENTIALS

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ABSTRACT

Purpose: This paper explores the current status of Dubai as a key strategic maritime, shipping and logistics hub, and through the attributes of selected components and proponents, analyses Dubai's status, potential and readiness to become a Maritime Logistical-Mega-Gateway.

Design/methodology/approach: An explorative research approach is used in this study where differences between a Hub and a Gateway are highlighted and the common-base attributes, components and proponents of Logistical-Mega-Gateways are identified and applied to analyse Dubai's potential as a Maritime Logistical-Mega-Gateway. This research methodology is chosen because of the versatility and wide-ranged approach it offers to the preliminary investigation. The exploratory research approach used in this study draws upon the already and widely available secondary data sources, both from electronic and non-electronic means.

Findings: Dubai is making efforts to identify the optimal range of logistics infrastructure and facilities to attract service providers and ensure continued competitiveness for investment while supporting maritime logistics development through activities that encourage the critical mass to develop and sustain logistics infrastructure and services in the long run. Thus far, Dubai has established itself as a key strategic maritime shipping and logistics hub. However, to be more competitive internationally, Dubai needs to take the challenge by developing Logistics Poles and Clusters, coupled with a strong manufacturing hinterland, in order to transform itself into a Logistical-Mega-Gateway. This can be achieved by undertaking ten transformational key initiatives recommended.

Research limitations/implications: Recommendations include undertaking a further detailed research on the ten transformational key initiatives for Dubai to transform itself into a Logistical-Mega-Gateway.

Practical implications: The research presents ten key recommended initiatives which Dubai could implement and undertake in order to achieve success in transforming itself into an internationally competitive Maritime Logistical-Mega-Gateway.

Originality/value: This is the first paper ever to explore the current status of Dubai as a key strategic maritime shipping and logistics hub, and to analyse Dubai's status, potential and readiness to become a Maritime Logistical-Mega-Gateway. This paper is of value and serves to help the Government of Dubai, the Dubai Logistics Sector and Logistics Strategists and Planners.

Keywords: maritime logistics, logistics poles, logistics hub, logistical-mega-gateway

CUSTOMS BONDED TRUCK SERVICE PROVIDER SELECTION IN AIR TRANSPORTATION, CASE STUDY: LAO PDR

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ABSTRACT

Purpose: Because of the narrow-bodied aircrafts utilised by all airlines, some cargo will be transferred to the land-locked country by air and some are left behind and oversized cargo waiting for available air cargo space. The study will evaluate the criteria, in order to select the truck service providers delivering such cargo to limited cargo space destinations.

Research Approach: This study is to specify decision criteria to select Customs bonded truck service provider from BKK to Lao PDR through several difficult factors. First, to determine multiple selection factors and how the current selection criteria being used. Second, to apply Fuzzy-AHP technique to find the best alternative under several factors.

Findings and Originality: As the result, some factors are directly relevant to the decision making. As a result, the significant factors for this research are freight rates and Custom formalities. Meaning, if these two factors changed, it would impact to the final decision as a whole.

Research Impact: This study is to implement truck service provider selection for fully maximizing airlines' cargo space capacity between BKK and VTE or land-locked area with limited air cargo space and satisfy their customers in order to deliver cargo in a due time.

Practical Impact: The guideline for Airlines Company that facing the situation of having limited in air cargo space. Moreover, the air cargo connecting to land cargo should be an alternative to expand airlines' network to its offline area.

Keywords: Truck service provider, Air transportation, Multi-modal Transportation, Fuzzy-AHP

EFFICIENCY IMPROVEMENT OF DRIED LONGAN PRODUCTION LINE USING ECRS PRINCIPLES

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ABSTRACT

Purpose: This project aims to increase the productivity of a dried longan production line in a company in Chiang Mai, Thailand.

Design/methodology/approach: ECRS technique as well as motion and time study were implemented to analysis problem and suggest improving approach for the purpose of reducing unnecessary works in the process, simplifying tasks, eliminating the mistake and improving line efficiency.

Findings: The results showed that 6 working steps was eliminated, transportation distance of 25.77 km. was reduced, and processing time of 31.6 hour per cycle was saved, leading to the changing of production lead time from 3 days to 2 days. Which allow the company to acquire an additional day per annum, increasing an opportunity to generate additional 1.37 million THB per year.

Originality/value: This project can be implemented in other production line to improve the efficiency of the processing due to the reduction of non-value added operation using ECRS principle.

Keywords: Dried longan, ECRS, Motion and time study, Efficiency improvement

ENHANCING SUSTAINABLE COMPETITIVENESS TO THAI SME BY USING LOGISTICS AND SUPPLY CHAIN MANAGEMENT

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ABSTRACT

Purpose: The aim of the paper is to examine issues and extend a knowledge body related to the status for adopting logistics strategies to Thai SMEs.

Design/methodology/approach: A total of 148 questionnaires were sent out and 126 usable completed questionnaires were received, generating a response rate of 85.1 percent. The hypothesis is statistically tested using SPSS version 14.0.0. Descriptive statistics and multiple regression were used to test hypothesis.

Findings: The results indicated that there are strong relationships between SME firms' logistics need and implementation and enhancing their competitive advantage. In addition, factors have strongly contributed and effected logistics operations and implementation. The implications reflect that building and adopting an effective logistics strategy offers opportunities to create sustainable competitive advantage. Research in area of logistics designing and implementation to each particular SME product would be further conducted.

Research limitations/implications (if applicable): The data were collected in area of Chonburi province, Thailand.

Practical implications (if applicable): The results of this research can apply to plan and policy maker for boosting and developing SME firms. In particular, government agencies can develop strategic programs to create and enhance advantage to Thai SME firms.

Originality/value: To improve capacity building and efficiency of Thai SMEs, especially in aspect of managing logistics and supply chain in their operations.

Keywords: Logistics, SME, strategy, supply chain, Thailand.

ENERGY EFFICIENCY ANALYSIS OF WIND TURBINE SUPPLY CHAINS

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ABSTRACT

Purpose: Wind energy plants have mainly been considered under the aspect of energy converted and fed into the grid. This research investigates the energy consumption of wind turbines over their entire life cycle from raw materials production to plant recycling. This includes the complete supply chain of wind turbines (from cradle to grave). The main objective is to evaluate the energy consumption of specific supply chain processes, to identify main drivers of energy consumption, and to consequently develop an energy optimal supply chain for wind turbines.

Design/methodology/approach: The paper is based on a comprehensive literature review, identifying the current state of art in the sector of wind turbines and energy life cycle assessment. Beyond that, various wind turbine supply chains are analyzed and visualized in a supply chain process model. Energy value stream mapping is used to identify the main drivers of energy consumption. In addition, different life cycle assessment methods are considered to assess the overall energy consumption of the supply chains.

Findings: Identification of the main drivers of energy consumption in the supply chain of wind turbines over their whole life cycle. Recommendations for an optimized supply chain under energy efficiency aspects.

Originality/value: This research paper reveals energy savings in the supply chain of wind turbines from cradle to grave and identifies promising optimization potentials.

Keywords: Wind Turbines, Renewable Energy, Life Cycle Assessment, Energy Value Stream Mapping

ENERGY RECOVERY AS A SUSTAINABLE MEANS TO MANAGE POSTCONSUMER FOOTWEAR WASTE

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ABSTRACT

Purpose: Currently, more than 20 billion pairs of shoes a year are produced worldwide. This leads to a large amount of waste generated from postconsumer footwear products. Cost effective and environmentally acceptable management and disposal of post consumer shoe waste are needed, and awareness should be made known in modern society.

Methodology: The present paper gives overview of an integrated waste management with emphasis on energy recovery option for post consumer shoe waste. Simple analysis was carried out for energetic content. Challenges in dealing with postconsumer shoes were discussed.

Findings: The integrated management approach seemed to be suitable to handle waste in footwear industry. Energetic content of shoe waste was high and current technologies for waste-to-energy recovery were well developed. WTE can not only be environmentally friendly, but may also be economically acceptable.

Value: Integrated management and energy recovery options from postconsumer shoe are beneficial to stakeholders in the footwear supply chain. Regarding social responsibility, their adoption may be initiated by the industry, not forced upon by the legislators.

Keywords: End-of-life management, Footwear industry, Thermal conversion, Waste-to-energy

EXPLORING VIETNAMESE LOGISTICS SERVICE QUALITY IN THE RUN-UP TO AEC 2015

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ABSTRACT

Purpose: Vietnamese GDP has increased five-fold from 2000 and is now over US\$ 184 billion. Despite this progress it is only in 48th place in the World Bank Logistics Performance Index. Reported issues affecting Vietnamese logistics service quality (LSQ) include high costs, lack of infrastructure, customs clearance procedures, lack of a proper legal framework and regulations, and logistics service providers (LSPs) lacking skills, networks and capital. From a key stakeholder perspective, are these the only barriers to LSQ development and what drivers or success factors might enhance LSQ? This paper reports on a research study investigating this phenomenon and its objective is to provide insights as Vietnam prepares to join the 2015 ASEAN Economic Community (AEC) initiative.

Findings: Seven LSQ variables were found to be the most important to this respondent group and will inform the second stage: costs, customs efficiency and border clearance, ease of arranging shipments, quality of logistics services, employee skills, timeliness, and reliability. Respondents' perceptions of how well these variables are addressed in Vietnam were significantly lower for all but employee skills.

Research Approach: This study is exploratory and uses a two-stage research framework to develop and validate variables and any constructs to ensure internal, external and construct validity. The first stage, reported in this paper, generated a set of variables from the literature and conducted an exploratory survey to confirm them. Thirty responses were received from a variety of organisations.

Research Implications: These exploratory findings provide a better understanding of which variables are important and not being well addressed, and provide a baseline to continue this enquiry more deeply in a larger second stage study.

Practical Implications: The total study should provide guidance for logistics stakeholders, i.e. LSPs, manufacturers and retailers, and external stakeholders, i.e., customers, academia, Vietnamese public authorities and foreign firms operating in Vietnam.

Keywords: Vietnam; logistics service quality; barriers; drivers; AEC 2015

IMPROVEMENT OF POSTCONSUMER FOOTWEAR SUPPLY CHAIN BY LEAN CONCEPT

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ABSTRACT

Purpose: This research focuses on reviewing postconsumer footwear supply chain and applies lean concept to improve its supply chain operations.

Design/methodology/approach: IDEF0 and Value Stream Mapping (VSM) were used to investigate the current process of postconsumer footwear supply chain. Then several industrial engineering techniques, such as Pareto, 5W1H, were used to analyse the problem. The ECRS was later employed to improve operations in each member of supply chain. Moreover, value added along the supply chain was explored from upstream (used shoe importers) to downstream (used shoe end customers).

Findings: IDEF0 and VSM indicated that postconsumer footwear supply chain occupied only 52.38% of Value Added (VA) activities. Recommendations from researcher attempted to combine, simplify and re-arrange processes. As a result, reducing NVA, NNVA and shortening process time of VA could diminish 21.75 hours of total supply chain operating time. Furthermore, value added in each stage of used shoes supply chain was clarified. Different margins in each stakeholders were identified where the highest margin appeared among middleman producing 520.17% and the lowest margin was 25.71% in merchants group 1.

Practical implications: The research approach can be applied to other postconsumer commodities to identify value added along their supply chain. Besides, NVA and NNVA can be clarified and eliminated to improve their supply chain operations.

Originality/value: The values added in each tier of postconsumer footwear supply chain are clarified in this study.

Keywords: Postconsumer footwear supply chain, lean concept, value chain analysis

IMPACT OF PORT PRICING POLICIES FOR INCREASING THE EFFICIENCY OF PORT UTILIZATION

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ABSTRACT

Purpose: This research analyses various port pricing strategies for increasing the efficiency of port infrastructure utilization. This research also highlights how port pricing policies affect to the social impact especially traffic congestion.

Design/methodology/approach: This research utilized some simulated data according to historical traffic data for analysing the traffic impact from various pricing strategies. Three pricing policies are proposed to determine the appropriate port utilization. The first pricing policy is to apply the cost-based charging based on the investment and operations costs. Congestion pricing is the second option to relieve the traffic congestion based on extraordinary marginal costs. Then, the last one is to propose an incentive pricing together with infrastructure performance index.

Findings: The cost-based charging that firstly attempts to incentive the new operators. Results show that many operators gain several benefits from this policy. Then, congestion pricing is analysed. The results reveal the highest port price of the operators that would potentially damage the existing trade. This concept aims to control the excess capacity (600,000 TEUs per year) to relieve the traffic congestion. Moreover, both policies can reduce the attractiveness for improving their operations. Finally, results from the incentive pricing policy show the appropriate benefit for both operators and social side.

Research limitations/implications (if applicable): This research still lacks of some practical data that the research will additionally perform in the future.

Practical implications (if applicable): The research provides alternatives of strategic port pricing that can allow more appropriate pricing policy.

Originality/value: The port regulators can use this research to analyse the proper alternatives of win-win port pricing policies. Win-Win policy can provide an important role to increases the efficiency of port infrastructure utilization.

Keywords: Strategic Pricing, Congestion Pricing, Incentive Pricing, Port Pricing

MEASURING THE EFFECTIVENESS OF NATIONAL SINGLE WINDOW AS TRADE FACILITATION TOOL IN MALAYSIA

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ABSTRACT

Purpose: The National Single Window (NSW) is an important trade facilitation tool of Malaysian cross border clearance process through the competitive advantage of simplifying and harmonizing of trade data as well as promoting transparency among the stakeholders as single window users. This research seeks to measure the effectiveness of its implementation.

Methodology: This exploratory research paper adopts a qualitative research methodology based on in-depth interviews. The data were collected from 21 representatives from various users' background representing public and private sector point of view. Each of the respondents hold a significant knowledge about the National Single Window (NSW) with more than two (2) years experience. The interview sessions were audio recorded, transcribed and analysed by using thematic analysis to identify effective measures.

Findings: Measuring factors were organized under four (7) categories consist of government policy, institutional support, user awareness, electronic system reliability, training, ICT support facility, simplified procedure. In addition, a total of 30 elements was founded and organized respectively under these seven factors.

Research Implications: This research fill in the gap in trade facilitation, research through the identification of the important measures for national single window which was previously very lacking in research.

Practical implications: The national single window is one of government aspiration towards betterment of our cross border clearance process as an advance preparation towards in the Asean Single Window (ASW). The discovered measures contribute as an eye opener for policy maker in order to improve the lacking area current implementation of national single window.

Originality/value of research: This research paper highlighted the fundamental measures for an effective national single window as a new contribution to knowledge in the area of trade facilitation research.

Keywords: trade facilitation, national single window, custom clearance, cross border activities.

MULTI-PERIOD HUMANITARIAN LOGISTICS MODEL CONSIDERING TEMPORARY DEPOT LOCATION IN FLOOD DISASTER

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ABSTRACT

Purpose: This study proposes a multi-period location-routing model by which to determine the location of temporary depot and vehicle routing plan where the amount of each relief item to be transported is decided. Multimodal transport with a flood disaster case is also considered in this study.

Design/methodology/approach: The mixed-integer programming model will be used in this study to describe the location-routing problem considering multi-period approach. A set of numerical experiments is designed to test the proposed formulation and evaluate the properties of the optimization problem.

Findings: The solutions show the optimal locations of temporary depots for each time period regarding to the dynamic characteristics of flood. Single-period approach is also conducted in the experimental results to compare the performance of our proposed multi-period model. In this study, we found that the multi-period approach produces better solutions than the single-period ones.

Research limitations: The multi-period decision-making model built in this paper can guide the decision makers to dynamically utilize the acquired disaster information to make the decisions for the allocation of emergency resources. However, the emergency problem solved in this paper is still relatively simple, and how to embed dynamically updated disaster information in the complex emergency problem needs further in-depth study.

Originality/value: Multi-period problem has never been found to treat in the location selection of temporary depot for flood aftermaths in emergency humanitarian logistics. In particular, in the case of flooding, where the most common transport channels are trucks in unaffected areas and boats in affected areas. Thus, this study describes this behaviour of flood as a multi-period location problem.

Keywords: Humanitarian logistics, Multi-period location model, Floods

PLANT LAYOUT IMPROVEMENT OF SUPPLEMENTARY FOOD FACTORY USING SYSTEMATIC LAYOUT PLANNING TECHNIQUE

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ABSTRACT

Purpose: The objective of this study is to improve plant layout of a supplementary food factory in Chiang Mai, Thailand. Management would like to increase their productivity.

Design/methodology/approach: Systematic layout planning technique (SLP) is deployed. A present factory has been operated within limited area (only 250 square meters) and needed to improve. Manufactured activities and other activities have been analysed based on present activities. The detailed study of SLP such as operation process chart, flow of material and relationship chart has been investigated. Numbers of machine and equipment were evaluated and calculated. Management and employees had been invited to develop new plant layouts. Three plant layouts are generated and evaluated by using distance based scoring method and management's satisfaction.

Findings: Proposed plant layouts are developed under one-roof facility. Most departments are relocated and also expanded. Since two methods of evaluation have been used, unfortunately, solutions are different. However, the management prefer a solution of the management's satisfaction. The chosen plant layout has reduced transportation activity in factory from 961.72 metres per day to 874.62 metres per day (9.05%).

Research limitations/implications: This study is studied only in a supplementary food factory situated in Chiang Mai, Thailand.

Practical implications: Systematic layout planning (SLP) is a well-known technique in plant layout design. Small and Medium enterprises (SMEs) can use this technique in order to improve their plant layouts.

Originality/value: With application of SLP in plant layout improvement, general conditions of food industry have been considered especially good manufacturing practices (GMP) conditions. Since GMP conditions are regulation requirements for food industry in Thailand. Management of food factories have to improve their plants in order to meet GMP conditions. The conditions are analysed in total closeness rating procedures.

Keywords: Plant Layout Improvement, Systematic Layout Planning, Supplementary Food Factory, Good Manufacturing Practices

PORTFOLIO SELECTION IN AGRICULTURAL PRODUCT PROCESSING INDUSTRY

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ABSTRACT

Purpose: The aim of this research is to analyze portfolio selection in agricultural product processing industry of Thailand's major crops in Sakaeo province, consisting of rice, cassava, sugarcane, and maize. We test the policy of portfolio selection in two scenarios: 1) the minimum proportion for processing each type of agricultural products is not required, and 2) there is a minimum proportion.

Design/methodology/approach: This research applies a quadratic programming model to analyze portfolio selection. The objective function of the problem is to find the lowest risk of portfolio, subject to a specific value of expected return and a minimum proportion for processing each type of agricultural products. The generalized reduced gradient algorithm in MS Excel solver is used to find the optimal selection of portfolio.

Findings: In our scenario testing, determining 10.00% of expected return without minimum proportion, 51.51% and 48.49% of rice and sugarcane are optimally selected, and the risk of portfolio is 1.13%. In the other scenario, setting the minimum proportion at 15% for processing each type of products, the expected return of portfolio is the same as the previous scenario, 54.07%, 15.93%, 15.00%, and 15.00% of sugarcane, rice, cassava, and maize are selected, and the risk of portfolio is 1.32%, which is slightly higher.

Originality/value: The city administrators can use this developed tool for testing policies by trading off between portfolio's risk and return for agricultural product processing selection in an efficient way.

Keywords: Portfolio selection, Agricultural product processing industry, Quadratic programming

PUBLIC PRIVATE PARTNERSHIPS IN LOGISTICS AND TRANSPORT DEVELOPMENT: THE SINGAPORE EXPERIENCE

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ABSTRACT

Purpose: Public Private Partnership (PPP) is a collaborative relationship structure between the public and private sectors to deliver services. The partners agree to share risks, resources and decisions in the development and implementation of projects. The purpose of this paper is to present the experience of Singapore related to PPP in the development of logistics and transport infrastructure.

Design/methodology/approach: This paper reviews the projects implemented in Singapore recognised as PPP by Singapore's Ministry of Finance. We examine the background of these PPP projects and strategies used so as to uncover some of the challenges and issues involved in making these projects work.

Findings: The government plays a major role in the formulation of PPP projects but depending on the risk level and degree of private sector involvement there can be very different PPP models. The paper describes the spectrum of PPP projects in Singapore where the role of the government shifts from being a supplier to a buyer of services. Within this spectrum, we look at examples of Operate and Maintain (O&M) to Design-Build-Own-Operate (DBOO) to Design-Build-Finance-Operate (DBFO) models.

Practical implications: The successful implementation of PPP projects enable the development of specialist expertise, attract foreign investments into a country and stimulate an exchange of ideas between local and international firms. However, there needs to be long-term political support and government commitment to PPPs for business confidence, the standardisation of the contractual framework to improve transparency and efficiency in PPP process balanced with enough flexibility to promote innovation and continuous improvement, and a robust performance measurement and monitoring framework.

Originality/value: This paper can provide insights that can assist decision makers to identify PPP projects that have the potential to provide value for money and improve the quality of services.

Keywords: Public Private Partnership, logistics, transport, infrastructure development

STRATEGIES FOR THE REDUCTION OF GREENHOUSE GASES EMISSIONS FROM CONTAINER TRANSPORT FOR THE HANSHIN PORT, JAPAN

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ABSTRACT

Purpose: Green logistics with strategies that reduce greenhouse gas emissions from port traffic is a topic of great contemporary interest to governments and port operators. This paper aims to identify the Hanshin port's strategies for the reduction of greenhouse gas emissions and to compare these strategies of the Port of Long Beach (POLB) as a green port. The findings of this paper make a good linkage with a comparative study on the strategies for green ports in four continents on which the author is a research contributor.

Design/methodology/approach: It is based on primary data collection from interviews in the ports of Osaka and Kobe and the analysis of published secondary data by the Japanese government and industry sources.

Findings: For the Hanshin port, the strategies of modal shift and an inland depot to encourage the reduction of GHG emissions from container trucks have been designed through subsidies. The POLB has invested in objects that can directly contribute to reduce the GHG emissions from ships, such as shore based power supply and incentives for vessel operators. The Hanshin port is expected to redistribute subsidies to direct contributors such as transport operators and port facilities.

Research implications: This paper provides a framework for benchmarking environmental initiatives in ports and is part of a wider international collaborative study that is comparing strategies to reduce vehicle and ship emissions in Australian, Japanese, Swedish and US ports.

Practical implications: The benchmarking framework is of practical relevance to port authorities, local governments and road authorities.

Originality/value: Port environmental issues are rarely addressed from the perspective of both maritime transport and landside access transport. These are discussed in this paper.

Keywords: Modal shift, green port, environmental benchmarking

THE CHANGES OF THE AIR TRANSPORT MARKET AND THE INTERNATIONAL TRANSPORT AROUND THE REPUBLIC OF KOREA

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ABSTRACT

Purpose: As the market share of Low Cost Carriers(LCCs) continues to grow, Asia-Pacific region increased from 4% in 2004 to 21% in 2013 (ICAO, 2014). Furthermore, 7 airports in Asia-Pacific region by freight tonnes handled show 47.2% share of the top 15 airports in the world. All of 7 airports located around Korea (Republic of). The Northeast Asia Logistics Information Service Network (NEAL-NET) started its public trial of pilot ports service in August 2014 (The 5th Ministerial Conference on Transport and Logistics), and the improvement of efficiency in international transport has been sought after. We need to take examination of constitution in the international transport market. In this research, we sort out the changes of the air transport market in Korea and discuss the constitution of the international transport.

Design/methodology/approach: The air transport market in Korea is analysed by using data from Korean Statistical Information Service (KOSIS) and the governmental policy from Ministry of Land, Infrastructure and Transport (MLIT) to take the viewpoint of international transport.

Findings: A remarkable increase of the international transport between China and Korea, China and Japan has been observed. This increase is found on both their passengers and freights. In summary, international air freights concentrate on Incheon and Pusan, and new entry airlines still keep expanding their markets in part of domestic air freight transport.

Research limitations/implications (if applicable): This research has the limitation of the scope within airports and ports from/to Korea.

Originality/value: The development of international transport with the spoke airports and ports is considered to bring a significant possibility that we may be able to reach a solution for an improvement of efficiency in Intra-Asia transport.

Keywords International air transport, New entry airlines(LCCs), Air freight

THE INFLUENCE OF QUANXI ON SUPPLY CHAIN COLLABORATION

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ABSTRACT

Purpose: This paper aims at investigating the impact of *guanxi*, which is an important cultural and social element in China, on supply chain collaboration and supply chain performance in a Sino-French business relationship.

Design/methodology/approach: A questionnaire survey was conducted in 200 Chinese enterprises (50 respondents returned) in France, and the relationship between three elements (*guanxi*, supply chain collaboration and supply chain performance) were tested by using correlation test and exploratory factor analysis.

Findings: The research findings show that for the Chinese overseas firms in France, *guanxi* has a direct influence on supply chain collaboration, and has an indirect positive influence on supply chain performance through the mediation effect of collaborative practice. The results indicate also that supply chain collaboration influence directly supply chain performance, which is similar to some conclusions of supply chain collaboration researches in previous literatures.

Research limitations/implications: This study findings are limited for Chinese firms in French market, future research could consider French companies in Chinese market. And a comparative analysis could be made between these two kinds of companies in the future study.

Practical implications: This study indicates that in the Sino-French business relationship, firms could promote supply chain collaborative practice (information sharing, risk sharing, etc.) with their upstream enterprises though *guanxi* practice (personal interaction, reciprocal behavior, and social interaction) between suppliers and buyers. And this supply chain collaboration helps to develop company's supply chain performance in turn.

Originality/value: Most previous researches focus more on *guanxi's* practice between Chinese companies in China, or even Anglo-Sino relationship, but this paper test *guanxi's* influence in a Sino-French mixed culture for the first time. And previous *guanxi* studies are taken in the perspective of marketing relationship management, few *guanxi* studies are related to supply chain management.

Keywords: supply chain collaboration, *guanxi*, supply chain performance, Sino-French business relationship management.

THE CAPABILITY EVALUATION OF AIRLINES IN THAILAND AND EAST ASIA COUNTRIES

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ABSTRACT

Purpose: To evaluate the capabilities of airlines in Thailand on their readiness in entering the Asean Economic Community or AEC. Currently, the airline business has become very competitive. Between 2009 and 2013, the total revenue of all airlines in Thailand grows at an average of 9% annually. Therefore, we are interested in studying which factors mostly affect airlines business, evaluating airlines capabilities.

Methodology: The study was carried out in three steps. The first step was to select evaluation factors, by interviewing the airlines and surveying of 352 passengers. Weights of each factor could be computed based on the Importance Rankings from the questionnaires. The second step utilized the secondary data from airlines to determine and adjust data size based on the Vector Normalization method. The third step applied the Multiple Criteria Decision Making method with the Technique for Order Preference by Similarity to Ideal Solution (TOPSIS) to evaluate the airlines. Airlines were separated into three groups. Group 1 comprised of Thailand Low Cost Carriers, Group 2 comprised of Thailand Full Service Carriers, while Group 3 compared capabilities of Singapore Airline, Cathay Pacific Airline, Korean Air, and Thai Airways.

Findings: We found twelve relevant factors: fare, easiness in ticket purchasing, service and amenities onboard, flight frequency, punctuality, availability of flight connections, service of flight attendants, easiness in check-in process, luggage services, frequent-flier program, classes of services, and safety. Passengers ranked safety as their highest priority, followed by fare, punctuality and luggage services. On the contrary, passengers ranked easiness in ticket purchasing, flight frequency and classes of services as their lowest priority. The result also showed that, in Group 1, Thai Airasia ranked first, followed by Nok Air and Thai Lion Air respectively. In Group 2, Thai Airways was rated better than Bangkok Airways in every factor except their flight frequency. In Group 3, Thai Airways was strong in fare, but was weak in service and amenities onboard, service of flight attendants, and luggage services.

Value: The result can be used as a guideline for airlines to improve their reputation and to serve their customers better.

Keywords: Potential Evaluation, Airline, MCDM, TOPSIS

TRANSPORT COST DISTORTION: THAILAND TRANSPORTATION ON THE ROUTE OF NSEC

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ABSTRACT

Purpose: The ASEAN Economic Community (AEC), one of the three pillars under the Declaration of ASEAN Concord II, will be officially initiated within 2015. Aiming to empower the economic strength of the region, the transition to single market with free trading of such a scale, however, concerned the governments of members. The study focused to identify the transport costs distortions of the Thai industry using the North-South Economic Corridor (NSEC) route, which starts from Kunming of China (837 km.), Laos PDR (250 km.), Thailand (2,191 km.), Malaysia (775km.) and ended in Singapore. Normally, the cost elements, namely the *Business Operating Costs*, are those incurred to the transportation of products and taken into accounted by private sectors who transport goods and products. However, the *Non-business Operating Costs*, which are not directly realized by the traders, but instead subsidized by other parties such as the government and the public, are usually neglected. The amounts and proportions of these costs not only affect the competitiveness of the industries but also reflect the inequalities and subsidies taken by each region.

Methodology: Sets of Data were collected from the related and participated 40 government and private organizations in 5 countries along the NSEC route, the structure of total transportation costs was analyzed and modeled. The distortions of cost elements were then revealed and compared.

Findings: The total transportation cost was founded to be 25.88 Baht per km. The majority of cost, which is 85.64% or 22.16 Baht per km, is accounted to the *Business Operating Cost*, which comprised of 6 fixed and 5 variable cost elements. The *Non-business Operating Cost*, comprised of 4 fixed and 4 variable cost elements were estimated to be 14.36% or 3.72 Baht per km.

Value: The findings are valuable for the government in terms of policy and strategic planning. For private sectors, the details and amounts of each cost elements can be crucial for business planning and administrative purposes.

Keywords: full cost, AEC, logistics, North-South Corridor

TRACING OF HALAL MEAT SUPPLY CHAIN WITH CLOUD TECHNOLOGY FOR ENHANCING CONSUMER SATISFACTION

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ABSTRACT

Purpose: To propose a framework of tracing technology in Halal meat supply chain for enhancing consumer satisfaction.

Approach: This study will integrate the RFID framework with web application on cloud technology by using platform as a service (PaaS) that supports the application to run on cloud technology. This method will improve the tracing in Halal food supply chain which is used as the tool of exposure. This framework is developed based on the solution of Halal exposure by Ambali and Bakar (2004), who emphasize that consumer's understanding about Halal is based on their exposure (what they see and hear of information about Halal) and trust in the information source and information received. Consumer facilitation and a channel that provides access to the product's information (product's history, Halal certification detail and involve companies and organizations) is also significant in satisfying the consumers. Moreover in terms of technology for tracking and tracing, Bahrudin et al. (2011) highlighted the suitable types of radio frequency identification (RFID) to achieve specific objective for each stage of Halal food supply chain.

Findings: Normally tracking and tracing technology of supply chain that uses RFID is integrated with other enterprise support systems. The support involves only companies on upstream and downstream. However, the uniqueness of Halal meat market requires provision of assurance that Halal meat product is not contaminated when it reaches the consumers. Thus the integration between RFID and web application on cloud technology could be the solution of Halal exposure. This framework provides a channel in accessing Halal meat product's information through a transparent information system on the delivery and storage of Halal meat that could instill the consumer's trust in Halal meat product.

Value: The proposed framework enhances consumer's perception about Halal meat product, and the solution of consumer satisfaction from the perspective of a transparent information system of Halal meat supply chain. Further empirical studies can be carried out to validate the needs of tracking and tracing of Halal meat supply chain on cloud that emphasize on the development and deployment.

Keywords: Halal meat, Halal meat supply chain, Halal meat tracing, cloud technology, consumer satisfaction of Halal food

TRACEABILITY AS AN INTEGRAL PART OF SUPPLY CHAIN LOGISTICS MANAGEMENT: AN ANALYTICAL REVIEW

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ABSTRACT

Purpose: Supply chain has become very complex today. There are multiple stakeholders at various points. All these stakeholders need to collaborate with each other in multiple directions for its effective and efficient management. The manufacturers need proper information and data about the product location, its processing history, raw materials, etc at each point so as to control the production process. Companies need to develop global and effective strategies to sustain in the competitive market. Logistics helps companies to implement the effectiveness across the business supply chain from source to destination to achieve their strategic goals. Traceability has become one of the integrated parts of the supply chain logistics management that track and trace the product's information in upstream and downstream at each point. All the stakeholders in the supply chain have different objectives to implement the traceability solution that depends on their role (e.g. manufacturers, distributors or wholesalers have their own role). The information generated and needed from all these actors are also different and are to be shared among all to run the supply chain smoothly. But the stakeholders don't want to share all the information with other stakeholders which is a major challenge to be addressed in current traceability solutions. The purpose of this research is to conduct thorough study of the literatures available on the traceability solutions, finding the gaps and recommending our views to enhance the collaborations among the stakeholders in every point of the business supply chain. The study will be helpful for further researchers to propose a traceability meta-model to address the gaps.

Design/methodology/approach: The relevant literatures with keywords supply chain management, traceability, logistics management are searched from the trusted database. The scope and the objectives of the research is set based on which the papers are filtered as per the titles and abstract. Proper analyses of the screened papers are done and the recommendations are given.

Findings: Traceability solution is popular among the industries since a long for their supply chain management. After proper analysis of the available literatures about the traceability solution the industries use, this research will identify the gaps based on which we give the proper recommendations and perspectives of our work.

Keywords: SCM, Traceability, Logistics management, Global Traceability.

TOURISM LOGISTICS STRATEGY WITH SUSTAINABLE DEVELOPMENT: BANG SAEN BEACH, AS ECO-TOURISM DESTINATION IN THAILAND

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ABSTRACT

Purpose: This study applied principles of logistics management to the tourism industry under the hypothesis that moving tourists from Bangkok to Bang Saen Beach more efficiently and effectively, including providing an effective transport networking system, would increase and support tourism on Koh Lan. A demand forecast for tourism into the next decade was statistically calculated in order to provide recommendations for the improvement of infrastructure systems and facilities.

Design/methodology/approach: The paper is quantitative research. Data was collected from secondary and primary sources, e.g. questionnaire, focus group and in-depth interview. The questionnaire was distributed to 120 potential tourists, with 115 questionnaires being returned, for return of rate at 95.8 percent. Validity and reliability were examined.

Findings: The result showed that a time series would be an appropriate model for a demand forecast. It found that tourism to Bang Saen Beach would double in the next decade, especially in public holidays. This result should be used for designing transport and logistics systems from Bangkok to Bang Saen Beach.

Research limitations/implications (if applicable): Effectively designed infrastructure systems and facilities are required to support sustainable tourism on Bang Saen Beach. Further, this study learned that new and fantastic tourist facilities would be increasingly built on the beach, underscoring the need for an appropriate plan for managing environmental pollution.

Practical implications (if applicable): Government agencies and private sectors related with tourism in Chonburi province, Thailand can apply the results of this research by designing to specific tourism logistics plan and activities. The output would facilitate tourists more comfortable, convenient and efficient.

Originality/value: This paper enhances effectiveness of tourism logistics and develops Bang Saen Beach, as landmark and beautiful tourism destination.

Keywords: Tourism logistics, demand forecasting, Bang Saen Beach, Thailand

THAILAND TRANSPORTATION INFRASTRUCTURE PERFORMANCE: DEVELOPMENT AND MEASUREMENT

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ABSTRACT

Purpose: This research addresses the problem of determining the efficiency of the existing transportation infrastructure in Thailand. Specifically, a set of performance indicators of Thailand's transportation infrastructure performance is proposed. Five critical modes of transportation are considered, including road, rail, air, waterway and transit. Related available data are reviewed and gathered. A national composite index of transportation infrastructure performance is developed to account for the overall performance.

Design/methodology/approach: The framework for determining Transportation Infrastructure Performance Index (TPI), proposed by the U.S. Chamber of Commerce, is adapted for assessing efficiency of Thailand's transportation infrastructure. Three criteria are set to measure infrastructure performance, comprising Supply (availability, proximity and coverage), Quality of Service (convenience, reliability and safety) and Utilization (capacity for future demand). The Analytical Hierarchy Process (AHP), based on select Thai experts' managerial judgment and experience is employed to compute relative importance of each indicator in the process of constructing Thailand TPI.

Findings: The results show that the performance of Thailand's transportation infrastructure had been continuously increased from 19.69 in 2005 to 61.52 in 2010 indicating significant performance improvement in Thailand transportation infrastructure.

Research limitations/implications (if applicable): The most critical issue arisen in the data collection process is the unavailability of data for some indicators in the TPI framework. Consequently, some indicators that contain insufficient data were excluded, and TPI in this research was calculated based on only 13 indicators.

Practical implications (if applicable): The proposed set of indicators is practical and instrumental in assessing the transportation infrastructure performance of Thailand. This will provide a very essential tool in investigating the relationship between transportation infrastructure performance and Thailand's economic growth in the future.

Originality/value: This research proposes a set of indicators for quantifying the performance of transportation infrastructure, and develops the first national composite index to account for the overall performance.

Keywords: Transportation Infrastructure; Performance Assessment, Mode of Transportation, Analytical Hierarchy Process

3PL USAGE, PRACTICES AND DECISION PROCESS: BANGLADESH PERSPECTIVE

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ABSTRACT

Purpose: This paper investigates the extent of third party logistics (3PL) usages, the organisational factors affects 3PL usage, impacts of 3PL and the future trend of 3PL usage in Bangladesh.

Design/methodology/approach: A quantitative approach to data analysis is adopted by applying the multiple regression analysis. Data is collected using a survey questionnaire, which are administered to 243 organisations – a response rate of 24.3 per cent.

Findings: Results related to current 3PL usage revealed that the use of 3PL services became an accepted way of doing business in Bangladesh. The logistics environment in Bangladesh is more or less in line with the developing country's 3PL usage and compared to the matured global 3PL market growth, it is still in the introductory stage. A regression analysis result suggests that overall satisfaction of 3PL user regarding 3PL services is well predicted by logistics system performance and end customer satisfaction. The higher the logistic system performance and end customer satisfaction, the higher the tendency of overall satisfaction of the 3PL user regarding 3PL services.

Research implications: The findings from this research provide an evidence base to formulate business strategies to increase the adoption of 3PL usage thereby, aided long-term development of logistics based industries in Bangladesh.

Originality of the paper: The investigation on 3PL usage, practices and decision process in the context of Bangladesh is a new area of research because there had been no comprehensive research on 3PL practices that provides an understanding of the 3PL environment in Bangladesh in comparison with world market practices.

Keywords: Outsourcing, Third party logistics, customer satisfaction, Logistic performance, Bangladesh

WORKER SELECTION WITH MULTIPLE SKILLS IN LABOR-INTENSIVE INDUSTRY

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ABSTRACT

Purpose – In an environment of labor-intensive manufacturing, workforce plays an important role as a major resource that drives the entire system. An effective workforce management has become a great challenge for any worker-related activities within the organization. In addition, it is commonly agreed that worker skill has a strong impact on manufacturing performance. It is necessary to consider worker skill in the context of workforce management practice. A critical part of workforce management process is worker selection, as the most challenging goal of all organizations to achieve the effective methods of selecting workers with different competencies. The purpose of this paper is to determine the influencing worker selection criteria with its important weight, includes worker selection practice drawn from the real labor-intensive industry.

Design/methodology/approach – An analytical hierarchy process (AHP) is employed for the worker selection problem in this study. The worker selection criteria are weighed and prioritized in performance evaluation process. In the context of labor-intensive manufacturing, the selection criteria derived from previous studies and practical viewpoint is determined. Then the pair-wise comparisons are made on AHP basis using an in-depth interview to investigate a manufacturing expert. Finally, with respect to the important weights of each criterion worker performance evaluation and the final decision on worker selection practice are examined.

Findings – The important worker selection criteria with its important weights are drawn from both academic and industry standpoints in labor-intensive manufacturing. The worker selection model is presented and evaluated worker performance with respect to the selection rules.

Practical implications – The proposed method can be effectively used in labor-intensive environment which workforce is the main driver of the entire system. Nevertheless, the worker selection model can be applied in a wide range of industry sector with respect to the organization natures.

Originality/value – This paper highlights worker selection practice in the context of labor-intensive manufacturing, and the multiple skills are taken in to account.

Keywords Worker selection, Multiple skills, Labor intensive, Worker performance

Admission Information >>>

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Applicant must hold a Master's degree in related field.

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Tuition and general fees are approximately 230,000 Baht per annum.



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