

Abstracts of papers presented at the 19th International Symposium on Logistics (ISL 2014)

Designing Responsible and Innovative Global Supply Chains

Ho Chi Minh City, Vietnam 6 – 9th July 2014



Organized by



Supported by

The International Academy for Marine Economy and Technology, The University of Nottingham Ningbo
Campus, China

&

The Institute for Advanced Manufacturing, The University of Nottingham, UK

Editors: K S Pawar & M Nkhoma

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MF Gong

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<p><u>Programme Co-Chair</u> Dr Andrew Potter Cardiff Business School Cardiff University Cardiff, CF10 3EU, UK PotterAT@cardiff.ac.uk</p>	<p><u>Programme Co-Chair</u> Prof. Chandra S Lalwani Business School University of Hull Logistics Institute Hull, HU6 7RX, UK c.s.Lalwani@hull.ac.uk</p>
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<p>Marketing & Communications Coordinator: Dr Christos Braziotis Nottingham University Business School University of Nottingham Phone: +44 (0) 115 9514026 Nottingham NG8 1BB, UK Christos.Braziotis@nottingham.ac.uk</p>	<p>Paper Submission Coordinator: Dr. Abhijeet Ghadge School of Management and Languages Heriot Watt University, Edinburgh, EH14 4AS, UK</p>
<u>Symposium Administration</u>	
<p>Ms Lesley Gray Centre for Concurrent Enterprise Nottingham University Business School University of Nottingham Nottingham NG8 1BB, UK Phone: +44 (0)115 951 4006 Lesley.Gray@nottingham.ac.uk</p>	

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INTRODUCTION

We would like to welcome our friends and colleagues to the 19th annual International Symposium on Logistics (19th ISL). It is 22 years since the first Symposium on Logistics was held in Nottingham and it is now considered as the premier international event in the field of Logistics and Supply Chain Management. As in previous years many members of the ISL community look forward to meeting, sharing and exchanging their research ideas and results in both the formal and informal settings which the symposium provides.

The concept of alternating the symposium every year between Europe and the rest of the World is now well established. This year's event in Ho Chi Minh City, Vietnam continues this tradition, following the very successful and rewarding event held in Vienna, Austria last year.

The chosen theme of the 19th ISL is "*Designing Responsible and Innovative Global Supply Chains*". This theme reflects the changes taking place in recent years resulting in increased risk, complexity and uncertainty in supply chains. Factors like the debate on outsourcing vs insourcing, rising raw material and energy prices and the economic and political uncertainty have placed additional pressure on designers and planners of supply chains. Equally, the society calls for more sustainable and socially responsible business practices to avoid unintended consequences within the supply network. The combination of these factors means that managers and supply chain designers are faced with bringing resilience into their supply chains to address these issues of uncertainty and risk. Thus the challenge is to proactively transform traditional approaches into responsible and innovative supply chains which are competitive and sustainable yet give due consideration to consumers and society. These changes have big implications for logistics and supply chain configurations, representing a dynamic and interesting area of research and practice for both academics and practitioners alike. With this in mind, the 19th ISL has assembled experts from around the globe to focus on how leading firms and academics are responding to these challenges and debate what this will mean for the future of global supply chain management. Papers in the proceedings represent the latest in academic thinking, as well as case examples of successful practices and innovative approaches to counter act the current situation.

Potential authors were invited to submit an abstract to the Symposium Chairs. All abstracts were reviewed by two experts from the International Advisory Committee and final papers were further reviewed by an International Panel of Reviewers. This book of proceedings of the accepted papers has been organised according the following categories:

- *Supply chain design and planning*
- *Responsible supply chains*
- *Services and the supply chain*
- *Complexity, risk and uncertainty*
- *Inventory and warehouse management*
- *Customer-supplier collaboration and relationships*
- *Supply Chain Costs*
- *Supply chain performance assessment*
- *Sustainability in logistics and supply chains*
- *Transport and distribution*
- *Port Logistics*
- *Supply chain skills, capability and education*

We would like to take this opportunity to express our sincere thanks to all the presenters, delegates, reviewers, Advisory and Programme Committee members, local organizing partners and guest speakers for their interesting and valued contributions. This year we changed the paper submission and management process to an online Conftool. This, as you can imagine, posed numerous challenges and has been competently handled and managed by Abhijeet Ghadge, Helen Rogers and Christos Braziotis. We would also like to express our gratitude to the events team at RMIT for their support and help in organizing this event. Also sincere thanks are due to Helga Nagy and Jaime Calbeto for their help in organizing industrial visits and their all-round support. The help and support provided by Meng Feng Gong in preparing the proceedings is also deeply appreciated. Finally, our special thanks go to Lesley Gray for stepping into Alison Parrett's shoes to provide administrative support for the event. Alison has taken a well-deserved retirement and on behalf of everyone involved with ISL, we would like to put on record our thanks for her valuable contributions over the past 22 years.

Professor Kulwant S Pawar and Dr Mathews Nkhoma – July 2014

PREVIOUS ISL CONFERENCES

1993 – Nottingham, UK

1995 – Nottingham, UK

1997 – Padua, Italy

1999 – Florence, Italy

2000 – Iwate, Japan

2001 – Salzburg, Austria

2002 – Melbourne, Australia

2003 – Seville, Spain

2004 – Bangalore, India

2005 – Lisbon, Portugal

2006 – Beijing, China

2007 – Budapest, Hungary

2008 – Bangkok, Thailand

2009 – Istanbul, Turkey

2010 – Kuala Lumpur, Malaysia

2011 – Berlin, Germany

2012 – Cape Town, South Africa

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AUTHORS' AFFILIATION

Australia

RMIT University
Victoria University
OHS Manager Yooralla
Monash University

Austria

Vienna University of Economics and Business
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Section 1: Supply chain design and planning

Forecasting E-Commerce Sales for Better Supply Chain Management and Logistics Planning

Lingsha Meng¹, Huayu Wu², Wee Siong Ng² and Mingqiang Xue²

¹National University of Singapore

²Institute for Infocomm Research, A*STAR, Singapore

Propose of this paper

Thanks to the fast development of Internet technologies, e-commerce is taking more and more market share from physical store sales. This emerging retail model also affects the existing supply chain and logistics services. For example, alongside of warehouse-to-store shipping in the traditional logistics, more courier services including warehouse-to-customer and store-to-customer shipping are in compelling need. This fact greatly promotes research attention and efforts in urban logistics (Quak, 2011)(de Souza et al, 2013), and also breeds new courier giants such as SF Express. It is no doubt that more precisely forecasting online sales is essential to the management of supply chain and logistics services, considering demand change timely and seasonally.

Design/methodology/approach

Leveraging on data analytics techniques, we design a new forecasting model for e-commerce sales, by considering particular factors that affect the sales in the e-commerce industry. We also compare it to the traditional time-series analysis approach (Box and Jenkins, 1970) for performance and utility.

Findings

We use the US e-commerce market data for model building and comparison. We conclude in our research that the causal model we designed is more accurate than the time-series model, and it is more adaptive to the environmental changes, e.g., the economy changes. On the other hand, the time-series analysis model is easier to construct.

Research limitations/implications (if applicable)

The first limitation is the availability of data. Data mining is highly dependent on data. Without sufficient historical data on different factors, the causal model cannot be built. In this case, only time series model can be used, which would return less accurate result. The second direction for future work is to design better regression model by feature engineering over the available data, e.g., to discovery new features by combining existing features and to eliminate irrelevant features.

Practical implications (if applicable)

The relevant stakeholders in an e-commerce supply chain may adjust their forecasting model based on the research result proposed in this paper, for forecasting online sales more accurately and thus providing better services.

What is original/value of paper

The findings of this paper can be referenced and used by different players in a supply chain. For example, based on forecasted demand, the manufacturer can control the production, the online market service provider can prepare sufficient system capacity, the shops can raise different promotion, the curriers can be prepared for high delivery volume, etc.

Keywords

E-commerce sales forecasting, causal model, time-series analysis

Category of the paper

Research paper

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ANFIS Expert System for Cargo Loading as Part of Decision Support System in Warehouse

*Dejan Mircetic**, *Chandra Lalwani***, *Ted Lirn****, *Marinko Maslaric** and *Svetlana Nikolicic**

*University of Novi Sad, Faculty of Technical Sciences

** University of Hull Business School, Logistics Institute

*** National Taiwan Ocean University

e-mail: dejanmircetic@gmail.com, c.s.lalwani@hull.ac.uk, lirntc@cardiff.ac.uk,
cecan@uns.ac.rs, marinko@uns.ac.rs,

Purpose

In this paper, an ANFIS Expert System (ES) model has been developed that serve as Decision Support System (DSS) for application in one of the brewing company, in the Republic of Serbia.

Methodology

Methodology is based on synthesis of expert knowledge with fuzzy logic and neural networks. Fuzzy logic and neural networks, served as a tool for "capturing" expert knowledge and its transformation to a logical connections. Presented ANFIS model is a nonlinear regression of influencing parameters on the process of selecting the number of forklifts in the warehouse cargo loading operation.

Findings

Fuzzy logic and neural networks are excellent tool for transforming the human intuitive knowledge in numerical values, for the purpose of further use in decision making. Warehouses are exactly places where many business activities are based on empirical and intuitive estimations, thus they are a good area for the application of these methodology. Therefore, further researches should be directed towards the holistic approach of implementation neuro-fuzzy systems in warehouses, with aim of optimizing all logistic operations in warehouses.

Value

Novelty approach for determining the number of forklifts in cargo loading operation of warehouse.

Practical implications

Warehouse efficiency directly affects the efficiency of the entire supply chain, and it is necessary to pay special consideration to optimization of warehouse operations. One of the most important and time demanding warehouse operation is cargo loading. We approached to this problem by developing the model which is simple, and easy to understand, efficient, and it is practically applicable tool for determining the number of forklifts which should be deployed in the process of cargo loading

Keywords

Expert system, case study, ANFIS, cargo loading, forklifts, warehouse

Paper type

Case study

Supply Chain Innovation for Changing Business Environment: Empirical Evidence from PRC

Xiaohui Chen¹, Ying Ma¹, Hwee leng Ooi², Chuang Liu¹, Zhu Liao¹ and Guangqiu Shao¹

¹Chongqing University, China

²Intel CD site, China

Purpose of this paper

With the rapidly change of the world economic situation, environmental focus, marketplace and consumer behavior, it is important to understand the changing environment and forecast the external trend for the next few years for PRC business which would challenge the current supply chain service and potential good practices. In order to keep a lean and green supply chain and build a cost effective supply chain, an innovation supply chain model for PRC business should be established to help industry business to provide extended range of products, to enable customer span expansion based on social stratification projection. Furth more, the tactics of the supply chain management which companies can take on for consideration in the sourcing, planning and delivering modeling should be developed.

Design/methodology/approach

This paper aims to build innovative conceptual supply chain model based on an analysis of the trends and leading opinions about business environment covering economy, polity, society, consumers and technology. Firstly, the brief literature review about supply chain environment, supply chain innovation and supply chain conceptual model illustrated the similarities and differences of researcher's work and thinking. Secondly, the PEST analysis identified the key elements that are driving supply chain innovation in China. At last, the paper used graphic modeling method to build a three-hierarchical supply chain model of strategic level, tactic level and operational level.

Findings

The paper indicates two findings. The fist is analysis of the trends of the policy, economy, society (including consumer behavior) and technology based on the empirical evidence from PRC. The second is creation of an innovative supply chain model not only able to respond quickly and satisfy uncertain needs, but also characterized by Space-time synergy, Duplex helix, Continuous win-win, etc. under the environment of ubiquitous information.

Originality/Value

The idea of the innovation supply chain model for the changing business environment of PRC is new. It provides the insights to the managers and researchers on the change of Chinese business environment according to the analysis of the indicators and influencing factors. A conceptual supply chain model and a supply chain tactic database were built to offer a proactive idea about supply chain operation. Under the guidance of the strategy, enterprises could better respond to the change of environment, and become more resilient, green and lean.

Keywords

Supply Chain Model, PEST Analysis, Supply Chain Tactics

Paper type

Conceptual paper

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Supply Chain Foundation Predicts Performance: A Configuration Approach

Hung M. Nguyen

RMIT University, Vietnam

Purpose of this paper

This study extended the developing body of literature on supply chain integration (SCI) by developing supply chain foundation (SCF) and empirically testing its relationship and performance. SCF included supply chain information exchange (SCIE), which enhanced supply chain integration and performance. The ultimate objectives of this study were to examine the association between SCF and SCIE and to identify the appropriate SCF patterns, which would differentiate the stronger competitors and performers from the weaker ones. These questions are important to decision makers when designing the supply chain because they provide insights about strategies for pursuing SCI.

Design/methodology/approach

We investigated the joint effect of the SCF dimensions on both operational and business performance, from a configuration perspective. In the configuration approach, through developing taxonomy of SCF dimensions, this study examines whether the choice of action programs and manufacturing performance differ depending on the levels of attainment supply chain foundation and information exchange capabilities. Cluster analysis was used to develop patterns of SCF, which were analyzed in terms of SCF strength and balance. Analysis of variance was used to examine the relationship between SCF pattern and performance. Canonical discriminant analysis was used to derive underlying competitive functions that differentiate firms in clusters. This study employed statistical tests on a large-scale dataset consisting of 315 manufacturing plants from 8 countries participated in the Global Manufacturing Research Group.

Findings

The results from cluster and discriminant analyses indicated that SCF was an emergent pattern reflecting strategic and operational foundations, which enhance the integration of supply and demand information and proprietary information. There appeared to be consistent three major patterns of SCF, the Realistic, the Extreme and the Lager. The Realistic gained the most benefits both in operational and business performances, while the other two groups were lag behind. The fragmented investment in SCF would not guarantee the operational performance. Firms are successful in working on both supplier information exchange and supplier strategic foundation, are also those that are experiencing higher payoffs from various improvements.

Research limitations/implications

First, this study uses a cross-sectional design; it will be fruitful for future research to examine the evolution of SCF patterns in a longitudinal fashion. Second, future research should examine cross-cultural differences in the relationship between SCF and performance using the GRMG. In particular, studies which compare SCF in developed versus developing economies will be of interest.

Practical implications

Practically, the findings provide insight into the true benefits of supply chain integration initiatives, and offer guidance especially for globally engaged supply chain managers.

What is original/value of paper

In including both supply chain strategic, operational foundation and supply chain information exchange, this paper adds greater comprehensiveness and richness to the SCI literature and enhances our understanding of the impact of SCI on performance.

Keywords

Supply chain integration, supply chain foundation.

Category of the paper

Research paper

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Investigating Manufacturing Supply Chain Transformations: A Sri Lankan Context

Niles Perera¹ and Ranil Sugathadasa²

¹Attune Lanka (Pvt) Ltd, Colombo, Sri Lanka

²University of Moratuwa, Sri Lanka

Purpose of this Paper

This research delves into the new and blossoming field of Supply Chain Project Management, which is a fusion of Supply Chain Management and Project Management. It aims to uncover

- What factors influence supply chain transformation projects in the manufacturing sector in Sri Lanka?
- Do supply chain transformation projects meet organisational necessities in Sri Lanka?
- Do such projects lead to undesired repercussions that impact the rest of the supply chain?

Design

The research focuses on 3 supply chain projects which were underway at 3 manufacturing sector multinational companies in Sri Lanka who are involved in the dairy, cement and FMCG industries. Data was collected from managerial level project team-members through structured interviews. The respondents were picked to represent different business units/departments of the project to maintain a balanced perspective. In addition to the above, a thorough literature survey and follow-up interviews were used to assimilate further information.

Findings

The research found out that "Cost Reduction" was a key supply chain transformation driver. Additionally, an understanding of the supply chain drivers highlighted by Ayers (2009) determining a supply chain transformation project and their importance was derived through the research.

In general, organizational objectives were met by these supply chain transformation projects. However, the research revealed that there's room to improve in this aspect.

The research also paved way to understand the key obstacles faced by practitioners as well as the propensity of project derailment. Organisational roadblocks were identified as the prime detriment in achieving project success.

The importance of human emotions and behaviour was acutely identified as a critical factor in achieving project success and led to the identification of Change Management as a key peripheral function. Also, it was identified that major focus ought to be placed to identify repercussions and domino effects triggered by the focal project during its conduct.

Moreover, a step-by-step approach was introduced through the research to be used as a planning tool for future supply chain transformations.

Research Implications

The research scope is constrained to the manufacturing sector, but provides an ideal launch pad from which to explore supply chain transformations in other sectors. Additionally, the findings of the research need to be further tested in varied industries under different conditions for further knowledge generation.

Research Value

Supply Chain Project Management is an area which has seen very little research being carried out under. This research is a pioneer in this sense in Sri Lanka and would provide a valuable stepping stone for both supply chain practitioners as well as academic researchers to base their future supply chain projects/research upon.

Keywords

Manufacturing Supply Chains, Supply Chain transformations, Supply Chain Projects, Supply Chain Project Management

Category

Research paper

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Proactive-Reactive Initiatives for Sustainable Manufacturing: Evidence from Chinese Automotive Supply Chains

Nachiappan Subramanian¹, Muhammad Abdulrahman¹, Shams Rahman², Chang Liu³, Yanrong Zhu⁴ and Yingzehui Fang¹

1 Nottingham University Business School China, The University of Nottingham Ningbo China

2 School of Business IT and Logistics, RMIT University, Melbourne

3 School of Economics, the University of Nottingham Ningbo China

4 Business School, Cranfield University, United Kingdom

Purpose

The automotive industry is facing several challenges such as increased competition, dwindling sales and increased demand for environmental protection through reduced energy and material usage, recycling, recovering materials from end-of-life products and reduce carbon emission, amongst others. These are in addition to the strict adherence to sustainability policies and regulations in developing countries (Liao et al., 2013). Not surprising that the auto industry has shifted its attention to the adoption of environmentally benign practices (Amelia et al., 2009; Ming and Xiang, 2011). This study examines China's major automotive supply chain preparedness towards environment sustainable practices. We focus on upstream supply chain where major production activity takes place. The primary objective of this study is to identify the proactive (how far a firm plan to act in the future) and reactive (a firm current level of implementation) sustainable manufacturing initiatives in China in terms of six Rs (reduction at the source, redesign, reuse, remanufacture, recover and recycle) (Jawahir et al., 2007; Jayal et al., 2010).

Design/Methodology/Approach

This study utilizes a multiple case study approach involving four major upstream Chinese automotive supply chains that includes manufacturers, tier 1 and tier 2 suppliers. Using a questionnaire, we obtained data and information from 65 respondents across 22 Chinese automotive firms relating to the adoption of six proposed proactive and reactive sustainable manufacturing practices. We employed partial least square modelling method and developed two models to assess relationships between proactive and reactive sustainability practices. Fit indices of the two models were found to be within the suggested cut-off values (Shah and Goldstein, 2006).

Findings

The results indicate that the Chinese automotive firms are reactive in carrying out reduce, redesign and recycling initiatives to achieve sustainability. With respect to proactive practices results show that firms pay more importance to practices such as reduce, redesign and recycling compared to than other three initiatives.

Value

The study provides a useful source for practitioners and sustainability policy-makers on the potential usage of six R practices in upstream supply chains of Chinese auto firms.

Keywords

Sustainable manufacturing, automotive supply chains, six R practices, multiple case study, China

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On-Shelf Availability Strategies: Analyzing Alternative Models to Assure Product Availability in High Density Area

Masoud Khakdaman, Ioannis N. Lagoudis and Ata, Asad

Malaysia Institute for Supply Chain Innovation, Malaysia

The present work focuses on the Coffee industry aiming at improving on-shelf availability strategies for different food and coffee products. The company under investigation has successfully established itself as the premium coffee leader in China and operates an extensive distribution network seven days a week. However, in high-density locations, stores often run out of food items by midday. This study is conducted to develop alternative transportation-distribution strategies to assure availability of key items, especially food related, in stores throughout the day. Using AnyLogic simulation software, the current transportation-distribution network of the company is simulated, verified and validated accordingly. Four alternative transportation-distribution strategies are developed and simulated using the software. In addition, the impact of each alternative strategy on total supply chain cost, opportunity cost and demand fulfillment is assessed. Two alternative strategies are recommended; (i) adding a regional distribution center to the current transportation-distribution network, (ii) including an additional delivery before lunch time using the current distribution network.

Based on the results adding one Regional Distribution Center to the current supply chain network has the best positive impact on reducing under-fulfillment to customers' demand while it increases the demand fill rate from 60% to almost 82%. This significant improvement comes with the highest transportation and total supply chain cost. However, since there is a good profit margin from the sold products, the revenue from increasing sales not only covers the total supply chain costs but it also increase the supply chain profitability by around 37%. Nevertheless, the offering of two delivery runs before noon instead of one can also have some positive results for the company. Demand fulfillment is increased by 16% and profits are improved by 28%. The main gain from this strategy is that these results are achieved without the need of any heavy capital investments to adjust the present network configuration

Keywords

On shelf availability, Distribution, High Density Areas, Strategies

Planning of A New Logistics Project: A Case Study on the Development Planning of Smart Material Handling Machine Using the Bottom-Up Strategy

*Min Young Yang, Eun Young Lee, Min Kyu Kim and Yoon Seok Chang**

School of Air Transport, Transportation and Logistics, Korea Aerospace University,
Republic of Korea

*Corresponding author

Purpose

Recently, the demand for the 'light weight' product such as mobile phone, lap top, semiconductor and etc has been growing rapidly. Such growth caused the need of the specific material handling machine for 'light weight' cargo. However, in most warehouses, the handling of light weight products is heavily dependent on the manual work which causes inefficiency.

To address such inefficiency and specific requirement for 'light weight' products (e.g. high price, variety, etc), the development of smart material handling machine is essential. However, identifying requirements and planning a new type of machine are not simple tasks since there are process differences in warehouse operations, too many technologies, on-going developments, user requirements and etc.

For the systematic research, this paper proposes a bottom-up strategy and defines 4 types of smart material handling machine to develop considering various factors: user requirements, process characteristics in warehouse, trends of technology, market environment and etc.

Design/ Methodology / Approach

We introduce a bottom-up strategy which is composed of six steps: Step1. Review on the trend of technology including patent analysis market environment and interviews with industrial experts; Step2. Understanding the needs of research area from process analysis in the 12 companies; Step3. Selection of candidate technologies considering various factors such as existing projects, patent analysis, capability to develop, conformity with policy; Step4. Develop a matrix to evaluate technologies works; Step5. Filtering and clustering of candidate technologies; Step6. Prioritizing candidate technologies with the perspectives of SMART functional requirements such as Safety, Maintainability, Agility, Rapidity and Traceability.

Findings

The Bottom-up strategy we propose is found useful to prioritize candidate technologies and to determine key research subject. We could reflect various ideas, opinions and information during the research process.

Research limitations/ implications

The area of the research was limited to material handling for 'light weight' product but we strongly believe that systematic bottom-up strategy can save time and money by reducing trial and error and can be used for other research planning.

Originality/ Value

There has been almost no research on the planning of smart material handling machine for 'light weight' cargo. This research aims to design a systematic method for the planning of a government funded research development.

Keywords

Bottom-up, light weight, technical development, smart material handling machine

Paper Type:

Research paper, a case study

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Section 2: Responsible supply chains

The Perceived Risks of Supply Chain Information Sharing

Tran Thi Thanh Huong¹, Paul Childerhouse² and Eric Deakins³

¹Commerce Department, Danang University of Economics, Vietnam

²School of Engineering and Advanced Technology, Massey University, New Zealand

³Management Systems Department, University of Waikato, New Zealand

Purpose of this paper

The perceptions of managers regarding other supply chain actors, and their interactions with them, create the social reality of organisations. This research investigates how managers perceive the risks associated with sharing information with trading partners, and how they attempt to mitigate them.

Design/methodology/approach

In this exploratory New Zealand study, qualitative research is conducted involving semi-structured interviews with boundary spanning managers who are responsible interorganizational interfaces. Multiple case studies in different industries are used to highlight managers' perceptions of the risks involved with sharing supply chain information, and their underlying reasoning.

Findings

Managers perceive seven different types of risks when they exchange information across external supply chain interfaces, and they adopt different approaches to handling them. The research suggests that organizational context, with respect to industry and organization size and type of product, plays a determining role in decision making related to information sharing. The research also reinforces interpersonal relationships and trust as key enablers of interorganizational cooperation.

Research limitations/implications

The findings are based on a small sample of eleven case companies based in a single New Zealand province, thereby potentially restricting generalizability. Future work could usefully extend the sample size in order to investigate the correlations between firm sizes, levels of trust, and degrees of data integration within particular industry sectors.

Practical implications

The findings will help managers understand and evaluate the different types of risks in the data exchange process, and enable them to make better decisions that enhance information sharing and supply chain performance. This research also suggests that cooperation and long-term relationships are the basis for open and trusted data exchanges across the supply chain.

What is original value of paper

Perceived information sharing risks are peculiar to the individual actors, and as such need to be mitigated through changes to their socially constructed perceptions. This work extends the literature on understanding the various dimensions of interorganizational information sharing.

Keywords

supply chain risks, information sharing, New Zealand

Category of the paper

Research paper

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A Case Study on De-Risking Plans for Stronger Supply Chain Resilience

Mei-hui Chen¹, Jung-hung Chen², Peik Bremer³ and Kune-muh Tsai^{4,}*

¹Department of Cosmetic Science, Chia-Nan University of Pharmacy and Science, Tainan, Taiwan 717

²Advanced Semiconductor Engineering, Inc., Kaohsiung, Taiwan 811

³Faculty of Industrial Engineering, University of Applied Sciences Würzburg-Schweinfurt, Schweinfurt, Germany 97421

^{4,*}Department of Logistics Management, National Kaohsiung First University of Science and Technology, Kaohsiung, Taiwan 811

Purpose

Nowadays, supply chains (SCs) are facing numerous changes that augment complexity to their operations, e.g., globalization of SCs, adoption of lean and JIT concept, quick response programs, etc. Recent events on business operation environment, such as 911 attack, financial crisis, catastrophic disasters like earthquakes and floods, etc. have added challenges and susceptibility for business operations. In encountering more frequent unpredictable risks than before, many companies adopt risk management systems and redesign their SC structures for stronger SC resilience as well as quicker recovery speed. In this paper, we present a case study of a large semiconductor packaging and testing company in Taiwan in confronting risk incidents and the plans they implemented to strengthen the SC resilience to assure more reliable supply of their products and services to the customers worldwide.

Research approach

The case study is performed via on-site field study supplemented by secondary data about semiconductor industry and the case company. By participating at some associated project of the company, the authors made several field trips to the case company and conducted a few in-depth interviews with the managers and personnel involved in the program. Additionally, secondary data were also employed to get a better understanding of the semiconductor industry and the influences of the 2011 Fukushima and earthquake on global supply discontinuity.

Findings and Originality

In facing more and more complex and vulnerable SC structures, ensuring continuous supply of parts/materials is a challenging job because the supply is mostly sourced internationally with limited choices of source. Self-own facilities like production sites and warehouses are also subject to risk incidents like floods, accidents, labor/material/power shortage, man-made disasters, etc. As the products have been fabricated, transportation and logistics facilities for shipping the products to customers might also face incidents like sea/air ports strikes, terrorism threats, natural/man-made disasters, etc. To ensure customer orders can be delivered as they are the case company executed several de-risking plans, which can be divided into three categories – source, make, delivery. Many of the de-risking plans rely on the E-Hub system the company implemented a few years ago because of information visibility provided by the system. After carrying out the de-risking plans, the case company found that the suppliers and customers as well as the company have to furnish additional kinds of information to the E-Hub system in order to evaluate the SC resilience and assess the impacts of risk incidents. The results show improved SC resilience for the case company in encountering risk incidents and much faster recovery speed once an incident occur.

Keywords

Supply chain resilience; risk recovery; de-risking plans; information sharing

Category of the paper

Case Study

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An Investigation of Corporate Social Responsibility Definitions from Academic and Practitioner Perspectives: Are they Different?

Aswini Yadlapalli and Shams Rahman

School of Business IT and Logistics, RMIT University,
Melbourne, Australia.

Aim/Purpose

The objective of this study is to evaluate corporate social responsibility (CSR) definitions defined by both academics and practitioners (organisations) published over the last six decades and compare these definitions against common categories and dimensions to identify the differences and suggest a comprehensive definition.

Design/Methodology/Approach

This study employs the systematic literature review approach to identify CSR definitions published between 1953 and 2013. These definitions are then organised chronologically into academic and practitioner (organisational) definitions over time to investigate the changes which may have occurred in terms of dimensions and categories of CSR definition.

Findings

A total of fifty six definitions of CSR published over a period of six decades between 1953 and 2013 are identified. Among these definitions twelve definitions are suggested by practitioners (organisations) and the remaining forty four are defined by academics. From the content analysis of all these definitions, we identified twelve dimensions of CSR definition which are then grouped into five broad categories such as aspect, outcome, beneficiary, approach and time frame. The most commonly referred categories are aspect, beneficiary and outcome, whereas, the most commonly referred dimensions are social and external stakeholder. Practitioner definitions published between 2005 and 2010 are found to be the most comprehensive definitions.

Originality/Value

This study advances on the discussion of CSR evolution by comparing definitions from practitioners (organisations) and academics with respect to dimensions and also by grouping these dimensions into broad categories.

Research Limitations

Since the focus of this study is on CSR, hence, all the other related CSR concepts and themes such as corporate citizenship, corporate responsiveness, and corporate governance are not considered as a part of this study.

Research Implications

This study can be considered as a starting point to develop coherent and congruent knowledge on CSR definitions which could assist in the identification and resolution of issues related to CSR definition.

Keywords

Corporate social responsibility, social responsibility, corporate responsibility, definition, categories, dimensions.

Extending Social Responsibility to Garment Suppliers

*Aswini Yadlapalli**, *Shams Rahman**, *Kamrul Ahsan*** and *Justin Pierce****

*School of Business IT and Logistics, RMIT University, Melbourne, Australia.

**College of Business, Victoria University, Melbourne, Australia.

***Graduate School of Business & Law, RMIT University, Australia.

Aim/Purpose

The objective of this study is to identify and prioritise influential factors of extending (corporate) social responsibility (C/SR) from large retailers in developed countries to suppliers/ manufacturers in developing nations.

Design/Methodology/Approach

Based on the analytic hierarchy process (AHP) approach a two-part questionnaire was developed and employed for interview and data collection. A major Australian retailer importing readymade garments from Bangladesh is selected for interview. Expert choice® software was used to analyse data and determine relative weights of factors of extending social responsibility to garment suppliers/ manufacturers.

Findings

The results indicate that at the governance mechanism level supplier selection is by far the most critical element compared to the supplier development element. At the criteria level two most influential criteria are social and supplier assessment. The results show that the top five factors are child labour, environmental management systems, formal evaluation, lack of health and safety, and human rights abuse. The sensitivity analysis indicates that a slight decrease (from 0.750 to 0.735) in the relative weight of supplier selection element the ranking of the factors changes.

Originality/Value

This study advances the literature on implementation of social responsibility by including supplier selection along with supplier development.

Research Limitations

The major limitation of this study is the generalization of the findings. The results obtained by focusing on a particular context in the Australian retail sector importing from Bangladesh, may not be applicable to other nations.

Practical Implications

By identifying the criticality of factors of extending SR, this study facilitates retail chain managers in developed nations to extend SR practices to their suppliers/ manufacturers.

Keywords

Analytic hierarchy process (AHP), Social responsibility, readymade garment industry, Retailer, Social responsible supply chain

Namibia Would Like to Become a Regional Gateway by Developing a Global Logistics Hub: Will This Aid Development or Frustrate It?

CJ Savage¹, L Fransman¹, CG Bamford² and AK Jenkins²

*csavage@polytechnic.edu.na, lfransman@polytechnic.edu.na, c.g.bamford@hud.ac.uk,
a.k.jenkins@hud.ac.uk*

¹The Namibian German Centre for Logistics, Polytechnic of Namibia, Windhoek, Namibia.

²Business Operations, Supply Chain & Transport Research Group,
University of Huddersfield, West Yorkshire, UK

Purpose of this paper

Many developing countries develop logistics clusters in order to become the gateway to a region or part of a continent. These support global supply chains and may enable the economic growth of the host country through the resulting trade as well as providing direct and indirect employment opportunities during the build and subsequent operation of a hub.

Namibian politicians and business people have expressed a desire to become the gateway to southern Africa by building a logistics hub. Although this strategy is mentioned in the latest national development plan (NDP_4), it is not clear that whether those responsible understand either the full meaning of logistics clusters or the requirements for them to succeed. This paper seeks to identify the possible benefits, drawbacks and risks for Namibia in adopting such a strategy.

Design/methodology/approach

This paper first draws on international case study based research (Muñoz and River, 2010), (Lambourdiere et al, 2012) to understand cluster requirements. It then builds on work on the state of Namibian logistics (Jenkins et al, 2012) to assess her capability. By mapping Namibia's capacity on to the requirements for international hubs, it examines her ability to match them, as well as identifying gaps and areas of shortfall.

Findings

The work identified considerable potential for a global logistics hub in Namibia, e.g. through the location of the Port of Walvis-bay. But, it also recognized a number of areas where significant development is required, notably in terms of infrastructure, service level and attitude. These findings could prove invaluable to those charged with implementing the hub concept in Namibia.

Research limitations/implications

As in most countries, logistics in Namibia is not static. Rather, it is developing, albeit relatively slowly. In addition, other SADC (Southern African Development Community) countries are trying to develop their own ports and hubs, which will change the potential role that Namibia seeks to fill. Therefore, this research needs to be updated as time evolves to ensure that it, and its implications, remain current, cogent and relevant.

Practical implications

The use of logistics hubs or clusters to develop Namibia as a regional gateway has great economic potential; but, if not approached in a realistic and comprehensive manner, it could turn out to be an expensive failure. This paper outlines some of the arguments and requirements. If policymakers and others responsible for the development heed and act upon them, the chances of success may be enhanced; but if they chose to ignore them the potential for failure is unlikely to be addressed.

Keywords:

Global supply chains, Namibian logistics, logistics clusters, emerging economies, development.

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Modern Paradigm of Social Responsibility in Supply Chain Practices - The Case of Sainsbury

Danuta Kisperska-Moron

University of Economics in Katowice, Poland

Purpose

This paper aims at presenting the full concept of social responsibility of companies cooperating within supply chain. The paper illustrates the complex character of properly implemented Corporate Social Responsibility (CSR). It demonstrates how the most important supply chain stakeholders participate actively in diversified fields of the core issues of social responsibility of business.

Methodology approach

The main framework of CSR has been based on the standard of ISO 26000. A qualitative case study research was used, based on the study visit at the Sainsbury's distribution center in Northampton (UK), analysis of company's documentation and Internet information. The paper intends to answer the following research questions:

- **RQ1:** What are the main Corporate Social Responsibility aspects influencing the processes in a supply chain?
- **RQ2:** What detailed CSR strategies could be implemented by different supply chain stakeholders?
- **RQ3:** What are the main factors supporting implementation of social responsibility concepts in the whole supply chain?

Findings

Results proved that a modern complex concept of social responsibility of business could be effectively implemented among all main stakeholders of supply chain network. Such implementation involves also customers of that supply chain. The leader of supply chain is the main source of creativity for the CSR concept, whereas supporting resources are generated by all stakeholders.

Value

Analyzed paradigm refers fully to the multi-purpose concept of sustainability including its economic, social and environmental aspects. It proves that it is totally possible to apply theoretical concepts of sustainability into sound and robust business practices in supply chains. Such issues have not been widely discussed in literature yet.

Research limitations

The results of research based on a case study cannot be considered as universal relations. However, these results provide more insight into modern approach to social responsibility of businesses.

Practical implications

Research results might be of importance for decision makers and managers in supply chains, demonstrating useful business behaviour patterns.

Keywords

Corporate social responsibility, sustainable supply chain, social responsibility of business

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Supply Chain Deceleration: Is It An Effective Decarbonisation Measure?

Alan McKinnon

Kuehne Logistics University
Grosser Grasbrook 17
20457 Hamburg, GERMANY
alan.mckinnon@the-klu.org
Tel:+49 40 328707 271

Purpose of this paper

The paper will challenge the conventional view that the movement of goods through supply chains must continue to accelerate. The compression of transit times and order lead times has been one of the most enduring logistics trends of the past few centuries, intensifying in recent decades with the wide adoption of just-in-time and quick response replenishment. Will further acceleration be compatible with the goals of government climate change policies to cut greenhouse gas emissions by 60-80% by 2050? The paper will try to answer this question and, in the process, provoke a reassessment of the some of the standard principles and practices of logistics management. It will take as its starting point the claim by the World Economic Forum / Accenture (2009) that 'despeeding logistics' is the second most effective method of 'decarbonising supply chains'.

Design/methodology/approach:

The opportunities for cutting CO₂ emissions by supply chain deceleration will be explored within a freight decarbonisation framework. The five key parameters in this framework (supply chain structure, modal split, vehicle utilisation, energy efficient and carbon content of the energy) are directly, indirectly or consequentially affected by the speed. Data will be drawn from various sources to quantify the relationship between speed and these parameters. The recent experience of slow steaming will be used to illustrate how companies' logistics systems can accommodate significant increases in transit times with minimal disruption. A distinction will be made between movement time, transit time and logistical cycle time.

Findings

Speed-energy-emission relationships have been modelled for road and shipping, showing that there are direct environmental benefits in deceleration. The strength of the indirect effects of deceleration on product sourcing and JIT are difficult to assess. It is argued, however, that reliance on express freight services could be significantly reduced if standards of production and distribution planning were improved. Trade facilitation initiatives are cutting border delays and the time saved could potentially offset reductions in vehicle speed.

Value

To achieve the dramatic reductions in carbon emissions required to stay within internationally-agreed limits by 2050, long-established logistical trends will have to be reversed. This paper examines the ramifications of a reversal of the acceleration trend.

Research limitations/implications

The paper is based primarily on a review of literature, supplemented with some primary data, collected mainly from the maritime sector. Given the current evidence base, it is not possible to model empirically some of the key relationships discussed in the paper

Practical implications

The paper may stimulate some new thinking by academics, managers and public policy makers on the potential carbon benefits of 'despeeding' logistics.

Keywords

Supply Chains, Deceleration, Carbon Emissions

Section 3: Services and the supply chain

Value Creation in Product Returns Management – a Synthesis of the Literature

G. Peter Dapiran and Booi H. Kam

School of Business Information Technology & Logistics
RMIT University, Australia

Purpose of this paper

Value creation and maximising the appropriation of value vis-à-vis other entities in the supply chain are key aims of any organisation. The management of product returns is acknowledged as being a key supply chain process. This paper synthesises the literature on value and applies the value construct to the product returns process.

Design/methodology/approach

The paper reviews the literature on value and distils the applicability of this construct to the management of product returns. Three major journal data bases (Emerald, Science Direct and Business Source Premier) were searched. The reference lists of most recently published papers were then used to fill gaps in journals not covered by those data bases. Search terms used were a combination of "value", "customer value", "supplier value", "supply chain", "reverse logistics", "product returns".

Findings

Current literature points to value being a trade-off between, or the net of, benefits and costs, also referred to as the difference between "get" and "give", the assessment of which is not necessarily tied to monetary units. Within the context of business operations, value is often discussed from two perspectives: value accrued by an organisation, measured by return on investment or Economic Value Added (EVA), and value created for customers, reflected in customer satisfaction.

Most studies on value creation, be it value accrued to organisations or to customers, are set in the context of the forward supply chain. Studies on the contribution of product returns management to firm value are limited and fragmented. Most of these studies also take a narrow view of value, focussing on the economic gains made from product disposal activities such as recycling, reuse and salvage, as the source of value. Few studies have transcended this cost dimension and explored the impact of product returns on supply chain value. Those that have report a range of value elements: increased firm profitability, enhanced customer satisfaction, environment improvement factors, enhanced customer perceptions of quality, goodwill gained by practising good corporate citizenship through product returns management, increased value creation potential, and value creation through internal firm integration.

Taking a joint buyer-seller role in value creation in product returns management, this paper synthesizes the value elements, connecting them to an organisation's revenues, costs, and resources via an EVA perspective to develop an integrated framework for value creation in the B2B product return chain.

Value

Product returns can be as high as 30% of sales in some commercial sectors, highlighting their impact on a firm's bottom line. While the concept of value has been extensively explored in the marketing and supply chain disciplines, its application to the product returns management process is significantly under-researched. This paper is a step to fill that gap.

Research limitations/implications

The paper lacks empirical substantiation. The conceptual argument presented, however, has research implications in that it offers a theoretical platform on which to further explore how value may be created and appropriated in product returns management.

Practical implications

Applying the SPM structure to the context of product return management provides practical insights on how suppliers and retailers might create value for themselves through product returns management, turning around a conventionally held view that managing product returns only adds costs with little or no benefits to the supply chain.

Keywords

Value Creation, Product Returns, Supply Chain, Strategic Profit Model

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Harvesting Big Data to Support Supply Chain Innovation

YuanZhu Zhan¹, Kim Hua Tan², Kulwant Pawar³ and Keah-Choon Tan⁴

^{1, 2, 3} Nottingham University Business School, UK

⁴University of Nevada, Las Vegas, USA

Propose

Big data is now part of every sector and function of the global economy. Like other essential factors of production such as hard assets and human capital, it is increasingly the case that much of modern economic activity, innovation, and growth simply couldn't take place without data (Manyika et al., 2011; Wong, 2012).

Although the term of big data is not new, the use of big data in supporting supply chain operations is a relatively new area. There are many analytic tools and techniques in use (Tan and Platts, 2004; Mohri et al, 2012), but the majority of them are limited to information visualisation or identifying customer needs. The purpose of this paper is to develop and examine an analytic framework to assist firms to harvest big data to achieve supply chain innovation. The proposed approach allows firms to tap into the potential of innovation afforded by big data to gain competitive advantages.

Design/methodology/approach

The study reviews and compares existing techniques for big data analytic. Then, the requirements and challenges for harvesting big data to enhance firms' supply chain innovation are discussed. After that, an analytic framework based on competence set analysis is proposed. The practicality and feasibility of the proposed approach is then tested, through interviews with leading academics and subject matter experts from a number of industries and disciplines.

Findings

We identified several approaches for firms to leverage big data to achieve firms' supply chain innovation. Also, the proposed analytic framework is feasible and it enabled managers to: a) integrate big data information to serve as inputs for decision making; b) capture and interrelate different competence set to provide a comprehensive view of firms' capabilities; and c) a visual decision path that captures the logic behind the variety of decisions.

Value and Practical Implications

In short, the proposed approach makes it possible for managers to harvest big data to improve their operations performance i.e. enhances innovation capabilities; improve decision making processes.

Research limitations/implications

This research only covered limited interviews and the proposed big data analytic infrastructure has not been tested in real company cases. Therefore, future researches should be carried out to test the proposed approach.

Keywords

Big Data, Supply Chain Innovation, Competence Set

Paper Type

Research paper

References:

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An Investigation of the Complex Relationships between Antecedents, Internal Integration and Functional Performance in Vietnam

Nguyen Thanh Hieu¹, Fiona Lettice², Nguyen Thi Nga³ and Nguyen Ngoc Trung¹

1 National Economics University in Vietnam

2 University of East Anglia in UK;

3 Banking Academy Institution in Vietnam;

Purpose of this paper

The purpose of this research is to test relationships between internal integration and its antecedents as well as the integration with functional performance. Although there are several studies on these relationships, all of them just focus on the direct relationships. This research therefore investigates the mediating associations. Particularly, this research examines the effect of communication, conflict, leader's support on internal integration as well as between internal integration and functional performance. Furthermore, the study finds the mediating effect of integration on the relationship between functional performance and integration's antecedents.

Research Question: Whether are there relationships among internal integration, its antecedents and functional performance?

Hypothesis 1: Internal communication (COM) influences internal integration (INTE).

Hypothesis 2: Leader support (LEADSUP) influences internal integration (INTE).

Hypothesis 3: Internal dysfunctional conflict (CONF) influences internal integration (INTE).

Hypothesis 4: Internal integration (INTE) has a positive relationship with functional performance (FUNPER).

Hypothesis 5: Integration mediate the relationship between communication and functional performance (FUNPER).

Hypothesis 6: Integration mediate the relationship between leader support and functional performance (FUNPER).

Hypothesis 7: Integration mediate the relationship between conflict and functional performance (FUNPER).

Design/methodology/approach

This study is a deductive research testing theory. Its purpose is explanatory. A survey by questionnaires to manufacturers has been conducted to collect data. The sampling technique of this research is probability sampling. Quantitative methods and statistics techniques are used to analyse data. Scope of this research is in Vietnam.

Data collection process has two different steps. Firstly, the pilot test has been conducted to assess the questionnaire design, content, wording and structure. After the pilot test, the official survey has been started. 152 questionnaires from production managers in Vietnam were officially used to analyse and testing hypotheses of this study.

Data analysis process also has two separate steps. The first is examining the confirmatory factor analysis of the data and then the relationships among factors are tested by SPSS.

Findings

The result shows that:

Hypothesis 1: Accepted

Hypothesis 2: Accepted

Hypothesis 3: Accepted

Hypothesis 4: Accepted

Hypothesis 5: **Rejected**

Hypothesis 6: Accepted

Hypothesis 7: Accepted

Research limitations

The research has not analysed the data investigated on purchasing managers. In addition, other surveys should be conducted to other Aisan countries such as Hong Kong, China to increase sample representative.

Practical implications

Manufacturers can improve their performance through enhancing integration among departments in their organizations and its antecedents.

The original of the paper

The original of the paper is testing mediating relationships between integration, its antecedents and functional performance. In addition, this is the first paper conducted in a developing country such as in Vietnam.

Keywords

Supply chain management, integration, antecedents, performance.

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Shelf Ready Packaging in Retailing

Andrej Lisec¹, Stanislav Levičar², Slobodan Antić³ and Lena Djordjevic⁴

¹Univeristy of Maribor, Faculty of Logistics, Mariborska cesta 7, 3000 Celje, Slovenia,
andrej.lisec@fl.uni-mb.si

²Univeristy of Maribor, Faculty of Logistics, Mariborska cesta 7, 3000 Celje, Slovenia,
stanko.levicar@gmail.com

³University of Belgrade, Faculty of organizational sciences, 11000 Belgrade, Serbia,
antics@fon.bg.ac.rs

³University of Belgrade, Faculty of organizational sciences, 11000 Belgrade, Serbia,
lena.djordjevic@fon.bg.ac.rs

Purpose of This Paper

The aim of the paper is to present the results of a Shelf-ready packaging that was conducted in cooperation with a leading South-eastern European retailer.

Design

The study scope is focused on the logistics of packaging as the handling object of interest in retail. Data collection and analysis involved several observational and measurement visits of different sites and a combination of observations and interviews.

Findings

Shelf Ready Packaging is a specific but integral part of retail operations that hasn't gained much attention on efficiency-side and operational performance. Slovenian retailer could save more than 2 million euros a year if percentage of SRP was increased from current 6.3 to 15 %.

Originality

The paper introduces increased used of Shelf-ready packaging, which has been tested and applied to a real-world problem. It is of potential value to academia in terms of simulation testing and additional research opportunities identification in management and operation of logistics.

Research Limitations

The study didn't involve all retailers in Slovenia.

Practical Implications

Half-empty Shelf-ready packaging for example, could be surpassed with different innovative techniques. Shelf-ready packaging demand will consequently grow all over the world.

Keywords

Shelf ready packaging, Retailing, Shelf

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Identifying Customer Value in Supply Chains – The Process of Analysis

Erika Kallionpää^{1}, Jarkko Rantala², Jyri Vilko³ and Jukka Hemilä⁴*

^{*12}Transport Research Centre Verne, Tampere University of Technology
P.O. Box 541, FI-33101 Tampere, Finland

³School of Business, Lappeenranta University of Technology
P.O. Box 20, FI-53851, Lappeenranta, Finland

⁴VTT Technical Research Centre of Finland, P.O.Box 1000, 02044 VTT, Finland
erika.kallionpaa@tut.fi*, jarkko.rantala@tut.fi, jyri.vilko@lut.fi, jukka.hemila@vtt.fi

*Corresponding author

Purpose:

Increasing competition and the parallel disintegration of supply chains have led organizations to the challenge of determining how to optimally maximize customer value creation while simultaneously minimizing risks and costs. In value creation, all four categories of benefit (economic, functional, emotional and symbolic) are needed to provide a complete offering for the customer. The purpose of this paper is to identify the different elements of customer value creation in supply chains. The main objective is to examine the process of customer value analysis. The process of analysis, which involves a form of workshop, is described in detail in the paper. The aim is to explore the identification of customer value in supply chains.

Research approach:

The paper is based on literature review and case study in the form of the workshop, which is among the participatory research methods used to facilitate group processes to deal with actual problems concerning the group. In the workshop the aim was to determine customer value and its creation in service supply chains. The participants in the workshop were managers from 5 case companies from different industry fields. In the paper the following three questions are answered: (1) How can the customer value in supply chains be identified? (2) What are the benefits and disadvantages of customer value? and (3) What is preventing the customer value creation? In order to answer these questions paper introduces the workshop process and its phases about the analysing customer value in supply chains.

Findings and Originality:

The main finding is that the introduced process suits well for identifying the customer value in supply chains. The process of analysis shows the meaning of customer value creation in supply chains. The importance of recognizing the preventing determinants for customer value creation is highlighted.

Research impact:

This paper presents a method to identify customer value creation in supply chains and introduces the process carried out in detail. The paper also investigates the research development in customer service value creation in supply chains.

Practical impact:

The paper gives recommendations on how companies can recognize customer value in their supply chains. The categorization of customer value benefits and disadvantages is also presented. Moreover the paper proposes recommended actions and introduces the meaning of customer value creation in supply chains.

Keywords:

Customer value, customer value creation, supply chain, identification, workshop

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Value Creation in Product–Service Supply Networks

Jukka Hemilä^{1}, Jyri Vilko², Erika Kallionpää³ and Jarkko Rantala³*

¹VTT Technical Research Centre of Finland, P.O.Box 1000, 02044 VTT, Finland

²School of Business, Lappeenranta University of Technology
P.O. Box 20, FI-53851, Lappeenranta, Finland

³Transport Research Centre Verne, Tampere University of Technology
P.O. Box 541, FI-33101 Tampere, Finland

jukka.hemila@vtt.fi*, jyri.vilko@lut.fi, erika.kallionpaa@tut.fi, jarkko.rantala@tut.fi,

*Corresponding author

Purpose

Today's leading enterprises operate in a global multi-actor environment, cooperating with suppliers, partners and other stakeholders in order to deliver services and/or products [3]. It is a question of value creation in a global economy, of how to create value in buyer–seller relationships within global product–service networks. The traditional supply chain can be used for product deliveries, but locally delivered services require a network of collaboration partners. The unique characteristics of service include a high level of customer contact and influence, simultaneity of production and consumption, intangibility, non-storability, perishability, and labour intensity [2]. This paper discusses the challenges when moving from a linear product supply chain to a product–service supply network. The aim of this paper is to increase the understanding of how companies manage their customer value creation within integrated product–service supply networks. When analysing the benefits of product–service offerings, we focus on two categories: tangible and intangible determinants.

Design/Methodology/Approach

The main research question in this research project was "How to identify the customer value creation determinants in product–service supply networks". This study is based on the state-of-the-art of product–service networks value creation from the literature review and on the empirical case data from an expert group workshop. We have conducted a case study with experts from five different companies from different industries. The experience and insights of the experts were considered essential in order to make in-depth sense of the phenomenon.

Findings

Services have become a driving force for the success of companies in various industries. Customers are requiring comprehensive product-service offerings from the suppliers. It is a question of value creation in a global economy, how to create value in buyer–seller relationships within global product–service networks. In the literature one can find the idea that tangible and intangible value determinants are crucial to the success of different industries.

Originality/Value of the Paper

The traditional supply chain management literature has been acknowledged not to be able to answer the challenges regarding service supply management [2]. This paper aims to increase the understanding of service supply networks customer value creation.

Research limitations/implications

Being conceptual nature, this study attempt to create understanding in product-service network value creation and management. More detailed practical evidence of product-service network value creation and vulnerability is needed. Future research will also take into account the vulnerabilities and risks related to value creation in product–service networks.

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Keywords

Product-service systems, service supply networks, value creation

Harmonization of ICT in Supply Chain Management Systems: Status Quo and Advanced Approaches

Florian Maurer

Vorarlberg University of Applied Sciences, Austria
florian.maurer@fhv.at

Jens Schumacher

Vorarlberg University of Applied Sciences, Austria
jens.schumacher@fhv.at

Introduction

Rigid systems like supply chains (SC) are in form and content subject to a close coupling of planning and control tasks. Consequently, SCs are depending on early, reliable and continuous exchange of data regarding planning status, physical flow of goods as well as their tracking and tracing. As the stakeholders alongside the SC might have different and numerous ICT-systems with different technological status quo, feature sets and characteristics in use, the technical integration of supply chain stakeholders into a seamless, end-to-end data chain is a substantial challenge in the field of SC management.

The EC Framework Programme 7 project iCargo deals with this challenge and aims at creating a platform for cooperative and coordinative collaboration in transport logistics and supply chain management. The ambition is to build a Common Framework which provides the means necessary for communication and information exchange between the SC stakeholders involved in transport logistics management. The Common Framework supports standardized data exchange between individual partners - based upon their assigned roles - in the transport logistics processes and connecting to legacy systems on basis of lightweight and efficient web-based applications to make end-to-end transports visible. Thereby, the Common Framework facilitates improved interoperability between the information systems used by all stakeholders.

Purpose of this paper

The purpose of this paper is to introduce the iCargo Common Framework to a wider interest group in research and industry. Main pillars of this paper will be an extensive literature research about (*past and present*) technical data exchange solutions (*to enhance supply chain connectivity, unification and digitalization*) for transport logistics and SC management, the introduction of the iCargo approach towards the Common Framework, a comparison and the visualization of the improvements concerning the detected methodologies.

Design / methodology / approach

The paper consists of four chapters. On basis of an extensive, structured literature research, the first chapter highlights and defines ICT-systems in use in transport logistics and SC management. The second chapter presents the Common Framework in detail. Basis for the presentation are project outputs including expert and user interviews. Afterwards we present a comparison of identified ICT-systems and the Common Framework. Chapter four concludes the paper, summarizes the findings and offers an outlook as basis for further in-depth discussions.

Findings and practical implications

Based on the findings of the literature research and the outputs of the iCargo project, the practical implication of this paper is an extensive overview of supply chain transparency and intelligence via seamless ICT integration of supply chain stakeholders.

Keywords

iCargo, eFreight, Harmonization, Standardization, Common Framework, Data Exchange, Information Sharing

References

<http://www.i-cargo.eu/>

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A Study on the Auto Pallet Feeding System for Palletizing Operation

Dong Woo Son, Woo Ram, Kim, Yoon Seok Chang and Hyeon Cheol Choi*

School of Air Transport, Transportation and Logistics, Korea Aerospace University,
Republic of Korea

*corresponding author

Purpose

Due to the increasing need for unit load, the demand for palletizing system is also increased. As a result, there has been big interest in efficient and high-speed palletizing technology and equipment. This paper introduce an Auto Pallet Feeding System that automatically supplies pallet to replace manual forklift tasks and also compares various dispatching rules for conveyor-type palletizers to improve operational performance.

Design/ Methodology / Approach

In this paper, the authors have conducted a research to enhance the operational efficiency of conveyor-type palletizers which are equipped with Auto Pallet Feeding System. The whole research progressed as the following steps:

Firstly, the authors reviewed previous researches proposed for improving palletizing operations and then, reviewed various dispatching rules.

Secondly, authors introduce Auto Pallet Feeding System that could operate various types of pallets and feed a proper pallet on user's demand. Thirdly, the authors developed new dispatching rules that are suitable for the palletizing system and compared with other dispatching rules which were previously studied and widely used.

Findings

Using computer simulation, the authors found that new dispatching rules outperform other dispatching rules.

Value

Most of the existing researches on palletizer were mainly on the cargo loading method to improve operational efficiency without considering setup impact. But this paper suggests the efficient method for conveyor-type palletizer that is able to use two types of pallets with tasks of Auto Pallet Feeding System sorting.

Research limitations/implications

This paper is about auto pallet feeding systems, which is still under development.

Keywords:

Pallet, Palletizer, Auto Pallet Feeding System, Dispatching Rule

Paper Type

Research paper

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The Quality of Outsourced Logistics Service: A Collectivist Culture Perspective

Abdul Khabir Rahmat¹ and Nasruddin Faisal²

¹Researcher, Malaysia Institute of Transport, University Teknologi MARA

²Associate Fellow, Malaysia Institute of Transport, Head of Centre of Studies, FSPU, Universiti Teknologi MARA

Purpose

The purpose of the study is to explore on the elements of outsourced logistics service quality and how the user's satisfaction was formed within the Malaysia national culture context

Research approach

This qualitative study was based on five (5) semi-structured interviews which were carried out with the executive officers and department managers of four logistics providers firms and one manufacturer. The data were analyzed using thematic analysis method.

Findings and Originality

There are four (4) logistics service quality elements identified include timeliness, task accuracy and the condition of the product, and the quality of key contact personnel. There are eight (8) other elements leading to satisfaction which is not within the original logistics service quality theory. They include efficient, consistent service, responsiveness, ensuring customers' reputation, sensitive to other people feelings, taking blame to ensure satisfaction, emotional closeness between personnel and the family as a base of identity.. Rather than the organization's performance-related factors, the results revealed that, within the Malaysian national culture context, there are influence of the cultural element towards customer satisfaction.

Research impact

This study has explored various ways in which the cultural values play significant roles in the logistics service quality and customer satisfaction among users towards their third party logistics service providers

Keywords

Logistics Service Quality, Customer Satisfaction, National Culture, Third Party Logistics, Cultural Values

Category of the paper

Conceptual paper

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Section 4: Complexity, risk and uncertainty

The Relationship between Logistics Capabilities and Supply Chain Uncertainties and Risks in the Third Party Logistics: A Conceptual Framework

Michael Wang, Ferry Jie and Ahmad Abareshi

Postal address: RMIT University, GPO Box 2476, Melbourne, Victoria 3001, Australia
School of Business IT and Logistics, RMIT University, Melbourne, Australia

Purpose of this paper

The paper aims at investigating logistics capability, supply chain uncertainty and risk in the third party logistics (3PL), and to develop a conceptual framework of role of logistics capabilities for mitigating supply chain uncertainties and risks in the 3PL based on resource based view (RBV).

Design/methodology/approach

This study proposes a RBV approach to mitigate the supply chain risks and uncertainties in SCRM. Based on the RBV, Logistics capability qualifies to be a distinctive capability in the integrative strategic process due to the expected benefits of improving firm efficiency and effectiveness leading to long-term firm profitability and survival. In contrast, supply chain risk and uncertainty influence decision makers in the supply chain resulting in ineffectiveness and inefficiency. This paper, therefore, gives an attempt to develop a conceptual framework for mitigating supply chain risks and uncertainties by adopting logistics capabilities.

Findings

Logistics capability and supply chain uncertainty and risk are important concepts in supply chain and logistics. However, there is less attention has been paid to the relationship between them. Logistics capabilities have been shown to be valuable factors in enabling firms to respond and manage problems in an efficient and effective manner. Separate firms may face different supply chain uncertainties and risks based on the vulnerabilities and circumstance, and it is difficult to provide a standardised resolution to cope all different kinds of uncertainties and risks. However, using these companies' capabilities and resources to mitigate supply chain uncertainties and risks may be possible.

Practical implications

A conceptual framework for mitigating supply chain risks and uncertainties by adopting logistics capabilities based on RBV. This would result in the development of a practical guidance for managers developing and deploying logistics capabilities to support and enable their supply chain risk management strategies from a RBV perspective.

What is original/value of paper

This study proposes a RBV approach to manage the supply chain risks and uncertainties by deploying logistics capabilities in 3PL.

Keywords

Supply chain uncertainty and risk, logistics capability, third party logistics, supply chain and logistics.

Category of the paper

Conceptual paper

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Rethinking "Transformation" in Fresh Food Chains

*Per Engelseth**

Molde University College
Postboks 2110, 6402 Molde, Norway
*Corresponding author: peen@himolde.no

Purpose

This study directs focus to particularities of food chains, where due to food safety and quality concerns coupled with traceability requirements, an end-to-end perspective is usually required to efficiently carry out supply chain management as well as for analytical purposes. Supplies of fresh foods include the challenge of handling materials perishability, often coupled with end-user demands that the product should be fresh and resemble as much as possible the original state of the food product upon harvest. While manufactured goods provide customer value through transformation of form factors, in fresh foods preservation is more likely the logistical aim. Likewise as in distributing manufactured goods, the distribution of fresh foods demands logistical transformation. This indicates that the logistics of fresh foods involve a combination of preservation and transformation aims to create value from the perspective of an end-user in a complete fresh food supply chain. The purpose of this paper is accordingly to model value creation of fresh foods through an end-to-end supply chain as balancing of change and non-change factors associated with value creation to provide customer value.

Design/methodology/approach

An end-to-end case study of banana supply including its use of packaging from Costa Rica through Hamburg in Germany to Norway is provided. At core this case describes the materials transformation of this climacteric fruit that undergoes ripening after harvest; a fruit cultivated and thereby designed for industrial distribution involving harvesting in an unripe state and conscious manipulation of this state as orders direct the place and time of delivery. Since customer value is associated with transaction events, and the studied banana flow is order driven, orders are described as materials flow drivers. The case narrative is designed in accordance with Alderson's transvection model from classic marketing channels thinking in the 1950-ies and 1960-ies. This model directs analysis to the end product as point of departure and tracing the product upstream uncovering a piecemeal stepwise transformation processes where transformation is directed by intermitted decision-making events termed by Alderson as "sorts". This model is in the literature review presented and discussed in relation to and adapted to contemporary supply chain management thinking rendering integration as a key reasoning in how to design and organise logistics in this study.

Findings

The study provides an end-to-end model of fresh food distribution that describes the logic of transformation, following the transvection model, as a mixing of measurable time, place and form features of products. It emphasises variation in transformation. Analysis also elaborates on how in the provided description of the banana chain production and logistics are intertwined also after harvest due to fresh food particularities.

Research limitations/implications

A case study provides grounds for theoretical generalizability; to create theoretical understanding at an aggregate level implying theoretically driven case inquiry as well as empirically based model creation; an iterative process between theory and substance. Actual findings from the case study itself must therefore be clearly theoretically based, interpreted and discussed through theory before considering transferability of these case findings in other types of supply chains.

Value

The developed model emphasizes that customer value is dependent on responsive suppliers. However, responsiveness involves differences in how value is created through material transformation. "Transformation" accordingly involves predominately preservation; material flow "non-change" regarding form factors of the goods in fresh food chains. In the analysed fresh food chain responsiveness to customers represents not predominately quick response, but manipulating combinations of time, place and form features including holding back on some transformations while boosting others in an intricately timed and sequentially dependent flow of goods. This represents a new way to understand and model supply chains adapted to industrial particularities facilitating decision-making.

Keywords

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Logistics Efficiency and Corruption: Evidence from Emerging Markets in Asia

*Yen-Chun Jim Wu^{*1}, Mark Goh², Chih-Hung Yuan³ and Tienhua Wu⁴*

¹³ Business Management, National Sun Yat-Sen University, Kaohsiung, Taiwan

² NUS Business School, NUS and University of South Australia, Singapore

⁴ Air Force Institute of Technology, Kaohsiung, Taiwan

Purpose:

Today, there is a strong focus on improving logistics capabilities and efficiency for greater trade competitiveness but in emerging economies, the issue of informal logistics facilitation or corruption remains a thorny issue. Improving corruption control greatly enhances a country's logistics efficiency. This study posits that a relationship exists between logistics efficiency and corruption.

Design/methodology/approach:

Drawing from a sample of emerging and developed economies from 2005 to 2012, this study employs the revealed competitiveness model and panel data econometric method to empirically investigate the relationship between corruption and logistics efficiency.

Findings:

The results show that the relationship between logistics efficiency and corruption exhibits concavity for emerging markets in Asia but is convex for advanced economies.

Research limitation /implication:

This paper analyses the state of the logistics industry based on the data of the import and export of goods. However, for many countries, such information is not complete or missing, or data for certain years. This means it is not possible to assess the competitiveness of logistics services, and the relationship with corruption cannot be established. Also, removing countries with incomplete information effectively reduces the sample size, and this may make generalization of the results difficult.

Practical implication:

MNCs find it tough to do business in emerging markets due to corruption, lack of transparency, and uncertain laws. Emerging markets in Asia have diversity, corruption, culture and geographies; these factor will have greater impact on supply chain effectiveness and logistics operations (Millar 2013). With this study, MNCs can now benchmark appropriately and set clearer business objectives with quantifiable goals, all of which would support logistics efficiency and trade performance.

Value:

Our work contributes to the greater picture of trade competitiveness, logistics efficiency and corruption. The results will enable emerging economies which are developing rapidly to understand their position on logistics competitiveness. Policy makers can place more importance on their weaknesses and improve their logistics by implementing new strategies and craft economic policies to lower cost for a long-term corruption-free network (Cheon, Dowall, and Song 2010).

Keywords

Logistics efficiency, Corruption, Emerging markets, Asia, Panel data, Econometric

Article Classification

Research Paper

* Corresponding author

Exploring Supply Chain Sustainability Risks of UK Fashion Retailers

Piyya Muhammad Rafi-Ul-Shan

Logistics Institute, Hull University Business School, UK

Purpose

This paper reports on a work-in-progress PhD research study identifying how UK fashion retailers are managing supply chain sustainability risks. Sustainability is a growing debate in the fashion sector, which is global and highly fragmented. It has been blamed for its heavy use of chemicals, reliance upon natural resources, to name a few of the issues making the industry vulnerable to unforeseeable threats (Caniato et al. 2012). This can cause serious operational disruptions and the potential shut-down of business. Further, advancements in IT and the growing power of social and environmental organizations have increased consumer visibility of supply chain operations. Hence, consumers today are more aware of the environmental and social impacts of products they are buying (Anderson and Anderson, 2009).

Methodology

This research adopted a multiple case study approach (Yin, 2009). Six UK fashion manufacturers/retailers of luxury fashion brands were selected and the selection criteria enabled the exploration of sustainability risks over a number of years and the changing nature of risk and management strategies. Four companies have been investigated to date using semi-structured interviews conducted with forty supply chain, design, sourcing, sustainability and risk management managers. Thematic analysis was used to analyse the data and report the findings to date on a within-case basis.

Findings

The following factors were identified as the key risks to the future sustainability of UK fashion supply chains: Innovation management, brand image, culture and organizational design. This paper shows that UK fashion companies are more susceptible to sustainability risks and highlights ways in which companies from this volatile sector can better respond to the growing challenges of sustainability risks. This research can be of value to other supply chains operating in similar volatile and short lifecycle markets such as high-tech electronics sector where sustainability risk management tools and strategies could be adapted to improve understanding and preparedness for managing sustainability risks.

Research Limitations

This study only focuses on the UK fashion sector and is in-progress, thus findings are limited to this sector.

Practical Implications

Sustainability risk management tools and strategies suggested in this paper will enable UK fashion companies to manage sustainability risks, reduce costs, ensure operational continuity and overall supply chain profitability.

Category

Research Paper

Keywords

Sustainability, risk, sustainability risk, fashion, supply chain management

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Corporate Social Disclosure in the Australian Retail Sector

Suraiyah Akbar¹ and Kamrul Ahsan²

¹College of Business, RMIT, Melbourne, Australia, E: suraiyah.akbar@rmit.edu.au

²College of Business, Victoria University, Australia, E: kamrul.ahsan@vu.edu.au

Purpose of this paper

Corporate social responsibility (CSR), which focuses on how businesses deal with their environmental, social and economic impacts, is a top priority for many organizations (Porter & Kramer 2006). The term CSR is used interchangeably with overlapping concepts such as corporate citizenship, business ethics, stakeholder management and sustainability (Carroll & Shabana 2010). CSR as a strategic practice is considered key to organizational success, as it contributes to a healthy bottom line and long-term sustainability (McWilliams, Siegel & Wright 2006). An issue of great significance to business is the public disclosure and reporting of issues that impact on CSR (Chen & Bouvain 2009). Studies find an increase in company CSR reporting practice over time which demonstrates the growing importance placed on sustainability issues (Kolk 2008). This paper examines CSR reporting practices in the Australian retail industry. Despite research on CSR issues within various Australian business sectors, there is limited research focusing on Australia's retail sector. An examination of CSR disclosure in the retail sector will give insight into how Australian retailers have incorporated CSR into their business.

Design/methodology/approach

To attain a broad picture of CSR issues addressed by leading Australian retailers, the top 25 single ownership retailers in Australia were selected for study. An internet search for publicly available CSR related information on each of the retailers was undertaken. Selected disclosures relevant to the research include company annual reports, stand-alone sustainability reports, and online CSR information presented on company websites. Corporate social disclosure of the retailers was examined using content analysis method (Krippendorff 2012). Content analysis is the research method most commonly used to study social and environmental disclosure of an organisation (Parker 2005).

Findings

Analysis shows that leading Australian retailers have diverse approaches to CSR with substantial variation in the medium, the extent, and the content of CSR disclosure. We find that only a few retailers present CSR as an essential component of their business. These companies can help establish a model of best practice for CSR disclosure in the Australian retail sector.

Originality/Value

Addressing the lack of research on CSR issues within the Australian retail industry, our study examines CSR reporting practices of leading Australian retailers. Our research implies that the majority of leading retailers need to improve their sustainability commitment.

Research Limitations

The sample set of 25 leading retailers, though adequate for the methodology employed, may be increased for future empirical study. Further related research involving cross-country comparison of international retailers and retailers in other OECD countries may also be undertaken.

Practical Implications

Our research findings can help retailers develop more effective CSR policies in line with those companies identified as having successfully integrated CSR into their business strategy.

Keywords

Corporate social responsibility (CSR), CSR reporting, Sustainability, Retailers.

Paper type

Research paper

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Assessing and Managing Supply Chain Risk the Case of Vietnam Pangasius Processing and Exporting Companies

Thi Huong Tran and Sebastian Kummer

Vienna University of Economics and Business, Austria.

Purpose of this paper

Due to the worldwide demand of fish and fishery products, seafood farming and processing is one of the fastest growing industries. However, the chain from "farm-to-fork" has to face many types of risks starting from the fish hatchery and feed production, through the fish farming and processing, up to distribution. This paper will use pangasius supply chain as an example with the purpose of assessing criticality and analyzing perception, behavior and strategies to deal with supply chain risks of processing and exporting companies.

Methodology

We use a three-step approach. Starting with literature review, authors identify the supply chain risks profile. Secondly, survey of pangasius companies is conducted to assess these supply chain risks through two indicators: Occurrence and Impact. Collected data is analyzed by descriptive statistic with Excel and R program. Research finalizes with the qualitative in-depth interviews with six different pangasius enterprises. Then, interview records are investigated by content analysis method to strengthen result of survey and explore risk awareness, risk evaluation and risk management measures.

Findings

The study found that vulnerable link between focal companies and farms is one of the most significant risks in supply chain. There are strong relationships between level of risks and firm's characteristics, especially two characteristics: backward vertical integration level and ability to ensure supply source. Most companies deal with supply chain risk proactively, implement successfully the backward vertical integration strategies.

Research limitations

This paper was limited by its focus on the processing and exporting companies which, however, is sufficient with research scope standing at the point of view of these enterprises. The future research should study more entities in to have more comprehensive view about supply chain.

Practical implications

This research provides the status quo of risks and risk management in Vietnam pangasius supply chain. It shows benefits of backward vertical integration in mitigating supply risk and suggests the forward integration to deal with risks on demand side.

Value of this paper

In previous literature, there are many studies on risk management in seafood supply chain. However, most of papers focused on farmers while the processing and exporting companies, which have considerable contributions, received very little interest. This research provide comprehensive assessment about supply chain risk and risk management suggestions to supply chain managers as well as governments regarding the seafood industry.

Keywords

Seafood, risk assessment, supply chain risk management

Category of the paper

Research paper

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Methods to Assess Supply Chain Risk: A Literature Review and Classification Framework

Mario Dobrovnik, Thi Huong Tran and Sebastian Kummer

Institute for Transport and Logistics Management
Vienna University of Economics and Business, Austria

Purpose of this paper

Besides the considerable benefits of globalization, one of the main challenges is that international supply chains have to cope with substantially growing risk. This issue is addressed in an increasing number and wide variety of papers in the field of supply chain risk management. The aim of this paper is to explore the development of supply chain risk assessment research and to systematically structure it by providing a classification framework.

Methodology

This research is based on a systematic, content-analysis based literature survey and citation analysis. The analyzed body of literature is collected by performing keyword search in scientific databases and library services. Peer-reviewed articles published in scholarly journals are regarded as the main source of information. In a next step, the document collection is analyzed in a descriptive way. Afterwards, the papers are classified based on their content. De-contextualization and theory-led abstraction then allow for claiming a certain degree of generalization for the findings. This critical synthesis of the reviewed literature serves as the basis for developing research propositions.

Findings

The literature review classifies a diverse set of papers covering different techniques to assess supply chain risk, ranging from qualitative to semi-quantitative and quantitative models as well as mixed methods. The analysis shows that the body of literature is 'biased' towards quantitative techniques. Few contributions consider purely qualitative models. While the area of mixed method research can be described as nascent, there is still only little research conducted on a methodological or conceptual level.

Value of this paper

Supply chain risk management in general and supply chain risk assessment in particular are of utmost importance for contemporary enterprises and therefore constitute important factors affecting the sustainability of global supply chains. This paper on one hand provides the basis for academic research to improve existing or develop new techniques and models. On the other hand, by providing a preliminary overview of available assessment alternatives, it serves as a decision aid for supply chain risk managers. It enables them to choose appropriate methods for assessing the supply chain risks of their enterprises, which is a prerequisite for achieving sustainability and competitiveness.

Keywords

Supply chain risk assessment, Literature review, Classification framework

Category of the paper

Literature review

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The Research of the Onset and Prevention Factor of Sports Injuries by the Basketball

Takashi Matsumoto¹, Yukio Maruyama² and Hisashi Yamamoto¹

¹ Tokyo Metropolitan University

² Nippon Institute of Technology

Purpose of this paper

Basketball is a competition of non-contact with the mating on the rules. In basketball rules, it is prohibited to contact to the mating. But, in fact, fairly strong contact occurs and it leads to onset of sports injury. From the characteristics of the competition, many disorders or trauma to the lower extremities onset by repeating the dash or jump.^{1,2}

For each of injury site, injury of hand portion (including list and finger) and forearm are many in upper limbs and injury of ankle is many in the lower limbs. At the top level, injury of foot, ankle, knee joint, back and lumbar region are many.¹

Prevention of sports injuries is one of the most important problems on sports. So, the coaches or players have to keep in mind about onset factor of sports injuries. However, there is a little research for onset and prevention factor of sports injuries.

Purpose of this research is to alert the coaches or players by revealing the factors leading to onset and prevention of sports injuries and proposing the preventive measure.

Design/methodology/approach

We have used logistic regression analysis and poisson regression analysis, typical analysis of count data. From these analysis, we have revealed the onset factor of sports injuries of muscle and joint and we showed the preventive measure.

It is generally to use odds ratio for consideration to logistic regression analysis. However, this method has following two problems.

1. It is possible to read whether changes in the explanatory variables affect to increase or decrease in the incidence from odds ratio but it is difficult to read specific values how much it increase or decrease incidence.

2. About event whose incidence is high to the same extent, it is difficult to judge cause of increasing incidence is "Explanatory variables of a certain one is a significant impact" or "Explanatory variables of multiple mutually influence little by little and the incidence increase by its technology together".

In order to solve these two problems, we use the method by Takada³ in this research. We will described in detail of analysis on full paper.

In addition, we use regression coefficient for consideration to poisson regression analysis.

Findings

We revealed following two results.

1) We revealed practice time has greatly affection by onset of sports injuries of muscle and other factors have less. Keeping from excessive training is the most simplest and effective method of preventing sports injuries of muscle.

2) Run training is effective in preventing of sports injuries of joint. But, it varies to onset factor of sports injuries by doing at the same time it and training of different purpose. So when doing run training, you have to do only it and you must not do it along with training of different purpose.

In future work is following.

Considering why the difference came out in these high school only by sports injuries of joint. Revealing more specific preventive measure by analyzing in consideration of mechanism of injury.

What is original/value of paper

Prevention of sports injuries is one of the most important problems on sports. In recent years, we make effort to detect the risk factors and to take precautions in advance for reducing incidence of sports injuries. However, the criterion for determining priority of prevention factors is unclear.

So, we reveal the factors leading to onset and prevention of sports injuries. We thought we can set this

criterion by using these.

Keywords

sports injury, logistic regression analysis, poisson regression analysis, basketball

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Decision-Support for Responsible Risk Handling in Logistics Agglomerations

C Breuer¹, G Siestrup¹ and H-D Haasis²

¹Hochschule Furtwangen University, Faculty of Business Information Systems,
Robert-Gerwig-Platz 1, 78120 Furtwangen, Germany
E-Mail: Claudia.Breuer@hs-furtwangen.de, Guido.Siestrup@hs-furtwangen.de

²Institute of Shipping Economics and Logistics (ISL),
Universitätsallee 11-13, 28359 Bremen, Germany
E-Mail: Haasis@isl.org

Purpose of this paper

Due to the fact that risks are part of every business operation and can never be avoided completely, the responsible design of supply chains requires the examination of safety aspects and the risk-sensitivity of all partners within the supply chain. Additionally, supply chains experience further risk exposure for their business activities owing to the fact that changes in the business environment emerge more rapidly (Schneck 2010).

The handling of negative impacts arising from unforeseen risk events poses an especially great challenge for supply chains. Such negative impacts may disrupt supply chains or can even lead to their complete destruction.

Therefore, our research is focused on rapidly coping with arising risk impacts through decision-support in the case of unforeseen risk events.

Research approach

If an unforeseen event occurs, decisions have to be made under great time pressure and under consideration of many uncertain influences in order to manage the resulting negative impacts and to ensure the value adding activities, which leads to a requirement for decision-support.

In this paper, the conceptual design of a decision-support model, which aims at accelerated decision-making in case of unforeseen events, is presented. The proposed risk-related decision-making support model requires the comprehension of (i) the process of decision-making, (ii) the decision situation and (iii) the knowledge of different possible action strategies, therefore a basic understanding of these topics is highly recommended.

The conceptual design of the decision-support model has a modular structure. Based on the formulation of the pursued objectives, the different modules are presented in the paper and consolidated into a composite methodology.

Freight villages, which represent a special kind of logistics agglomeration, are in the centre of our attention. These represent infrastructural linking points of transport in logistics networks and provide resources for the execution of cross-company value added processes (Sucky 2008).

Findings

The handling of negative risk impacts is rarely considered in literature (Wagner and Bode 2007). Publications, which address disruptions in supply chains are abstract and include little information about the short- and long-term handling of disruptions (Blackhurst et al. 2005).

The presented conceptual design of a decision-support model addresses disruptions in supply chains caused by unforeseen risk events. It also contributes to a responsible risk-related design of supply chains through focusing on the enhancement of the supply chain resilience.

Practical implications

The conceptual design of the decision-support model is focused on rapidly coping with risk impacts through decision-support in case of unforeseen risk events occurring in freight villages. To enable an effective and efficient support in these situations with the aim of managing negative impacts rapidly and ensuring the value added activities, involved companies are included into the development processes of the model. The analysis of two freight villages is also within the scope of our research.

Keywords

Risk management, decision-support, freight villages

Category of the paper

Research paper

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Section 5: Inventory and warehouse management

Price Setting Strategies for Perishable Product at the Farmer's Market

Takeo Takeno*, Mitsuyoshi Horikawa*, Mitsumasa Sugawara* and Masaaki Ohba**

*Iwate Prefectural University, Japan

**Nihon University, Japan

Purpose of this paper:

Recently, Farmer's Market has obtained much attention in Japan, where fresh agricultural products are traded directly between farmers and consumers. At the market, decision making on management, e.g. production, sales and inventory, is farmer's responsibility although these are executed according to their experience and leaders opinions.

Takeno et al. (2013a) presents there are relationship between shelf time and sold price at the farmers market. Then we suppose that the relationship can help decision making of farmers. Takeno et al. (2013b) carried out a questionnaire investigation and showed some analyses on farmers' decision making processes. Through the investigation, they have clarified that farmers can be categorized into three groups according to their production size. Price setting of Middle-size farmers was almost same with average price of the market. These of Large-size farmers and small-size farmers were lower than average and higher than average respectively. The reason was that large-size farmers prevent dead stock of perishable product at the minimum.

Purpose of this paper is to present rationality of farmer's decision and strategies. Outcome is explained through numerical experiments based on newsboy problem structure. Furthermore we make mention about price setting at newsboy problem, in other words perishable product, with mixed size provider.

Design/methodologies/approach:

The problem is apparently same with Newsboy problem. However, Newsboy problem model cannot directly apply to the problem because expected demand distribution is different. In general, random variable of demand distribution is described as number of demand where price becomes the random variable in the problem. Therefore, Newsboy problem cannot be applied to the problem.

We present a mathematical model of Small-size Farmer's Price model comprised with two farmers: Large-scale farmer and Small-scale farmer. In the model, probability of sales produced by the Small-scale farmer is represented according to price of the product. We show numerical examples of the model varied with several combination of parameters: prices and standard deviation of consumer's demand distribution. We also present a numerical experiment on consumer-product matching.

Finally, we have showed characteristics of the model and possibility to set higher price for Small-scale farmer. We have also carried out a numerical experiment. Through the experiment, we have showed that the possibility is much depends on consumer's behaviour and, therefore, expected sales of small-scale farmer is not enough high. Further considerations are necessary especially for consumer-product matching process. Model in this paper could not explain effects of parameters of distribution enough.

Keywords:

Fresh Foods, Supply Chain Management, Inventory Theory

References

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Characteristic Analysis of Production and Inventory Planning System for Marine Frozen Products: A Case of Blue Fins

Koichi Murata, Akihiro Watanabe, Keizo Wakabayashi, Seiichiro Isobe and Kuninori Suzuki

College of Industrial Technology, Nihon University, JAPAN.

Purpose of this paper

The purpose of this paper is a characteristic analysis of current production and inventory planning system for frozen products of blue fins under the instability of the fishery caused by the warming of the earth and an indiscriminate fishing.

Design/methodology/approach

Research procedure of this paper consists of the four steps; 1) Investigation of statistical data, 2) Construction of constructed models, 3) Simulation of production and inventory system and 4) Discussion. In particular, a simulation of step 2 is performed quoted by Vassian's production management theory.

Findings

It is found that the current system is aimed at minimizing a variation of the inventory at the end of the period. Also, in order to correspond to the instability of a material procurement, the future works are discussed. For example, it is necessary to control a variance of amount of materials to plants and to reduce setup time, in particular an exchange of cutting tool, in total processing time without becoming worse of current level of a variance of an inventory at the end of the period.

What is original/value of paper

From the viewpoint of an academic contribution, an application range of Vassian's theory will be expected to spread to sea food processing industry. Also, this paper provides fundamental materials for knowing a conventional system to Japanese frozen fish product makers as a practical contribution.

Keywords

Production and Inventory Planning System, Frozen processing industry and Simulation.

Category of the paper

Research paper

References

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An Influence Diagram Model for the Assessment of Global Supply Chain Configurations

Chien-wen Shen¹ and Yu-Yih Song²

¹ Department of Business Administration, National Central University, Taiwan

² Department of Logistics Management, National Kaohsiung First University of Science and Technology, Taiwan

Purpose:

Making choice of suitable global logistics framework is practically important for business operations. However, previous related studies usually discuss the conceptual frameworks, which may not be useful for the evaluation of decision alternatives. Although optimization models have been applied for global logistics configurations, these models only focus on the allocation of resources among competing logistics activities to optimize measurable objectives, not on the decision-making of logistics framework alternatives. Besides, most of the related studies ignore the consideration of free trade zone, which has been pushed by over 100 countries for attracting foreign investments. Hence, this research aims to provide systematic assessment tools for the manufacturers located in the domestic tax-exempt areas when they face the decision choices of global logistics configurations.

Design:

Common types of global logistics configurations are proposed first to improve the understanding of global logistics flows with the free trade zone consideration. We adopt the approach of influence diagram to develop a decision support model for the evaluation of global logistics configurations with the objective of maximum profits. Besides, von Neumann-Morgenstern utility is used to depict decision makers' preferences with regard to uncertain outcomes. Because the computation time of usual influence diagram inference would grow exponentially as the number of random nodes increase, Shachter and Peot's algorithm can be applied to transform the proposed influence diagram model into Bayesian networks for efficient probabilistic evaluation. Finally, a case study is illustrated to support the applicability of the proposed approach.

Findings:

The developed influence diagram model includes the factors of production cost, transportation cost, procurement cost, labour cost, fixed cost, land cost, taxes, market size, labour quality, infrastructure quality, political stability, openness of government policy, efficiency of government administration, and culture distance. The case study is based a decision selection problem of global logistics configurations faced by a provider of semiconductor packaging and manufacturing services. The inferences from our proposed approach suggest that full domestic operations is the best configuration for this company.

Value:

The proposed influence diagram model is based on the consideration of free trade zone, where normal trade barriers are removed and the bureaucratic necessities are narrowed. Our proposed approach is not only practical for wide industry-wise adoption, but also applicable for team decision analysis, because it allows incomplete sharing of information among team members to be modelled and solved explicitly.

Keywords

Supply chain, Free trade zone, Influence diagram, Decision support

Category of the paper

Research paper

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The Links between Business Process Management and Supply Chain Collaboration: A Literature Review

Jiraporn Pradabwong^{1*}, Christos Braziotis², James Tannock³ and Kulwant S Pawar²

^{1, 2}Nottingham University Business School, Wollaton Road, Nottingham, NG8 1BB, UK

³Hull University Business School, Cottingham Road, Hull, HU6 7RX, UK

*Corresponding author: lixjp8@nottingham.ac.uk

Purpose

The link between a firm and Supply Chain members is one of the key issues for ensuring business success and achieving competitive advantage, which has been recognised by various researchers (e.g., Cagliano *et al.*, 2006). Supply Chain Collaboration (SCC) is viewed as an important vehicle for improving performance. Previous SCC research has not adequately addressed the role of Business Process Management (BPM), which is considered crucial for leveraged performance (Simatupang and Sridharan, 2008). This is probably due to the fact that most studies of BPM are typically narrowly defined, focusing on aspects within the organisational boundaries.

By reviewing seminal and extant literature, this paper aims to identify the interrelationship between BPM and SCC. Subsequently, research gaps and opportunities in the form of research agenda are uncovered.

Design/methodology/approach

The literature was collected using a multitude of sources, including books and academic journals. Online databases, such as ABI/INFORMS Global and Science Direct assisted in the initial collection of relevant academic papers. Academic journals focusing on the fields under investigation were also sought, such as "Journal of Operations Management" and "Supply Chain Management: An international Journal".

Findings

BPM and SCC are vital for improving collaborative advantage and organisational performance. Prior studies have treated them as individual components and have been studied separately (e.g., Zacharia *et al.*, 2009). Based on an extensive review, we shed light on the link between BPM and SCC. Different types of relationships between BPM and SCC were identified in the form of a taxonomy. The configurations were distinguished by different levels of internal and external collaboration.

Value

We provide an overview of the current knowledge on BPM, SCC and the associated benefits in terms of collaborative advantage and organisational performance. A taxonomy in the form of a matrix was developed to classify diverse types of relationships. This review aims to suggest avenues for the development of further understanding in relation to how SCC and BPM interrelate, and combined drive collaborative advantage and organisational performance. Specifically, we highlight that relatively little empirical evidence is available. Thus, a research agenda and directions are provided for future research.

Keywords

Business Process Management, Supply Chain Collaboration, Literature Review.

Category of the paper

Literature Review.

References

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The Adoption of VMI in Hospital Pharmaceutical Supply Chains

Sineenart Krichanchai and Bart L. MacCarthy

Operations Management and Information Systems Division
Nottingham University Business School, United Kingdom

Purpose

The study investigates Vendor Managed Inventory (VMI) approaches in hospital pharmaceutical supply chains, particularly between hospitals and major distributors, to identify factors that affect its adoption.

Design/methodology/approach

Multiple case studies have been conducted involving five healthcare organisations (three hospitals, one distributor, and one supplier) in a developing economy. Triangulation techniques have been used in data collection, including interviews, site visits and document analysis to enhance the reliability and validity of the study.

Findings

Four factors have been identified that affect the adoption of VMI approaches - supplier characteristics, hospital characteristics, supply chain characteristics and product characteristics. The results show that differences in these characteristics can either accelerate or raise barriers to VMI adoption. The type of supplier and their capabilities affect the willingness to implement VMI. Public sector suppliers focus on improving service level while private sector suppliers aim to strengthen relationships with key customers. Hospital characteristics, including the type of hospital, top management perspectives, and the hospital's willingness to share information, are critical in decisions on VMI initiation or termination. Both the distributor and the hospital need to agree how VMI will be implemented. This includes agreement on the flow of information and materials and on replenishment policies to ensure the application of VMI brings benefits to both parties. With regard to product characteristics, relatively stable demand products were suggested by both supply and demand partners as suitable for a VMI approach.

Value

The paper provides supply side and demand side perspectives on VMI adoption in hospital pharmaceutical supply chains. It adds to the empirical evidence on VMI practice in an important sector. Multiple case studies have been conducted in a developing country. Literature related to VMI in pharmaceutical supply chains in developing countries is still limited.

Research limitations

A limitation of this study is that all case studies have been conducted in one country. This may limit generalisation of the findings. The study could be replicated in other countries.

Practical implication

The literature has generally advocated VMI as being beneficial in many supply contexts. However, it may be challenging to implement a VMI approach in a specific context. This study identifies a range of factors affecting the adoption of VMI in hospital pharmaceutical supply chains, which can help practitioners in the sector in considering the feasibility of VMI and in deciding whether VMI should be adopted.

Keywords

Hospital pharmaceutical supply chains, Vendor managed inventory, Collaboration, Healthcare

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The Implications of Judgemental Interventions into an Inventory Control System

Aris Syntetos¹, Inna Kholidasari², Chiara Gobbi³ and Mohamed Naim¹

¹Logistics & Operations Management, Cardiff University, UK

²Management Science and Statistics, University of Salford, UK

³Department of Operations, Copenhagen Business School, Denmark

Purpose of this paper:

Physical inventories constitute a considerable proportion of companies' investments in today's competitive environment. The trade-off between customer service levels and inventory investments is addressed in practice by formal quantitative inventory management (stock control) solutions. Given the tremendous number of Stock Keeping Units (SKUs) that contemporary organisations deal with, such solutions need to be fully automated. However, managers very often judgementally adjust the output of statistical software (such as the demand forecasts and/or the replenishment decisions) to reflect qualitative information that they possess. In this research we are concerned with the value being added (or not) when such statistical/quantitative output is judgementally adjusted by managers.

Design/methodology/approach:

Our work aims to investigate the effects of incorporating human judgement into inventory related decisions and it is the first study to do so empirically. First, a set of relevant research questions is developed based on a critical review of the literature. Then, an extended database of approximately 1,800 SKUs from an electronics company is analysed for the purpose of addressing the research questions. In addition to empirical exploratory analysis, a simulation experiment is performed in order to evaluate in a dynamic fashion what are the effects of adjustments on the performance of a stock control system.

Findings:

The results on the simulation experiment reveal that judgementally adjusted replenishment orders may improve inventory performance in terms of reduced inventory investments (costs). However, adjustments do not seem to contribute towards the increase of the cycle service levels (CSL) or fill rates.

Value & practical implications:

Since there have been no studies addressing similar issues to date, this research should be of considerable value in advancing the current state of knowledge in the area of inventory management. From a practitioner's perspective, the findings of this research may guide managers in adjusting order-up-to levels for the purpose of achieving better inventory performance. Further, the results may also contribute towards the development of better functionality of inventory support systems (ISS).

Research limitations/implications:

This study is the first of its kind. Further research is needed in terms of reaching generalisable conclusions through other datasets (companies) and other inventory policies used in practice.

Category of paper

Research paper

Keywords

Inventory control, human judgement, decision support systems (DSS)

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Noncompliant Fulfilment Behaviour in Retail Supply Chains

Alexander Trautrimis¹ and Katri Kauppi²

¹Nottingham University Business School, Operations Management and Information Systems Division, United Kingdom
alexander.trautrimis@nottingham.ac.uk

²Aalto University School of Business, Department of Information and Service Economy, Finland
katri.kauppi@aalto.fi

Purpose of this paper

The paper investigates maverick behaviour in retail supply chains with a focus on the in-store replenishment operations. Supply chain research is often mainly concerned with the investigation and optimisation of systems without consideration of humans potentially working around set policies and process flows – thereby making the assumption that employees adhere to prescribed processes. The paper addresses this gap by applying and transferring existing theory from maverick buying to fulfilment processes in retail supply chains.

Design/methodology/approach

The paper is based on a content analysis of interviews with employees involved in in-store replenishment at different hierarchical levels at six European retailers.

Findings

The findings support the adaptability and transferability of theory from maverick buying to further and lengthier processes in the supply chain. However, due to differences between the nature of replenishment operations and buying, extensions and additions are identified in the theory transfer.

Implications

The paper provides a structured framework for managerial considerations of maverick behaviour in fulfilment processes and sets a base for further research into maverick behaviour in supply chain processes. Furthermore, it demonstrates the validity and transferability of non-compliance research in the purchasing function to other functions in supply chain and thereby strengthening the generalisability of maverick buying knowledge.

Keywords

Non-compliance, retail supply chains, maverick behaviour, in-store replenishment, retail logistics

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Section 6: Customer- Suppliers collaboration and relationships

Economic Lot-sizing Optimisation under the Carbon Emission Constraint

X. J. Wang and S. H. Choi

Department of Industrial and Manufacturing Systems Engineering
The University of Hong Kong, Pokfulam Road, Hong Kong

Purpose

The vast majority of physical and biological systems on the earth have reportedly been affected by huge regional and global climate abnormalities resulting from excessive emission of carbon dioxides (CO₂) and other greenhouse gases (GHGs), such as nitrous oxide (N₂O) and methane (CH₄) (Parry et al. 2007). This environmental issue has increasingly aroused worldwide attention in recent years. Despite huge progresses in carbon abatement (Absi et al. 2013), few research studies have reported on the impacts of carbon emission reduction mechanisms on manufacturing optimizations, which often leads to environmentally unsustainable operation decisions and misestimation of profitability. This paper thus attempts to explore carbon management and production planning under the carbon emission constraint under the stochastic manufacturing environment.

Design/methodology/approach

The queuing theory is used to formulate the uncertain make-to-order manufacturing environment with the lot sizing policy (Govil and Fu 1999). The stochasticity involved in the model is characterized by their own probabilistic merits without any unrealistic assumptions on them, so as to improve the generality as well as exactness of the proposed approach. Carbon emission is incorporated into the production model to explore its effects on the optimal lot size and profit.

Findings

Numerical experiments illustrate the significant influences of carbon emission constraints on the dynamic decisions of the lot sizing policy. The results highlight the critical roles of carbon management in production planning for the environment benefit. However, the environmental and social benefits are achieved at the cost of reducing manufacturing firm's economic earnings.

Originality/Value

This research formulates a common lot sizing batch manufacturing issue under the stochastic make-to-order environment. Incorporation of carbon emissions into it improves its practicability and extendibility in the real-world production optimisations.

Research limitations/implications

The scope of this research is limited to the single-product manufacturing environment. Nonetheless, the results still provide managerial insights into operations management to help to mitigate environmental deterioration arising from carbon emissions. It is of great significant especially when an increasing number of countries and regions are making efforts to control the GHG concentration in the atmosphere.

Keywords

Production planning, Carbon emission, Lot sizing, Stochastic, Make-to-order

Paper type

Research paper

References

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Framework for Customer Collaboration: A Case Study in FMCG

Hacı Ahmet Kurtaran, Asad Ata and David Gligor

Malaysia Institute for Supply Chain Innovation

Purpose of this paper

This paper aims to help companies looking to collaborate with their customers answer three essential questions:

- i. How should customer segmentation be conducted from a supply chain management point of view?
- ii. What collaboration levels are appropriate for different segments?
- iii. What are the driving forces and resisting forces of creating customer buy-in for collaboration and how do they interact with each other?

Design/methodology/approach

The work proposes a framework to segment customers from the point of view of an FMCG manufacturer, to achieve supply chain collaboration with the customer as the focus, by matching customer segments with different collaboration levels on a Delta Model framework. It uses a System Dynamics approach to understand the driving and resisting forces of creating customer buy-in to collaborate. The model is developed in collaboration with and is applied on a global FMCG's Malaysia operations.

Findings

Segmentation results were welcomed by the Case Study Company and a decision to implement the results has been taken. System Dynamics analysis suggested six input variables that can be utilized to create customer buy-in. Among those, Case Study Company's investment in supply chain training and people skills is identified as the most influential input to achieve customer buy-in. In cases where the interplay of cost of transformation, external shocks, internal motives and bargaining power was not enough to achieve customer buy-in, complementor benefits (benefits such as advertising support or bank credit support that are offered to customers) emerged as critical to bridge the gap.

Practical implications (if applicable)

Segmentation approach can be utilized in any customer collaboration case. The simulation approach can be adopted in a number of settings where the variables are qualitative in nature and a binary answer is sought. Some examples below:

- i. Customer satisfaction studies given the effect of various service factors and occasions
- ii. Effect of political campaigns on public
- iii. Reputation of a company given various events / publicities
- iv. Employee morale given various company policies

What is original/value of paper

- i. The suggested customer segmentation approach was crafted during the case study.
- ii. Another analysis of creating customer buy-in using a systems thinking approach wasn't found in literature.
- iii. A System Dynamics methodology to simulate qualitative data was proposed and used in analysis.

Keywords

customer collaboration, customer segmentation, system dynamics

Category of the paper

Case Study

References

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Business Process Management and Supply Chain Collaboration: Critical Comparison of Four Thai Case Studies

Jiraporn Pradabwong^{1}, Christos Braziotis² and Kulwant S Pawar²*

^{1, 2} Nottingham University Business School, Wollaton Road, Nottingham, NG8 1BB, UK

*Corresponding author: lixjp8@nottingham.ac.uk

Purpose

Internal and external business process collaboration are vital for effective Supply Chain (SC) management. Business Process Management (BPM), defined as a process-oriented organisational approach, used to design, analyse and improve business processes to effectively manage and improve organisational performance (Chang, 2006). Supply Chain Collaboration (SCC) has been more recently identified as a means that can lead to increased competitive advantage and organisational performance than when a firm works individually (Cao & Zhang, 2011). Earlier phase in our research empirically tested the interrelationships between BPM, SCC, collaborative advantage and organisational performance in a developing economy, Thailand. The results confirmed positive interrelationships between these relationships. Additionally, the results suggested that BPM practices played a role in SCC with similar benefits across the subgroups of contextual factors (firm size, industry type, closeness and relationship length).

This paper employed four Thai case studies to illuminate the findings from the large-scale survey data analyses. This was achieved by gathering practitioners' opinions to provide an in-depth and detailed understanding of the meanings, actions and experiences of practitioners in their specific contextual situations.

Methodology

Four case companies were selected from the first stage of the large-scale data collection: one medium and one large-sized manufacturing company in both the electronics and automotive manufacturing sectors in Thailand. A semi-structured interview protocol was developed, based on the large-scale survey results (Creswell & Clark, 2011), to conduct the case studies.

Findings

The case study approach resulted in a deeper understanding of the large-scale survey results by returning to the participants for a second round of data collection. The reasons behind the results of the relationships between BPM, SCC, collaborative advantage and organisational performance were explained. The main issues of: (i) the link between BPM and organisational performance; (ii) the link between BPM and SCC; and (iii) the contextual factors and benefits achieved from working collaboratively with SC partners were gained to understand and expand the quantitative findings.

Value

Regarding its theoretical implication, the paper provides empirical evidence on how BPM and SCC interrelate to drive collaborative advantage and organisational performance. This paper addresses important manufacturing sectors, namely automotive and electronics industries in a developing economy, Thailand. In terms of practical implications, the lessons drawn from the case studies incorporate practical mechanisms of BPM and SCC approaches that are critical to offering benefits in terms of collaborative advantage and organisational performance.

Keywords

Business Process Management, Supply Chain Collaboration, Case study

Category of the paper

Case Study

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Exploring Linkages between Consumer Trust and E-SCM in Food Safety: A Case of Taiwanese Enterprises

Narumon Sriratanaviriyakul

Department of Business IT and Logistics, RMIT University Vietnam
702 Nguyen Van Linh
Vietnam

E-mail: mathews.nkhoma@rmit.edu.vn

Mathews Nkhoma

Department of Business IT and Logistics, RMIT University Vietnam

Jaime Calbeto

Department of Business IT and Logistics, RMIT University Vietnam

Shih-Tsung Lee

Department of Marketing & Distribution, National Kaohsiung First University of Science and
Technology, Taiwan

Tri Lam

Department of Business IT and Logistics, RMIT University Vietnam

Purpose

The purpose of the study is to understand food enterprises' perception toward the implementation of e-supply chain management technologies for the assurance of safety and preservation of quality for products in food supply chains which may positively influence consumer trust.

Design/methodology/approach

Multiple methods are employed to study the research problem, both qualitative and quantitative. The approach undertaken is based on grounded theory, interview, and survey. Experts working for food supply chains operating in Taiwan were interviewed and subsequently data was collected for exploratory factor analysis.

Findings

The research revealed that the implementation of track-and-trace technology, warehouse management system, and transportation management system for food supply chains in Taiwan can foster consumer trust when it comes to the management of food safety.

Research limitations/implications

The first limitation in this study stems from the self-report methodology, by reason of responses from the tested sample which may be exaggerated or understated. A second limitation stems from the potential lack of testing for measuring the causal relationships between each of the e-supply chain management technologies and their effects on consumer trust.

Originality/value

This paper offers a pragmatic approach to supply chain management in food safety so that it would guide enterprises in food supply chains to establish an effective foundation upon which to gain consumer trust.

Keywords

Food safety, track-and-trace technology, warehouse management system, transportation management system, consumer trust

Supply Chain Collaboration of the Chinese Electrical and Electronics Manufacturing Industry

Mei Hua Gu, Kwok Hung Lau and Sri Daran Madhavan Nair

School of Business Information Technology & Logistics
RMIT University
Melbourne
Australia 3000

Purpose

This paper investigates how the electrical and electronic (E & E) manufacturing firms in China can adopt supply chain collaboration (SCC) as a new source of competitive advantage to achieve sustainable growth. Focus of the study is to report the findings on five key elements of SCC and the various obstacles to its widespread implementation by the industry.

Design/methodology/approach

With continuous economic reform and furtherance of the opening-door policy by the Chinese government in the past three decades (Zhang, 2013), the previous export oriented economic development mode, which relies heavily on cheap labour resource and huge energy consumption, can no longer maintain a robust and sustainable growth in the economy. Ascending labour cost (Berthelsen, 2010), together with other major challenges, have left little room for the Chinese manufacturing industry to make adequate profit. Major reform and transformation of the development mode of the manufacturing industry is imperative. Widespread application of end-to-end SCC through adoption of modern managerial practices appears to be one of the most promising solutions. It is therefore necessary to find out the status quo and how the industry can achieve widespread SCC implementation.

Using a multiple case study methodology, four major companies in the E & E manufacturing industry in Guangdong province of China were selected for investigation. Semi-structured face-to-face in-depth interviews with senior supply chain managers were conducted to explore the current status of SCC in the industry.

Findings

Findings of this study have identified five critical elements of SCC in the Chinese E & E manufacturing industry. They include aligned management, joint performance, information sharing, synchronized supply chain process, and collaborative investment and innovation. While majority of these elements align with those proposed in other SCC frameworks (see for example Simatupang & Sridharan, 2002), the way of collaboration between supply chain partners is considerably different from those prevalent practices originated from western countries. Instead of achieving high efficiency and low cost for the entire supply chain, most of the SCC operations investigated are inclined to be used as an approach to obtaining own benefit for focal manufacturing firms by pushing cost and risk to upstream suppliers. Major obstacles hindering widespread implementation of SCC are also revealed.

Research limitations/implications

This study contributes to knowledge of SCC by reporting the status quo in the E & E manufacturing industry in China and how SCC can be improved at an industry level from both a managerial perspective and a cultural perspective. Nevertheless, like all case studies, the generalizability of the findings is affected by the number of cases investigated and the lack of statistical robustness.

Practical implications

SCC initiatives can help the Chinese manufacturing industry improve overall efficiency and reduce total costs thereby upgrade and transform the industry to a sustainable development mode.

Originality/value

While other studies on SCC focused mainly on the theoretical underpinning or the managerial aspect of the issue, this study is original in that it provides a comprehensive view of the unique landscape of SCC in China.

Keywords

Supply chain collaboration, competitive advantage, cross-organizational collaboration, E&E manufacturing industry, China

Paper type

Research Paper

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The Design and Delivery of Modular Professional Services: Implications for Supply Chain Strategy

Mihalis Giannakis, Darren Mee, Desmond Doran and Thanos Papadopoulos*

1: Audencia Nantes Ecole de Management, France;
2: Warwick Business School, University of Warwick, UK

Purpose of this paper

This paper explores the application of the notion of modularity in professional services and how the modularisation of services can influence the design and execution of operations strategies. The notion of modularity has gain momentum in the design and architecture of service offerings, as a successful strategy to improve service delivery costs and enhance customer value (Pekkarinen and Ulkuniemi, 2008, Voss and Hsuan, 2009)

Design/methodology/approach

A conceptual (mathematical) model is developed first for determining the extent of service modularity and the effect of the modularisation of professional services on supply chain costs. A series of 10 case studies are then conducted in legal services firms in the UK to identify the scope for their modularisation and the implications for their operations strategies. The focus of the analysis is on sourcing strategy decisions, rather than the entire gamut of operations process for the design and delivery of services.

Findings

The case studies show how legal services can be decomposed into customisable and standardised processes/modules. An Operations Strategy framework is developed for legal services firms, including 'legal service specific performance criteria' and practical operations strategy decisions. This framework is piloted with one law firm. An analytical model is proposed for classifying different legal services based on their degree of required customisation and assessing the extent to which the delivery of these services is standardised (Bask et al., 2010). The model is tested in the 10 participating legal firms, showing that 7 out of 10 firms deliver services in a way that is 'under-standardised' (or 'over-customised') relative to the degree of customisation required.

Value

The findings of the study show that (service) process modularity presents significant opportunities for the development of modular professional services at either the level of the design of the service offering, service operations, or service organisation. Preliminary findings show that for litigation services, firms that deliver services in an optimally modularized standardised manner could record operating profit percentages that are 30% higher than those firms that delivered services in an 'under-standardised' manner.

Research limitations/implications

As the study is exploratory in nature, there is the need to test the generalizability of its findings with the use of a large survey, or a longitudinal study that can observe the performance effects of the design and delivery of modularised services

Practical implications

Preliminary findings show that for litigation services, firms that deliver services in an optimally modularized standardised manner could record operating profit percentages that are 30% higher than those firms that delivered services in an 'under-standardised' manner.

Keywords

Service supply chain, modularity, model

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Section 7: Supply chain costs

The Study of SMEs' Global Logistics Management System in Taiwan

Shih Tsung Lee¹, Hua Rzon Zhang² and Yin Hsin Lin³

^{1,2}Zhongnan University of Economics and Law, Wuhan, P.R.China

² Associate Professor yslin@nkfust.edu.tw

National Kaohsiung First University of Science & Technology, Taiwan

Purpose of this paper

This research will have two purposes that are the key factors of logistic service for good performance in the global marketing and trying to find the workable and cost effective collaboration management for SMEs.

Design/methodology/approach

The research uses case method and regression to explore the key factors of global logistic system affecting the performance of global market.

Findings

Key factors of influencing on structuring global marketing logistics management system consists of good cross cultural management system, IT system, good logistics partners, local distribution channel, well understanding local customs regulation and policies of political and labor laws.

Research limitations/implications (if applicable)

The research is limited to survey only electronic parts firms and would like to recommend extend more industries and firms to survey. Any firms wants to apply the proposed global logistics management system is necessary to adjust based on the findings of research.

Practical implications (if applicable)

An empirically executable and workable system has been approved to have 15% cost reduction including logistics cost and products cost also saving delivery time more than 10% through an integrated information system.

What is original/value of paper

The global logistics management system call IDC is a workable system for Taiwanese enterprises in the developing countries. Specially, low inventory and cost reduction for the manufacturing firms is the core value.

Keywords

Small & Medium Enterprise (SME), Global Logistics Management System, Industrial Distribution Center(IDC)

Category of the paper

An empirical case research.

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A Theoretical Framework for Understanding the Nature of Value in Logistics and Supply Chain Management

Ron Fisher¹, Mark Francis², Andrew Thomas¹, Hefin Rowlands¹ and Kevin Burgess³

¹ Faculty of Business & Society, University of South Wales, Treforest, UK

² Cardiff School of Management, Cardiff Metropolitan University, UK

³ Centre for Defence Acquisition, Cranfield University, Shrivenham, UK

Purpose of this paper

The purpose of this paper is to extend discussions about the conception, communication and implementation of 'value' within contemporary logistics and supply chain management. At ISL in 2012 we presented an inaugural paper in which we argued that the term 'value' as used in logistics and supply chain management lacked definitional rigour, based on two units of analysis: the official dictionaries of UK professional bodies and key textbooks (Fisher et al., 2012). At last year's conference we extended our discussion to include a comprehensive content analysis of peer-reviewed articles on the topic of 'value' within Purchasing, Logistics and SCM journals (Francis et al., 2013). The aim of this paper is to extend our previous discussions by providing a framework that will guide actors in logistics and supply chains in moving towards an understanding of how value may be conceptualised and operationalised?

Design/methodology/approach

This is a theoretical paper in which we consider whether an essence of value exists and if so what its necessary conditions might be? Drawing on Wittgenstein's philosophy we argue that there is no essence of value (Wittgenstein, 2000). Instead value may be conceived in terms of family membership. We propose a three-stage framework that provides a means of understanding the nature of value through the lens of family resemblances.

Findings

Conceptualising value in terms of family resemblances clarifies the lack of theoretical and definitional rigour, the plethora of [undefined] value-related terms, and the large variety of linguistic usages that currently exist. The third stage of the model provides a means of implementing the findings based on an experiential approach that considers the qualitatively different ways in which actors in logistics and supply chains experience value

Value

Conceiving of value as a family has not been considered in previous research, which has traditionally focused on a search for essences. This paper provides a new perspective for academics and practitioners in logistics and supply chain management to understand a complex phenomenon. The theoretical model provides a means of operationalising how value may be understood in logistics and supply chains.

Research limitations/implications

Conceptualising value as a family is the first step in our proposed framework that provides researchers with the philosophical basis to understand the nature of value in a given context. The framework is consistent with the move towards qualitative research as a means of understanding the nature of value and builds on Flint's (2006) suggestion of symbolic interactionism and Edvardsson et al.,'s (2011) suggestion of social construction as a way of making sense of value creation.

Practical implications

The proposed framework supports an approach to empirical research that can advance logistics and supply chain management through a new understanding of the nature of value. The framework provides a sound basis for discussing value creation and co-creation grounded in a clear understanding of the nature of value in different contexts. Logistics and supply chain practice should change to reflect the experiential approach to understanding value proposed by our model.

Keywords

Logistics, value, family resemblances, phenomenography

References

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Purchasing and Logistics Paradoxes in Retail Organisations

Associate Professor **Erik Sandberg***
PhD Candidate **Mårten Fristedt**

Logistics Management
Department of Management and Engineering
Linköping University, Sweden

Purpose of this paper

Organising global purchasing and logistics activities requires an act of balance between different strategies and goals inherent in the organisation, i.e. there are paradoxes that need to be managed. The purpose of this paper is to explore purchasing- and logistics-related paradoxes in retail organisations. More specifically, the paper identifies some of the key contemporary paradoxes present in the areas of (1) selection of sourcing region and actual supplier, (2) the design of the physical flow of goods from supplier to end customer, and (3) the design of the purchasing organisation including tasks, responsibilities, and interface to other company functions.

Design/Methodology/Approach

The research applies a paradox perspective that seeks to explore how organisations can apply to competing demands simultaneously (Smith & Lewis, 2011). It presents some of the major paradoxes extracted from a systematic literature review of global sourcing literature. In addition, as a means to further illustrate the paradoxes, the paper presents a case study at a Swedish fashion retailer.

Findings

The findings include a discussion on some of the most significant paradoxes of learning, belonging, organising and performing (Smith & Lewis, 2011) in retail sourcing literature.

Value

Although a paradox perspective has been discussed in organisation theory since the 1980s, its application in a logistics context is relatively new. For logistics scholars, the paradox theory could be seen as a valuable continuation and development of the more well-known contingency theory. It offers a new theoretical lens through which an organisation could be better explored, described and understood.

Practical implications

The case study presented in the paper indicates the paradox theory as a useful, understandable platform for a discussion between academics and practitioners. Simply put, interviews based on the paradox perspective enables a discussion on the complexity of real world challenges meanwhile a focus on a particular topic could be held.

Keywords

Retail, organisation, paradox

Paper category

Research paper

References:

Smith, W. and Lewis, M. (2011). Toward a theory of paradox: A dynamic equilibrium model of organizing. *Academy of Management Review*, Vol. 36, pp. 381-403.

A Network Perspective of Supply Chain Collaboration

Samanthi Ekanayake¹, Paul Childerhouse^{2} and Peter Sun¹*

¹ Waikato Management School, the University of Waikato, New Zealand

² School of Engineering and Advanced Technology, Massey University, New Zealand

Purpose

Social network perspective to interorganizational relations focuses on the effect of organizations' external *relationships* in collaboration as opposed to their internal resources and capabilities. It presumes that effectively managing such relationships is vital to gaining collaborative synergies. This research attempts to contribute to the growing interest in the social network perspective to explain supply chain collaboration.

Design/methodology/approach

Literature from network field is discussed in the context of interorganizational collaboration. A synthesised model of interactions is developed that is empirically tested using case study methodology in a logistics service provider's supply chain network.

Findings

The conceptual model provides a useful lens to evaluate supply chain collaboration. The symbiotic relationship between interorganizational and interpersonal networks is highlighted as vital for effective collaboration.

Research limitations/implications

The conceptual model has only been tested in a single case. Wider application is required to ensure generalisability. The critical role of the personal networks of boundary spanning actors at different levels warrants further investigation.

Practical implications

Partners' intra-organizational structures and personal ties of boundary spanners, both at the senior and operational level, have a profound effect on supply chain operations.

What is original/ value of paper

Personal networks interact with organizational networks and complement each other in yielding interfirm collaborative synergies.

Keywords

Supply Chain Collaboration, Interpersonal Networks, Interorganizational Networks

Category of the paper

Case Study

References:

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Evolution of Demand and Supply Network Alignment Approach and Its Practical Implementation- A Systemic Literature Review

Nicole Ying Ye, Kwok Hung Lau and Leon Kok Yang Teo

School of Business IT and Logistics
RMIT University
Melbourne
Australia 3000

Purpose

The paper aims to enhance the current understanding of the DSCM concept by undertaking a comprehensive review of the evolution of DSCM from both a strategic and an implementation perspective. Key concepts of supply chain management (SCM) and demand chain management (DCM) that underpinned DSCM are discussed in this paper.

DSCM has emerged as a prevalent paradigm and effective form of SCM in recent years. Unlike conventional SCM practices, DSCM extends to marketing and organizational configurations to ensure the efficiency of SCM. The literature review also addresses the key themes and issues in DSCM.

Methodology

The literature review involved a two-stage "funneling" process. The first stage requires the identification of relevant databases and articles. A broad search of academic databases highlighted 64 relevant business-related academic databases. Key words of "demand, supply, and demand supply chain" were used in the identification of the recent or seminal research works on DCM and DSCM. Other sources of information used in the literature review also include online articles, white papers and recent news publications. A list of more than 500 articles was shortlisted and reduced to 50 most relevant ones. The second stage uses content analysis to highlight and categorize the key issues in these articles. The key issues are discussed in the paper.

Findings

To date, there is no research work that provides a comprehensive insight on the theoretical evolution of this contemporary approach. Through an extensive synthesis of the literature, this paper highlights and discusses four research areas of DSCM: i) Theoretical study ii) Macro business strategic overview iii) Operational process driven and iv) Functional breakage; that requires attention. The four research areas provide an agenda for future research on DSCM. In addition to the four research areas, enablers and obstacles of DSCM are also discussed in this paper.

Value

Due to the increasingly popular notion and the growing complexity in a global context, this study attempts to capture the essence of DSCM from a multi-disciplinary perspective and provide practical insights on industrial implementation. The study provides a clear picture of the DSCM approach, brings in together previously separate streams of work on DSCM to enable a comprehensive understanding of the concept.

A practical implication – The study reviews the approach of DSCM in a coordinated manner and provides a clear picture about research gap for future study.

Keywords

Demand and supply chain management (DSCM), demand chain management (DCM), value chain, dynamic network alignment, process management

References –

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Antecedents of Spatial Logistics Employment Clusters

Prem Chhetri

School of Business IT and Logistics, College of Business,
RMIT University, Melbourne, Victoria, Australia.

Purpose

Using a spatial econometric approach, this paper aims to identify the key location-specific factors that shape the spatial formation of city logistics employment clusters.

Methodology/Design

Using the 4-digit ANZSIC classification employed by ABS (Australian Bureau of Statistics), industries that are explicitly related to logistics are first identified and then aggregated at a small area level. Employment data are used as a surrogate measure for city logistics clusters. Key city logistics clusters are identified through a location quotient – an index of employment concentration. Spatial autoregressive techniques are applied to measure the impact of location-specific contextual factors contributing to the development of spatial logistics employment clusters.

Research Findings

The results show that logistics landscape in Victoria is spatially fragmented. Mapping of LQ values identified key spatial logistics employment clusters in the State of Victoria. These spatial logistics clusters in Melbourne are functional trade nodes of high economic activity, which largely represent the conglomerates of transportation, warehousing, high throughput freight distribution centres and intermodal hubs in western parts of Melbourne, around the Dandenong area in the south east and hotspot areas around the airport in the north. The results from the spatial econometric analysis indicate that logistics employment tends to cluster in areas of strategic locations as characterised by access to highways and main roads, proximity to CBD as an employment hub, availability of workforce with required skills, and the size of regional economy within which each area operates.

Research Limitations

The use of employment as a surrogate for the concentration of firms is a limitation. Cross-section analysis only presents a snap shot of logistics landscape, which is subjected to dynamic agglomerative processes. Time-series analysis will help analysing the pathways that clusters traverse through their life-cycle.

Practical Implications

The competitive advantages of geostrategic positioning of logistics cities can be harnessed to create optimal freight corridors through designing a hub-and-spoke service model. Spatial logistics clusters could potentially act as base anchors on high volume freight routes to establish a more efficient freight distribution network. Through further investment in infrastructure and R&D in logistics cities, new business opportunities can be created and the existing capacity of logistics networks to service a larger catchment with greater agility can be enhanced.

Originality/value of the paper

The use of spatial econometrics techniques to identify key location-specific factors to analyse logistics employment clustering at a small area level is the original contribution of this paper.

Keywords

Spatial logistics cluster, cluster theory, geographic information systems and spatial statistics

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A Practical Model for Improving Profits through the Human Resource of the Supply Chain.

Dr Cliff Verhagen (OHS Manager Yooralla Australia)
Professor Amrik Sohal (Monash University Australia)

Purpose

The supply chain is a well-known concept in logistics and global distribution. However, researchers argue that the supply chain often neglects to adequately include the most important aspect of many organisations, which is the human aspect of the supply chain. This paper explores the concept of a "Staff Supply Chain" which specifically looks at the supply of labour and human resources that are critical to the delivery of any product or service to create a corporately responsible, sustainable approach.

We develop and implement a staff supply chain model into large diverse organisations to significantly improve profits and human potential in the supply chain based on earlier models^{1,2,3}. The organisations where the model has been applied include: an international multibillion dollar packaging and recycling company; a national billion dollar furniture and logistics company; a large internationally recognised university in Australia; and one of the largest not-for-profit health organisations in Australia.

Methodology

Using a longitudinal case study approach⁴, data was collected through questionnaires, interviews and reporting measurements and analysed using an approach suggested by Ryan and Bernard (2010)⁵. The approach takes the model developed and applies it to organisations to see where the greatest weakness is with respect to the human delivery of services and where the greatest improvement can be made. This includes both the human potential and profits aspects of the organisations.

Findings

The results show significant improvements in profitability and the human resource in each of the four organisations, measured in terms of safety improvement and dollars. The diverse range of organisational operations involved shows that the model can be applied and adapted to any organisation to create similar improvements. The study is based in Australia and with Australian-based organisations, however three of the four organisations do have significant global operations and presence and the legal framework for which some aspects of the study are based would need to be modified for other countries and settings. However, it is proven that improvements to the staff supply chain will create significant improvements to any supply chain in an organisation when the model is applied and implemented. It is hoped that through this paper organisations will use and implement the staff supply chain model to greatly improve the sustainability and profitability of the global supply chains in which they operate and add to the research in this area which is lacking.

Keywords

Supply chain, staff, safety, productivity

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Section 8: Supply chain performance assessment

Understanding Drivers of Trade and Transport Performance

Dilay Çelebi

Istanbul Technical University
Faculty of Management
34367 Maçka, Turkey
E-mail: celebid@itu.edu.tr
Tel: +90 212 2931300

Lauri Ojala

Turku School of Economics, Finland

Jari Kauppila and Philippe Crist

International Transport Forum, France

Purpose of this paper

The World Bank's Logistics Performance Index (LPI) provides comprehensive data on countries' trade logistics performance at the national or regional level. The LPI, used in conjunction with other in-house resources, enables a deeper understanding of the elements that drive logistics performance and those that hinder performance. This study is a first attempt to develop a standardized framework for quantifying the impact of trade and transport policies on the LPI components.

Design/methodology/approach

This paper presents a preliminary analysis of the factors behind the countries' trade and transport performance scores, by peer group evaluations and performance comparisons. It covers a desk research which gathers background information from published reports and statistical data sources, and employs both econometric and non-parametric analysis methods to understand the drivers behind the LPI performance.

Findings

Findings show that even though most aspects of the country's logistics performance are in line with previous findings, the LPI score is a function of various factors, with complicated associations within structure and time; and improving logistics performance is a complex task which requires comprehensive reforms and long-term commitments from policymakers and private stakeholders.

Research limitations/implications

This study is based on the secondary data of trade logistics indicators obtained from several sources. The domain of validity of the study is limited to domain of validity of the data resources it employs.

What is original/value of paper

This paper presents the initial findings of a project which aims at developing a general framework for quantification of the impact of transport policies on LPI components based on a standardized method.

Keywords

Production and inventory planning system, Sea food processing industry, Simulation

Paper type

Research paper

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A Framework to Measure Logistics Performance of Humanitarian Organizations

Qing Lu^a, Mark Goh^b and Robert De Souza^c

^aThe Logistics Institute – Asia Pacific, National University of Singapore, [Email: tliq@nus.edu.sg](mailto:tliq@nus.edu.sg)

^bThe Logistics Institute—Asia Pacific & NUS Business School, National University of Singapore, Email: tligohkh@nus.edu.sg

^cThe Logistics Institute – Asia Pacific, National University of Singapore, [Email: tlibrmt@nus.edu.sg](mailto:tlibrmt@nus.edu.sg)

Purpose:

Today, there is a strong demand for greater effectiveness and efficiency in humanitarian logistics operations, but performance metrics and measurement frameworks have not been widely developed and systematically implemented in the relief supply chain (Beamon and Balcik, 2008). This paper attempts to address this research gap and develops a set of key performance metrics which could be used by humanitarian relief organizations (HROs) in their logistics operations.

Design/methodology/approach:

Using both performance attributes and logistics processes as classification dimensions largely based on the Supply Chain Operations Reference (SCOR) model (SCC, 2010), we are able to adapt the SCOR framework to the context of humanitarian supply chains. We take the single case approach by examining the supply chain processes of one large HRO, Save the Children International (SCI). Initial supply chain processes and metrics would then be validated by other HROs through a questionnaire.

Findings:

A generic supply chain process framework of humanitarian organizations is mapped out according to the three levels in the SCOR model. A hierarchical benchmarking framework is then proposed according to the four performance attributes in the SCOR model, reliability, responsiveness, agility, and cost, similar to many industrial benchmarking works (e.g., Garcia et al., 2012). A set of twenty-four metrics is developed with detailed definitions. The validation of these metrics with seven international HROs shows the importance of these metrics as well as the difficulty in their implementation. Only five of the original twenty-four indicators can be easily implemented in most relief operations based on the HROs' existing procedures and practices.

Research limitation /implication:

The sample size is still small for the generalization of the results. Further empirical study in comparison between countries with huge logistics expense and countries with little logistics expense may improve our understanding of the framework as well as the twenty-four metrics.

Practical implication:

With these performance metrics, HROs are able to benchmark internally against previous periods, externally with other humanitarian organizations, and set objectives with quantifiable goals, all of which would support continuous improvement in the end-to-end supply chain processes in its relief operation. It will enable humanitarian organizations to provide timely aid to beneficiaries and efficient use of donor funds for value.

Value:

Our work contributes to performance measurement in humanitarian logistics with a framework of generic metrics set. The validation results by several international HROs are also original for understanding the current status of performance measurement in the humanitarian sector.

Keywords

Humanitarian logistics, humanitarian organizations, performance measurement, Supply Chain Operations Reference.

Article Classification

Research Paper

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Does Cold Chain Collaboration Reduce Food Wastage? A Case Study of a Fruit and Vegetables Cold Chain in Australia

Sri Daran Madhavan Nair, Kwok Hung, Lau and Meihua, Gu

School of Business Information Technology & Logistics
RMIT University
Melbourne
Australia 3000

Purpose

This paper examines how cold chain collaboration can help to reduce food wastage through efficiency improvement. The aim is to examine the various attributes of successful networking of the many players in a cold chain and to assess their collective contribution in reducing wastage of perishable (food) fruits and vegetables.

Research approach

Food wastage is a serious problem. It is reported that as much as one third of all food produced globally for human consumption, which equates to 1.3 billion tons per annum, is lost in the distribution process (Gustavsson et al., 2011). Such big loss has high impact on the economy, environment and available resources as the growing of food consumes land, labour and freshwater. Food wastage also adds to the huge challenge of feeding a projected population of 9.2 billion by 2050 (UN Report, 2007). Reducing food wastage through efficiency improvement in the supply chain is therefore regarded as one of the most feasible solutions to the problem.

Cold supply chain (or cold chain in short) helps preserve the freshness of post-harvest fresh food from source until they are purchased by the consumers. However, fragmented operation and lack of coordination often lead to deficiency, abuse or fluctuation in temperature control along the cold chain resulting in bruising, rotting, aging and wilting of the perishable produce hence a large amount of wastage (Kader, 2005; Raab, 2011). There is belief that collaboration in cold chain can allow companies to leverage the expertise and experience of others on an operational basis so that together they perform better than they do separately (Vangen and Huxham, 2003).

This research attempts to investigate how cold chain collaboration can help reduce food wastage through efficiency improvement. The fruit and vegetable cold chain of a large supermarket chain in Australia will be used as a case study for investigation.

Findings and originality

Preliminary findings from examining the operation and interviewing with staff at a major distribution centre of the supermarket chain suggest that collaboration plays a significant role in enhancing cold chain performance in terms of better temperature control, improved traceability mechanism, and enhanced agility. These improvements translate to shorter lead time, better product quality and food safety, longer product shelf lives, reduced wastage hence lower total cost, and greater customer satisfaction. The investigation reveals that knowledge and skill sharing to achieve better temperature control, traceability and agility is the key to the success of cold chain collaboration. The findings further suggest that cold chain collaboration might actually help a distribution centre achieve its performance targets without compromising the profit centre management concept and practices. This study is original in that it examines cold chain collaboration from an operational perspective and determines how group effort can enhance overall efficiency and improve performance.

Value

While there are studies on supply chain collaboration (Simatupang and Sridharan, 2002; Soosay et al., 2008), research with a focus on cold chain collaboration is relatively limited. Contrast to previous supply chain collaboration studies which focus mainly on the theoretical basis, this study contributes to the knowledge in cold supply chain collaboration particularly in the operational aspect. The study may also create a niche for further research and investigation.

Practical impact

Reduction in wastage through cold chain collaboration can lower operation costs which can then be passed on to consumers as cheaper, fresher, safer and better products food. Findings of this study could also be applied to other cold chains with similar characteristics, such as dairy, seafood and meat chains, medicines and pharmaceutical products, to help reduce waste and loss.

Keywords

Cold chain, collaboration, temperature control, agility, traceability, food wastage

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An Empirical Study on Critical Success Factors (CSFs) in Sugar Supply Chain (SC) in Malaysia

Nur Syazana Ramlee¹, Saadiah Yahya² and Rika Ampuh Hadiguna³

¹ Malaysia Institute of Transport, Universiti Teknologi MARA

²Universiti Teknologi MARA

³Andalas University

The purpose of this paper

This paper aims to identify CSFs for wholesalers in the sugar industry as derived from previous studies. This paper will also present chronology, area of research, and methodological approach pertaining to factors that influence the performance of wholesaler as a sugar distributor.

Methodology

A structured review of the literature uses a stage refinement process. The articles were sourced through online databases and keyword classifications, such as "critical success factors", "sugar supply chain", and "wholesaler". This paper was systematically screened from previous journals and articles for all related issues. Then, this paper covers between the years 2000 until 2013, restricted to the past 13 years for final assessment. The questionnaire was designed and tested its validity by doing pilot study.

Findings

CSFs of wholesaler have three aspects, namely distribution, publicity, and goods and services. Chronological progression in term of publication volume, methodology used, and CSFs taken by the sugar wholesalers in this research area were all identified. It demonstrates that CSFs among wholesalers and distributors are indispensable, especially in implementing their business strategy.

Research limitations/implications

It is critical for wholesalers to understand CSFs keywords in the distribution process. The identifying attributes of research model in the context of confidential information to wholesalers. Future research is suggested in the application of CSFs in other management area, such as a Decision Support System (DSS), for the sugar industry in Malaysia.

Value

Since this study is lacking of literature about CSFs for sugar wholesaler in Malaysia, it is one of new knowledge contributory in sugar supply chain in Malaysia. Therefore, this research suggests further research in the sugar supply chain

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Application of the Activity Cost Model to 3D Printer Technology

Yoshiki Nakamura¹, Masaaki Ohba², Satoshi Kumagai¹, Chihiro Hayashi³ and Nozomi Oomiya⁴

¹Aoyama Gakuin University, ²Nihon University, ³Tokyo Metropolitan University

⁴Konica Minolta Information System CO., LTD.

Purpose of this paper

3D printers allow the 3D replication of a solid object, and can virtually shape any item from a digital graphics file. This product makes innovation with the introduction of 3D printer technology in the manufacturing field. We have to change the way we understand and calculate "cost" and "value added." Purposes of this studies are analysed process flows between the usual process and the 3D process in the context of wire manufacture, applied these processes to IDEF0, calculated cost variation using the "cost-matrix method, and discussed the cost conditions and the concept of added value.

Design/methodology/approach

Applying to a wire manufacturing company, we compare the cases of a traditional process and a process using 3D print technology. Moreover, using an IDEF0 and a "cost matrix" method, we analyse the diversification of raw materials, in-process inventory, product yield, time, human activities, and so on.

Findings

We found the understanding added value derived by 3D printing. Concretely, they found at the fields in "the stage of the design," "the usual process," "manufacturing time and manual input", "3D printing stage," "the inspection stage" and "the percentage yield." We also discussed about crowdfunding

Research limitations/implications

Our research limitation are 1) to need to apply the other companies, 2) to clear the works and the relationship of the crowdfunding, 3) to put on numerical real example, and so on..

What is original/value of paper

Original aspect is examined the possibility of 3D printer in terms of manufacturing processes, product inventory, and product yield. Value of this paper is we discussed to clear those items through two steps: "the mechanism of added value" and "the mechanism of cost estimation."

Keywords

3D printing, IDEF0, cost matrix method.

Category of the paper

Research paper

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Cold Chains Evaluation Framework in a Fragmented Market

Prashant Kumar; Asad Ata and Ioannis N Lagoudis

MIT Global SCALE Network Malaysia (Malaysia Institute for Supply Chain Innovation MISI), Malaysia

Purpose

The value of Cold Chains for safety, health and well-being of human cannot be over-emphasized in any part of the world. Recent McKinsey's report (Resource Resolution 2011) suggests that in developed countries, between 20 and 30 percent of food waste occurs before it ever reaches the consumer. Cutting food waste upstream would have significant impacts on both energy use and food security. These findings are no different for life-saving drugs or medicines in general.

In developing countries the cold chain industry is highly fragmented compared with mostly vertically integrated cold chain in developed countries, making cold chain the weakest link in the supply chain. In such fragmented industry, how should a shipper protect integrity of its products and brands while supporting multiple shipment types, and supply & demand surges? Therefore this paper has the following key objectives:

- a) Identify the dynamics behind fragmented cold chain industry and industry drivers
- b) Develop value chain mapping of key frozen products in China, identifying critical success criteria, stakeholders, players and impact on Cost-to-Serve
- c) Conceptualize and build a framework to identify, assess and select Cold Chain Service Providers (CCSP) such a fragmented industry

Methodology

Literature review, field data from cold chain performances in China, and Industry analysis of cold chains in China are used to develop parameters for assessment. The parameters range from post-production stage through the delivery of the goods to the customer distribution centre.

System Dynamics is used to analyze the dynamics and proliferation of fragmented cold chain industry in emerging economies. Value Chain Analysis is used to analyze and understand the field data and the challenges across various value streams identified.

This work proposes an evaluation framework for CCSP using these criteria through Analytic Hierarchy Process (AHP). AHP model converts these factors into major decision parameters (components) and the dependencies and inter-connectivity across CCSP's value chain. The AHP will also facilitate coming up with a decision making framework at different levels.

Findings

Value Chain Analysis enhances the visibility of many streams in the value chain and their respective difference in terms of Cost-to-Serve. Cold Chain Service Providers assessment using 100 parameters in four levels in hierarchical form (levels are set of parameters). Level 1 has 3 parameters, Level 2 has 10 parameters, Level 3 has 30 and Level 4 has 100 parameters). The numerical analysis and weight of parameters developed with the option to dis-aggregate from Level 1 to 4 or aggregate from Level 4 to 1.

Value

Limited research is available for the systematic assessment of Cold Chain Providers. This paper develops a framework to Identify, Evaluate, and Select CCSP in various dimensions of Strategic, Tactical and Operational fit for a fragmented industry in emerging economies and its shows comparison with developed economies. Systematic approach to monitor performance of existing suppliers through key metrics and parameters identified. Drivers of cold chain industry for Food and Beverage industry and how cold chain needs of other industries affect Food & Beverage industry in general is also explored.

Keywords

Supplier Selection, Cold Chain, 3PL Service Providers, Transportation

Performance Engineering in a Supply Chain: a Case Study

Florian Maurer

Vorarlberg University of Applied Sciences, Austria
florian.maurer@fhv.at

Ulrike Lechner

Universität der Bundeswehr, Germany
ulrike.lechner@unibw.de

Jens Schumacher

Vorarlberg University of Applied Sciences, Austria
jens.schumacher@fhv.at

Introduction & purpose of this paper

Because of increasing global threats as well as new management concepts, logistics and supply chain management (SCM) became to (*partially*) rigid systems. While SC vulnerabilities are under-estimated, managers and engineers are demanded to stabilize the SC network to a robust (*and reliable*) as well as to a resilient (*and resistant*) system.

However, robustness and resilience are main goals of logistics and supply chain management and are closely linked to quality and control concepts as well as the organization's capability for effective risk anticipation and adoption. The main purpose of this paper is to highlight and define on literally and practically way the terms robustness, resilience and their interconnections, interdependencies and interactions to develop, maintain, and increase the overall supply chain resistance and continuity.

Design / methodology / approach

The paper will differ in four main chapters. On basis of a **structured literature research**, the first chapter highlights and defines the terms supply chain robustness and resilience, its tools and techniques. Also, the interconnection, interdependencies and interaction on theoretical level get presented in chapter one. Further, key performance indicators, which intend the robustness and resilience of a system are identified and get presented. In chapter two, a **case study** with an international transport logistics company gets developed. The aim of this case study is to examine how the concepts of robust and resilient engineering are applied in supply chain management praxis. In chapter three, the findings of the theoretical and practical chapter get compared and a "best-case" **model gets developed**. Chapter four summarizes the findings and prepares the results of the literature research and case study for discussion.

Findings & practical implications

Major findings of this paper are the identification of tools and techniques to enhance supply chain robustness and resilience on theoretical and practical level. These findings are the basis for the development of a "best-case" model. Further findings of this paper are the interconnection, interdependencies and interaction of robustness and resilience as well as key performance indicators to maintain and improve supply chain resistance and continuity.

Value

This paper adds significant value to literature and praxis by (a) the identification of tools and techniques in theory and praxis and (b) the development of a "best-case" model to develop, maintain and increase supply chain resistance and continuity. Target group of this paper are both – practitioners (industry) as well as researchers.

Keywords

Robustness, reliability, resilience, risk management, quality management, business continuity management, business process engineering

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Logistics Performance Measurements: Issues and Reviews

Mohd Azlan Abu Bakar¹, Harlina Suzana Jaafar², Nasruddin Faisal³ and Azlina Muhammad⁴

^{1, 2, 3, 4}Malaysia Institute of Transport, Universiti Teknologi MARA, MALAYSIA

^{2, 4}Faculty of Business and Management, Universiti Teknologi MARA, MALAYSIA ³Faculty of Architecture, Planning and Surveying, Universiti Teknologi MARA, MALAYSIA

Purpose

Logistics is very complex and significant to organization in term of cost and excellent service; nonetheless it is also contributing some proportion to service sector's Gross Domestic Product (GDP) of a country. Due to globalization and fast evolution of technology in recent decade, the significant role of logistics has been further enhanced in a variety of areas. In measuring its performance, for example, logistics have been claimed to have a combination of macro and micro indicators. For industries, logistics help in optimizing the production and distribution process, in which it could minimize costs efficiently and manage effectively. With the increasing awareness of strategic implications of logistics, it is therefore vital to measure their performance.

Thus, based on an ongoing study, this paper reports the results of an exploratory study conducted on practitioners in the Malaysia logistics industry with the aims to examine the issues of the Malaysian logistics performance.

Design/Methodology

This paper provides reviews on logistics performance indicators. Preliminary interviews have also been conducted with manufacturers and logistics service providers (LSP) from various sectors in order to obtain a comprehensive view on the issues. The informants are represented by 10 managers and executive with 3 to 20 years experience in the respective industries. The focus is on gaining insights and familiarity with the issues of logistics performance when there are few studies in the context of Malaysia to refer to.

Six core aspects of logistics performance, particularly cost, speed, quality, dependability, and flexibility were explored. These aspects are based upon Batista's framework to support measurement of strategic operations performance (Batista, 2012). In addition, we also are gaining insights the impact of environment to logistics performance as a new aspect in Malaysia's logistics industry.

Findings and Originality

Two perspectives of performance measurement found in this study, namely operations performance and trade facilitation. These two perspectives are very crucial for the industry development. Operations performance critically focused on cost, customer satisfaction and responsiveness including delivery, flexibility and quality. Trade facilitation performance however seemed to reflect broad area but did not show that it has a concrete definition. The significant elements in this dimension include customs and regulatory environment, infrastructure and effective information technology. On the results from preliminary interviews demonstrated that cost, customs and regulatory environment were significant.

Value

This study provides a preliminary framework of logistics performance measures in Malaysia perspective. This framework could provide insight to other developing countries in similar context.

Limitation/Implications

Despite the increasing importance of logistics performance measurement studies on logistics in the developing country particularly in Malaysia are lacking. Therefore, this study contributes to the body of knowledge through the identification of issues and vital components of logistics performance measures in Malaysia as perceived by both LSP and manufacturers in Malaysia.

Keywords

Logistics Performance, trade facilitation indicators, issues, exploratory study

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Assessing the Challenges of Creating Service Value in Supply Chains

Jyri Vilko

School of Business, Lappeenranta University of Technology
Skinnarilankatu 34, P.O. Box 20
FI-53851, Lappeenranta, Finland
jyri.vilko@lut.fi

Paavo Ritala

School of Business, Lappeenranta University of Technology

Jukka Hemilä

VTT Technical Research Centre of Finland

Erika Kallionpää

Tampere University of Technology

Jarkko Rantala

Tampere University of Technology

Purpose of this paper

One of the major challenges organizations face today is the increasing complexity of service value creating process. In order for the organizations to manage the value they are providing for the customers they need to have a holistic understanding of the processes involved and how those attribute to the total value provided. This study gives light to the relevant factors and their nature in value creation in supply chain context as well as evaluates the inhibiting factors that hinder it.

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 expert group discussion as the primary method of data collection. The expert group session was conducted to privately owned companies in different fields of industry and different natures of value creation. 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 management literature by illustrating essential attributes of value creation in supply chain context. The findings of the paper suggest that the value creation in supply chain context requires special attention in terms of the understanding the attributes that both promote and hinder the value creation process. More precisely, the most important factors identified for value provision were related to emotional attributes while most challenging issues in the value creation were related to the internal processes in the organizations.

What is original/of value in paper

The paper provides new information about value creation in supply chain context in two ways: Firstly, presenting the essentiality of different elements of value provision. Secondly, the study gives light to the hindering factors in service provision in different network levels. The presented viewpoint adds new information to the current scientific understanding of value creation and its challenges and therefore can provide opportunities to deal with value creation in supply chain context..

Practical impact

The presented study offers a new viewpoint to be considered in supply chain management. By better understanding the value attributes and their relevance in supply chains, the managers can increase the effectiveness of value creation activities.

Keywords

Supply chain value creation, network, determinants, inhibitors, hindering factors

Manufacturing Agility Enablers, Capabilities and Performance: An Exploratory Model

Ploy Sud-on, Ahmad Abareshi, Siddhi Pittayachawan and Leon Teo

RMIT University, Australia

Purpose of this paper

The emerging of manufacturing agility (MA) concept has received considerable attention in dealing with uncertainties in today's fast-changing environment, yet little empirical research exists to explain the constructs of manufacturing agility. The paper proposes a manufacturing agility framework to capture the key drivers and output capabilities that firms need to achieve superior performance.

Design/methodology/approach

Based on the extant literature and previous studies, a conceptual model is drawn up to relate the key antecedents of manufacturing agility, manufacturing agility capabilities and firm performance. The instrument is developed on a sample of automotive organisations in Thailand using a survey method to obtain information. A total of 297 Thai automotive organisations were participated in this study, giving a response rate of 21%. The constructs are used to perform both exploratory and confirmatory factor analysis.

Findings

The results reveal four distinctive MA antecedents, namely, New Product Development (NPD), Modularised Manufacturing (MM), Supply Chain Coordination (SCC) and Information Technology Integration (ITI). The tested MA capabilities are including Customer Responsiveness (CUR), Flexible Product (FLP), Innovation Competency (INC), and Speed Delivery (SD).

Research limitations/implications

The study provides a preliminary instrument as to explain the constructs of manufacturing agility. While theoretical concept has delivered in the conceptual framework, the relationships between the components (antecedents, capabilities and performance) have yet to be tested. A further test of structural model is recommended to identify the impacts of manufacturing agility on firm performance.

Practical implications

The instrument transforms a philosophy into concrete actions and creates a better understanding of how manufacturing agility can be constructed. It also provides an organisation a validated tool in order to measure its manufacturing agility capabilities.

Keywords

Manufacturing Agility, Resource-Based View, Dynamic Capability View

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Section 9: Sustainability in logistics and supply chains

A 'Symbiosis Effect' Perspective to Understand Reverse Logistics and Household Recycling Waste Systems

Emy E.A-Jalil¹, David B.Grant¹, John D. Nicholson¹ and Pauline Deutz²

Hull University Business School¹,
Department of Geography, Environment and Earth Sciences², University of Hull

Purpose

This paper discusses a doctoral research study to assess the relationship between the sustainability and effectiveness of household recycling systems and household recycling behavior, reveals how factors associated with household recycling systems affect household recycling behaviour, and how household recycling behaviour affect the provision of household recycling systems by the local authorities. The main objective is to reveal and explain the interaction and symbiosis effects between household recycling system and household recycling behaviour.

Methodology

The theoretical foundation for this PhD research came from an interdisciplinary synthesis of literature drawn from marketing, logistics and waste management (Carter and Ellram, 2008). Case studies were undertaken with staff and residents in two UK local authorities (LAs): the East Riding of Yorkshire and the City of Hull. Empirical data were gathered using three approaches: semi-structured interviews with the LAs and households; an online and postal survey of households; and a focus group with householders and interviews with LAs to follow-up and validate findings.

Findings

The first qualitative research stage supported symbiosis or interdependencies between systems and behaviour and corresponded with approaches in extant literature and previous empirical studies that discussed the element of availability (logistics) and engagement (marketing). Multiple regression analysis in the second quantitative research stage somewhat juxtaposed the existence of interactions between personal factors and situational factors. Finally, co examination between the first and second stages revealed the need to use symbiosis effect perspective in understanding backward movement between householders and household recycling waste systems. The third qualitative research stage is currently being undertaken to increase robustness in the research which will be ready for presentation in order to round-off the study's research.

Research and Practical Implications

This study has found that a 'symbiosis effect' perspective appears to be a robust framework to bring together effective household waste recycling systems and sustainable development considerations to enhance both sustainability and the economy. Further, the study provides empirical evidence examining both situational and personal factors of households and their interactions, which were previously not well-understood. This study has incorporated behavioural aspects in the reverse logistics process that should help improve the LAs' planning processes. Also, LAs may be more adaptive to the changing behaviour of their constituents and more willing to change their waste and recycling strategies to more sustainable methods.

Research Limitations

The study is based on perceptions of two LAs and their local constituents and therefore cannot be generalized to the whole UK population. Also, the third stage of the empirical study is still in process so findings are incomplete.

Keywords

Reverse Logistics, Households Recycling Waste System, Households' Recycling Behaviour, Symbiosis, Sustainability

Category

Research Paper

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Factors Affecting Managerial Intention to Adopt Sustainable Supply Chain Management in Thai Electronics Industry

*Chao Rujikietkumjorn**, *Tritos Laosirihongthong***, *Shams Rahman**, *Ferry Jie** and *Hong Jiang-tao****

*School of Business IT and Logistics, RMIT University,
Melbourne, Australia.

**Department of Industrial Engineering, Faculty of Engineering,
Thammasat University, Thailand.

***International Business School, Shanghai University of International Business & Economics,
Shanghai, China

Aim/Purpose

This research aims to understand the intention to adopt sustainable supply chain practices in Thailand, focusing on the factors which affect the organisational intention towards adopting sustainable supply chain management.

Design/methodology/approach

Using the theory of planned behaviour, this study categorise common themes, which clarifies the adoption of sustainable supply chain management and developed a hierarchical theoretical model. Fourteen senior executives from the electronics industry in Thailand were selected to participate in this study. Structured Analytic Hierarchy Process (AHP) was applied to analyse and assess the priority weights of factors affecting managerial intention to adopt sustainable supply chain management.

Findings

The analysis shows that subjective norm plays a major role towards the intention to adopt sustainable practices (priority weight= 0.6473), followed by perceived behavioural control (0.2416) and attitude (priority weight= 0.1111). At the factor level, customer influence (priority weight = 0.4254), governmental pressure (priority weight = 0.1660), and financial capability (priority weight = 0.1372) are found to be the most important factors.

Value

This is a unique study which employs the theory of planned behaviour to assess the factors affecting managerial intention to adopt sustainable supply chain.

Research limitations/implications

This study is conducted in the context of Thai electronics industry and therefore the results obtained may not be applicable to other industries.

Practical implications

This research provides a distinctive concept through the identification of the influential factors which help generates an understanding of sustainable supply chain management adoption among electronics organisations in Thailand.

Keywords

Adoption, Analytic Hierarchy Process, Factors, Sustainable Supply Chain, Theory of Planned Behaviour, Thai Electronics Industry.

Sustainable Logistics Management in UK Companies

Yongmei Bentley, Usha Ramanathan and Jimmy Boluarte

University of Bedfordshire, UK

Purpose of this paper

This study reports the findings from a recent investigation into the initiatives for carbon dioxide (CO₂) emissions reduction in logistics activities in UK companies. The purpose of this paper is to report how logistics managers develop and implement CO₂ reduction initiatives, and how the increasing emphasis on CO₂ reduction is changing their management roles within the organisation.

Design/methodology/approach

Data were collected from in-depth interviews with logistics managers in 15 UK-based companies across different commercial sectors. The transcribed interviews were then analysed using NVivo.

Findings

The research identified the main CO₂ reduction initiatives in UK companies, and examined the changing role of logistics managers as a result of CO₂ emission issues. Key findings include: a) Most CO₂ reduction initiatives have only started in the last 5 years, and are mainly operational and tactical in nature. There have been fewer strategic changes. b) Even in large companies with significant resources, CO₂ emissions monitoring of logistics activities is far from fully embraced. c) A major driver for companies to adopt CO₂ emission initiatives has been the link between emissions reduction and cost reduction. d) The main barrier has been lack of resources, particularly in the case of manufacturers. e) Logistics managers have seen a significant expansion of their role within companies, driven by the need to generate, evaluate, and implement strategies to reduce CO₂ emissions.

Value

The findings from this paper were original. The study sheds light on the current state of UK logistics operations regarding the reduction of CO₂ emissions and contributes to a better understanding of how company strategies are formed in response to environmental pressures.

Research limitations/implications

The data collection was conducted from UK-based companies only. To improve the research validity, future research on this topic will be expanded to include companies across the world.

Keywords

Logistics; CO₂; emissions; reduction; initiatives

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Sustainable Capabilities Improvement: Collective Practices Framework Development through Multiple Case Studies

Lin WU¹, Nachiappan Subramanian¹, Muhammad Abdulrahman¹, Chang LIU² and Kulwant Pawar³

¹Nottingham University Business School (NUBS) China

²School of Economics, University of Nottingham Ningbo, China

³Nottingham University Business School (NUBS)

Purpose

Companies are making efforts to enhance Triple-Bottom-Line (3BL) performance to meet the expectations of various stakeholders. Among different practices, lean, green and social (LGS) practices have been found to be the most commonly adopted ones by firms. The impacts of these practices on different aspects of firm performance have been well studied. However, regarding the concept of sustainability, the existing literature seems to be fragmented since practices and performance have been studied in isolation. Besides, existing research tend to focus on the direct impact of practices on performance; the role of capabilities as the tacit elements (Wu, Melnyk and Flynn, 2010) has been, to some extent, overlooked. To bridge the research gaps, this study aims to develop a sustainability framework incorporating LGS practices, operational capabilities and 3BL performance.

Design/methodology/approach

A case study approach was employed for this study. Two automotive companies operating in China were selected. The sampling was based on the companies' ability to represent and availability for the study.

Semi-structured interviews were conducted with the respondents from both companies. Questions on LGS practices, 3BL performance, operational capabilities as well as challenges they are facing to be more sustainable were asked. In addition to the primary data, secondary data including company CSR reports, annual reports, and websites information were also used in this study.

The theoretical foundation of this study is the Operational Capabilities Framework by Wu, Melnyk and Flynn (2010). According to Wu, Melnyk and Flynn (2010), the mere imitation of "best practice" have limited ability to bring the firm with an enhanced performance; it is the capabilities developed when firms employ the practices in specific problem-solving process that matters. Based on this, we propose that operational capabilities mediate the impact of LGS practices on 3BL performance.

Findings

A sustainability framework incorporating LGS practices, operational capabilities and 3BL performance was proposed, based on which propositions were developed for future quantitative tests.

Research Limitations

As indicated in the above section, the purpose of this study is to develop a sustainability framework from case studies. It definitely needs quantitative tests since qualitative research is for theory developing while quantitative methods are more useful in theory testing (Eisenhardt, 1989).

What is original/value of the paper

This study is among the early attempts to investigate the relationship between LGS practices and firm 3BL performance in a joint manner. Besides, the mediating role of operational capabilities was initially studied in the context of sustainability.

Keywords

Sustainable practices; Triple-Bottom-Line performance; Operational capabilities

Category of the paper

Case study.

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Role of Operational Capabilities in Budget Hotel Service Design: An Empirical Study in the Chinese Context

Yanan Gao And Nachiappan Subramanian

The University of Nottingham Ningbo China, People's Republic of China

Purpose

Hotel has to focus on combination of treatment, task and tangibles in designing service to satisfy customer. Especially in a budget hotel developing a service design with a combination of tasks, treatment and tangibles with numerous constraints and to be heterogeneous is a big challenge. In addition to the above, operation of a budget hotel in matured economy is standardized whereas in developing economies with various customer requirements becomes a serious issue. Hence, it is vital for a budget hotel in developing economies to build its operational capabilities to differentiate them from their competitors and to satisfy their customers. The paper studies the role and influence of operational capabilities required for developing service design in the Chinese context. Based on resource based view the study develops an operational capability service design model that meets the external requirements to satisfy customer and differentiates itself from their competitors (Galbreath, 2005; Chan et al., 2009; Hung et al., 2012)

Design/Methodology/Approach

We captured the importance of operational capabilities in service design using three sub models i) operations capabilities required for customer satisfaction ii) competitive priorities based on market characteristics and iii) match between competitive priorities and customer satisfaction. We carried out an empirical survey to validate our service design model and hypotheses. Questionnaire with standard measurement scales was used to collect the data. The questionnaire includes: operational capabilities, competitive priorities, customer satisfaction, behavior intentions, and basic information. In total 290 questionnaires were distributed to the budget hotels in three areas of China: Zhejiang, Shanghai, Anhui during June to August 2013. Our sample consists of diverse members with two international brands, four national chain hotels and one local brand. We found 199 useful responses for analysis among the 220 returned (75.8% response rate). We employed structural equation modelling approach using AMOS based on the result of exploratory factor analysis (EFA) and confirmatory factor analysis (CFA).

Findings

We found operational capabilities aspects such as physical product, staff attributes and service have positive relationship with customer satisfaction. Out of the above three, our analysis suggest that physical product which include proper size of customer bedroom, standardized hotel design, good comfort level, value-added facilities, good hygiene and cleanliness, layout of the room facilities and the design of room influences customer satisfaction. In terms of competitive priorities budget hotels have to concentrate on location and image. Finally we found that budget hotel can be successful if it concentrates on operational capabilities that improves customer satisfaction and matches with competitive priorities.

Value

Studies operational capabilities role and uniqueness in successful budget hotel service design with respect to developing country context.

Keywords

Operational capabilities, service design, budget hotel, China, empirical study

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Doing Field Management Research: Research Culture and Environment in Vietnam

Phuong Anh Nguyen

School of Economics and Business Administration, Saint Mary's College of California
Moraga, CA 94575-4230, Email: ppn4@stmarys-ca.edu

Purpose

Management research in the field of emerging market economies is an area of considerable interest to scholars. The research journey can be messy and fraught with complex relations and interests, logistical hurdles, and delicate negotiations. Guidelines for overcoming these obstacles and more generally for doing fieldwork in developing countries are not readily available. This paper addresses this gap by explaining the process and procedure for conducting field management research in Vietnam, and more generally in other Asian emerging market economies.

Design/methodology/approach

This paper, which derives from six months of fieldwork spread over four extended trips to Vietnam, presents the processes and procedures for conducting field management research in that country.

Findings

The paper reflects on the strategies adopted in the research approach, the management of complex relationships with research partners and participants, and the handling of constraints on sample selection and data collection. Finally, the paper offers lessons on how to overcome these challenges.

Originality/value

This paper offers one of the first "inside views" of how to do field management research in Vietnam.

Keywords

Emerging Market Economies; Field Research; Research Methods; Vietnamese Management

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The U.S./Canada Keystone XL Pipeline: Logistics, Energy, Environmental, and Political Issues

James Cross and Joel Wisner

University of Nevada Las Vegas, USA

Purpose of this paper

The Keystone XL Pipeline project is currently a logistics, energy, environmental, and political issue in the United States and Canada. So far, government approvals of the project have been delayed for a variety of reasons. In our paper we give a historical perspective on the XL Pipeline project and how it has been impacted by energy issues in the U.S., environmental hurdles in both Canada and the U.S., the growth in domestic U.S. oil production, and finally the demand for oil in Asia and eastern Canada. Information involving all of these issues will be presented. Finally, we offer some recommendations regarding the Keystone XL Pipeline.

Design/methodology/approach

This paper is descriptive in nature. The history leading up to the current pipeline impasse will be included, along with discussions of the pertinent issues.

Findings

In 2008, energy company TransCanada proposed the Keystone XL crude oil pipeline, extending from Alberta, Canada to the Texas Gulf Coast. Because this energy project proposal crossed the U.S. border, a U.S. Presidential permit was required. Environmental opposition in Canada and the U.S. remains high. In 2012, TransCanada began constructing a major portion of the pipeline on the U.S. side, from Cushing, Oklahoma to the Texas Gulf Coast. Since TransCanada's original application in 2008, the Bakken formation in North Dakota has seen rapidly growing crude oil production, which has impacted overall demand in the U.S. for imported oil. Additionally, the state of the U.S. economy has improved since 2008 which has impacted the job-creation argument for the pipeline.

The initial pipeline route through Nebraska caused a number of approval delays due to environmental impacts from a potential pipeline spill on the Sandhills areas of Nebraska. The 2012 proposed Keystone XL pipeline route avoids the environmentally sensitive areas in Nebraska. On the Canada side of the border however, environmentalists are concerned that extracting oil from tar sands requires open-pit mining and high levels of greenhouse gas emissions to process the heavy oil.

Practical Implications

Regardless of the environmental concerns, operators continue to develop the Canadian oil sands and the U.S. Bakken shale oil fields. Producers are turning to alternative transportation methods such as rail and truck hauling, a much more expensive shipping solution. Canada may seek other markets for their oil, including China and other Asian countries which have expressed interest. U.S. President Obama has had many political battles with the U.S. Congress over this issue, and it has been suggested that he approve the Keystone XL Pipeline in exchange for concessions on budgets and his controversial health care plan. Recently, the U.S. State Department published a report supporting the Keystone project.

Value of the paper

To date, there have been few papers discussing all of the issues surrounding the Keystone XL Pipeline. This paper discusses all of the issues from the Canadian and U.S. perspectives and seeks to approach the issues in an unbiased manner.

Keywords

Pipeline, Keystone, Bakken, tar sands oil, shale oil

Category of the paper

Conceptual paper

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Model of Value Creation for Green Supply Chain Stakeholders

Blanka Tundys¹, Andrzej Rzeczycki¹, Jarosław Jankowski² and Magdalena Ziolo¹

¹ University of Szczecin, Faculty of Management and
Economics of Services

Ul. Cukrowa 8, 71-004 Szczecin

{blanka.tundys, andrzej.rzeczycki, magdalena.ziolo}@wzieu.pl

² Faculty of Computer Science, West Pomeranian University of Technology, Szczecin, Poland
jjankowski@wi.zut.edu.pl

Purpose of this paper

The value creation for stakeholders is the ultimate goal of networks, supply chains and individual companies. For this it is important to identify appropriate expectations, opportunities and obstacles faced by the actors in this field. Green supply chains by definition should look for value in other areas than those traditionally conceived, so it is necessary to create a dedicated model for this supply chain.

The purpose of this article is to create a theoretical basis for the construction of a model of value creation for stakeholders in a green supply chain. It is significant as well as the possible sources of value creation, which take into account the effects of actions and conflicts occurring in the field of increasing the value added for different beneficiaries. The authors of the study will be based on the following thesis: in the literature there is no model of value creation, which is dedicated to green supply chain. Construction of the model can help to better identify the areas and tools that add value. Theoretical basis of the model can be used for various stakeholders and can be used in practice in different areas. The idea is to create a model, not only indicating the possibility of getting the value chain participants, but also for other stakeholders. The aim is also to examine correlations between perception, expectation, the exploitation and disruption in the creation of green supply chain of different groups of stakeholders (participants, customers, regulators, competitors).

Design/methodology/approach

To achieve the objective of the research will be conducted the structured review and study of primary and secondary literature and documents. Then the conceptual arrangement and presentation of theoretical aspects of model building. The end result of the work will be the value creation model of green supply chain with the identification of factors that influence positively and negatively, both in the creation of added value and its impact on the functioning and performance of green supply chain for different groups of stakeholders.

Findings

The application process will be preceded by a phase of analysis and research. The basic element of this Paper will be presentation of cause-effect model. The results will be the basis for both scientific discussion and practical verification of the model. It will provide a foundation for the start of the study and the confrontation of theory with business practice.

What is original/value of paper

In literature hasn't been presented to the model of value creation green supply chain for all types of stakeholders. This paper developing an original, modern and systematic approach to the subject. So far, the authors were involved in developing the methodological bases and practical verification of the creation of value-added in traditional supply chain or derived considerations to individual participants. Adoption of the issues related to creating value in a green supply chain is new approach. In view of the growing interest in the activities in this area and research for opportunities to increase efficiency, but also the functionality of green supply chain, initiatives of this kind are extremely needed. The presented model can contribute to finding areas that haven't been seen as adding value or not to play a greater significance.

Keywords

Green supply chain, value creation, stakeholders, model of value creation

Paper type

Conceptual paper

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Determinant Factors Influencing the Adoption of Environmental Management Practices for Logistics Companies

Irwan bin Ibrahim, Research Scholar, Malaysia Institute of Transport, UiTM Shah Alam.
irwan1975@gmail.com

Dr. Harlina Suzana bt Jaafar, Deputy Director Research & Industrial Linkages, Malaysia Institute of Transport, UiTM Shah Alam. harlinasj@yahoo.com

Purpose

The study seeks to explore the influence of technological factors, organizational factors, environmental factors, and environmental awareness and attitudes factors towards environmental management practices in the logistics industry in Malaysia. It also explores the logistics companies' willingness to adopt these practices. Based on an ongoing study, this paper proposes a research model that defines the inter-relationships between the factors mentioned above.

Design/methodology/approach – The paper is produced based on interviews, questionnaire survey and reviews on selected journal papers, other documents and online sources, including documents which offer substantial and comprehensive reviews of environmental management practices to develop this model.

Findings

Although technological, organizational and environmental factors have been taken into account in several studies on environmental issues, these factors have not yet been considered in the studies of environmental management in the logistics industry. Much remains to be learned about how technological, organizational and environmental factors influence of environment management practices adoption for the logistics industry, and with increasing awareness of environmental issues, there has been rising demand for environmental-friendly business practices. This paper is proposing a model that takes several ideas of the authors, plus the result of conducted interviews and proposed a model on the willingness on adopting Environment Management Practices.

Research limitations/implications – The generalizability of the findings is limited as the study focuses only on logistic industry in Malaysia.

Practical Implications

The proposed model offers practical solutions to problems encountered by logistics companies, and will be applicable to a wider audience of logistics industries. The framework is intended to explicitly inform senior executives of the importance of adopting environment management practices in their company planning to adopt environmental management practices will be able to make managerial decisions based on the findings from this research.

Originality/value – The model and variables in this paper suggest a new understanding about determinants factors in adopting environment management practices in the logistics companies. It also intended to provide a lens with which further research can be directed to enhance environmental reputation and outcomes of firms through new environmental management practices and the sustainable long-term competitive advantages of the firms.

Keywords

Technological Factors, Organizational Factors, Environmental Factors, Logistics companies, Environmental Management Practices.

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The Impact of Nonlinear Dynamics on the Resilience of A Grocery Supply Chain

Virginia Spiegler^{1,2}, Andrew Potter², Mohamed Naim² and Denis Towill²

¹ Brunel Business School, Brunel University, UK

² Logistics Systems Dynamics Group, Cardiff Business School, Cardiff University, UK

Purpose of this paper

The resilience of supply chain replenishment systems is an performance important attribute and especially so in the retail sector where initiatives such as Efficient Consumer Response have led to lower inventory holding while attempting to maintain high levels of on-shelf availability. A common approach to testing for resilience of such systems would be through simulation modelling, especially where batching of orders occurs, for example. However, with developments in non-linear control theory, there is an opportunity to use more sophisticated analytical approaches to evaluate and improve resilience. The aim of this paper is to demonstrate the value of an analytical approach with empirical testing on a replenishment system used by a grocery retailer.

Design/methodology/approach

An Industrial Dynamics (ID) approach is used for framing and building a credible representation of the grocery retailer's replenishment system. Initially a nonlinear causal loop and block diagram representations of the actual system were developed based on empirical data collection. Mathematical analysis of the model, based on nonlinear control engineering techniques in combination with ID simulation, have been used to understand the behaviour of stock and shipment output responses in the distribution centre given step and periodic demand signals.

Findings

Mathematical analysis through nonlinear control theory techniques has led to insights into the dynamic behaviour of the replenishment control model. This allowed the identification of specific behavioural changes in the supply chain stock and shipment responses, which are key indicators for assessing supply chain resilience, without going through a time-consuming simulation process. Transfer function and describing function analyses served as guidelines for undertaking ID simulation.

Value

The integrated method we have used combines to best advantage the knowledge generated via the twin approaches of non-linear control systems engineering analysis plus ID simulation. This duality maximises insight into the resultant causal relationships output from these procedures and hence enables the engineering of the optimal design for a real-world supply chain. The consequence is the development of a robust system based approach which brings together two mutually supportive components, simulation and non-linear control theory, to enhance supply chain resilience. The approach is illustrated using data concomitantly with a comprehensive grocery supply chain case study.

Research limitations/implications

This research is limited to the dynamics of single-echelon supply chain system. Although the electronic point of sales data and the store replenishment system have been considered in the validation process, this study has focused on analysing the resilience performance of a replenishment system only. Future research will consider a multi-echelon supply chain.

Practical implications

The systems based method is readily transferable to other industrial settings and environments, thereby enabling insights into resilience. A number of lessons for the case study are identified and these may also be applicable in other practical contexts.

Keywords

Resilience, control theory, simulation

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Section 10: Transport and distribution

An Investigation into Critical Service Determinants of Product Returns in Retail Firms

Kamrul Ahsan¹ and Shams Rahman²

¹College of Business, Victoria University, Australia, E: kamrul.ahsan@vu.edu.au

²School of Business IT and Logistics, College of Business, RMIT, Australia,
E: shams.rahman@rmit.edu.au

Purpose of this paper

Despite increased attention to quality, product returns are quite common in retail firms. A recent study shows that overall customer returns are approximately 15% of sales for mass merchandisers and up to 35% for catalog and e-commerce retailers (Jayaraman and Luo, 2007). Within returns management, returns policy plays a vital role. A returns policy is a set of guidelines describing the customer effort required for returns claim, the returns process, gatekeeping rules, extent of coverage (full or partial money back, repair or replacement), and compliance with local consumer law. In other words, returns policies determine the level of returns services offered by retailers to customers. Traditionally, product returns have been viewed by retailers as the 'ugly ducklings', or necessary evil of retail, a cost centre or an area of potential customer dissatisfaction (Strauss, 2006). However, recent studies suggest that if managed efficiently returns could be a source for competitive advantage through customer retention and efficient asset management (Stock et al., 2006; Mollenkopf et al., 2007). In spite of such strategic importance, research in returns management in retail businesses is still limited (Bonifield, et al., 2010). The aim of this study is to identify and prioritize determinants of efficient management of product returns in the Australian retail industry.

Design/methodology/approach

First, through an extensive literature review determinants of product returns services were identified under the three major service dimensions: interactive process, outcome of product or service delivery, and the manner in which service failures are handled (Collier and Bienstock, 2006). Then the critical case sampling method (Neuman, 1991) was used to identify cases that are 'particularly information rich' in relationship to the questions under consideration (Yin, 2003). We identify 20 major retail firms and approach their retail manager for interview. Twelve senior executives (one from each firm) were interviewed. All interviews were conducted face-to-face and each interview lasted approximately 60 minutes. Data were analysed and the criticality of the determinants of product returns management were assessed employing the analytical hierarchy process (AHP) approach.

Findings

Results indicate that the most important service dimensions are the outcome of product or service delivery, and the manner in which service failures are handled. The top five critical determinants for management of product returns are prioritised as: (i) money-back for any type of return, (ii) communication support service for customer, (iii) product replacement, (iv) easy support access of contact details such as e-mail and phone number, and (v) user-friendly interaction.

Originality/Value

So far limited research has been conducted in product returns management in the context of retail firms. This study is a pioneering study identifying critical determinants of product returns management in retail firms.

Research Limitations

Although the use of 12 large firms is adequate given the methodology employed (Buyukozkan et al., 2011), it is recommended to conduct empirical study using a large sample data set in the future

Practical Implications

The findings of the study can act as a reference guide to senior executives developing strategies for competitive advantage through product returns viz. customer retention and efficient asset management.

Paper type

Research paper.

Keywords

Product returns, Product returns service, AHP, Retail industry.

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Valuing Integrity in Credence Quality Food Supply Chain

Mohd Helmi Ali, Kim Hua Tan and Kulwant Pawar

Nottingham University Business School, Nottingham, UK

Zafir Mohd Makhbul, Lokhman Hakim Osman

School of Management, Faculty of Economics and Management, Universiti Kebangsaan Malaysia, Malaysia

Purpose of this paper

The 'Horsemeat Scandal 2013' and rapid progression of equivalent incidents have exposed the real potential for dishonesty of food products. In this essence, food integrity paradigm has increased significantly and become more important to the food industries. However, very little is known on the 'food integrity' in the existing literature. Thus, the paper aims to abridge the integrity risk and variables into a framework capturing the Farm to Fork concept.

Design/methodology/approach

The framework was developed through the Q-sort analysis introduced by Stephenson (1965) which largely used by psychologist and in-depth interview with the representatives of halal food supply chain in Malaysia. The Farm to Fork (f2f) concept was adhered in capturing the absolute guarantee of the food integrity in the supply chain.

Findings

In this paper, we developed a conceptual framework called as 'Food Supply Chain Integrity' which are relevant for any food supply chain but are especially critical to the safeguarding of credence quality food. We describe the credence quality product attributes and highlight the inherent difficulties and risk in ensuring the food integrity posed by global halal food supply chains, using halal food supply chain as an example

Value

The 'Food Supply Chain Integrity' structures the integrity issues in the halal food supply chain. Halal as credence quality products which embrace more stringent requirement can shed lights other food supply chain. The applicability can be used in other food supply chain such as vegetarian, kosher and so on. On the same note, it is important highlight for the governments, authorities and business organization as the additional benchmark in safeguarding the food integrity

Research limitations/relativity

This paper suggests a new integrity framework which is little known in the literatures. Thus, it is yet to be tested on the bigger scale of industries. Thus, we recommend that the future research on the modelling of the framework by quantifying the importance of the variables in the framework.

Practical implications

Farm to Fork concept is relatively new to the food industry. Currently, the approach of the legislation and law are focusing within the factory walls, thus the framework add extra milestone in involving another tiers of supply chain in framing the integrity issues. Practically, it adds to the practical conventional wisdom in governing the food integrity supply chain.

Keywords

Food Integrity, Food Supply Chain, Q-sort, Halal

Online Retail Store's Product Delivery Method that Takes Account of an Increase in Sales

Etsuo Masuda

Faculty of Distribution and Logistics Systems, Ryutsu Keizai University, Japan

Purpose of this paper

Advances in smartphones and e-commerce have been prompting retailers to sell goods both in physical shops and on the Internet. Retailers must be proactive in both marketing, to raise demands for online shopping, and logistics, to cope with expanding demand.

This paper addresses the logistics aspect. Specifically, it presents a delivery method that is effective in coping with an expansion in e-commerce, evaluates its effectiveness, and describes some considerations for the commercial application of the method.

Research approach

When purchases over the Internet increase, the conventional method of delivering goods to individual homes (Method A) would require a large number of delivery vehicles and drivers if goods are to be delivered within a specified time. As a way to avoid such an increase in delivery costs, the assumption that goods need to be delivered to individual homes can be eliminated, and instead product handover sites can be provided. Shoppers come to these sites to receive what they have bought online (Method B). We evaluate both methods in terms of delivery distance and time through simulation based on a simple service model.

Findings

We have evaluated Methods A and B in terms of delivery distance and time. It is shown that Method B is advantageous in reducing travel distance and consequently fuel costs, and in suppressing the number of trucks and drivers required in each delivery period. This advantage becomes more pronounced as the number of customers increases. It also presents issues that need to be addressed in actually introducing the proposed site handover method.

Practical implications

Even when online retail stores are widely accepted, it would still be necessary to use a mix of Method B and Method A because two-income families and elderly people would represent a large portion of the customers. Furthermore, it would be necessary to study the relationship between the existing online shopping services in which ordered products are handed over at convenience stores and the proposed site handover method.

Originality

Many studies on the delivery of products ordered online focus on how to hand over products that could not be delivered. This paper focuses on how to improve online supermarkets' product delivery to cope with an increase in the number of customers (i.e., the number of houses to which products need to be delivered).

Keywords

Online retail stores, Delivery method, Product handover sites

Category of this paper

Research paper

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Scheduling the Optimal LPG Distribution Using Periodic Vehicle Routing Problem: A Case Study in Indonesian LPG Distribution

Ilyas Masudin¹, Annisa K. Garside², Ferry Jie³ and Febri Wibowo⁴

^{1, 2, 4} University of Muhammadiyah Malang, Indonesia

³MIT University, Australia

Purpose of this paper

This paper studies the application of Periodic Vehicle Routing Problem (PVRP) in distribution of Liquefied Petroleum gas (LPG). The purpose of this study is to schedule the routes in distributing LPG from agents to LPG retailers optimally. The optimal distribution routes is based on the demand covered and distribution costs.

Design/methodology/approach

This paper focuses on PVRP application on the distribution of LPG from agent to retailers using Cluster First Route Second (CFRS) and Ant Colony System (ACS) in an Eastren Java province. Required data in this paper are retailers locations, the number and capacity of vehicles, quantity of deliveries, distance between agents and retailers, existing routes of LPG distribution and distribution costs. Data collected is a secondary data which is released by the company. There are two approaches in solving Periodic Vehicle Routing Problem (PVRP), exact and heuristics. This paper uses exact approach to solve the routing problem in LPG distribution system. In the stage of visits to retailers from agents is done by modifying formulation mathematical PVRP model which has been developed by Rudiansyah and Tsao (2004).

Findings

The results show that the region of distribution should be clustered into two clusters. Three delivery frequencies of 1 and 2 clusters, gives an optimal solution. The results of delivery routing which are obtained from Lingo software using Ant Colony algorithm indicate that there is decreases of distances, about 347.19 km from the previous distribution system and it reduces about 25% of the current distribution costs per week

What is original/value of paper

This paper is based on case study research from emerging markets and more specifically from Indonesia which are rare.

Keywords

LPG distribution, Cluster, Frequency of delivery, Routing

Category of the paper

Transport and distribution

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Waste Management & Customer Value in Petroleum Logistics

Per Engelseth and Razib Ahmed*

Molde University College
Postboks 2110, 6402 Molde, Norway
*Corresponding author: peen@himolde.no

Purpose

Motivated by the waste management industry's own conception that they are a value creating actors in supply networks this study focuses on how "customer value" may be associated with material waste in the empirical realm of offshore petroleum logistics.

Design/methodology/approach

We seek through this case study to ground this business conception of waste-as-value in both theory and empirical evidence. The analytical framework is created through literature associated with the following research questions:

1. What are the types of waste handled at the supply base?
2. How are these forms of waste managed?
3. What characterizes the reverse logistics processes of the types of waste managed through the supply base?
4. How do these reverse logistics processes create value in the supply network?

The literature review encompasses 1) waste, 2) waste management, 3) reverse logistics and 4) customer value to create a research model used to direct the case study and also providing foundation for a conceptually based analysis. The case study focuses on a supply base representing a node location & organisation in the studied upstream offshore-related petroleum logistics network with focus on material waste flows as reverse logistics processes at a supply base facility.

Findings

Analysis evokes how waste management is not simply a recurring "reverse" process loop, but rather waste flows go in different directions with different perceptual associations to customer value. Waste management supersedes accordingly the conceptual boundaries of "reverse logistics", although elements of "reverse logistics" may be found in waste management, these are not dominant in the case. Value is complex and associated with different concepts of benefits and costs from a customer perspective (the recipient of material waste), associated with different types of material waste flows; reuse, recycling and deposit. This view focuses on the business aspect of waste management as handling a waste product and regards therefore, as in normal outbound physical distribution, features of environmental sustainability, often held to be focal in material waste literature, as contextual. This points to how viewing material waste handling processes as business logistics, and not as "reverse" flows, involves what may be interpreted as value creation. Waste management firms may accordingly be classified as having features of logistics service providers to the degree they do not trade waste products.

Research limitations/implications

A case study provides grounds for theoretical generalizability; to create theoretical understanding at an aggregate level implying theoretically driven case inquiry as well as empirically based model creation; an iterative process between theory and substance. Actual findings from the case study itself must therefore be clearly theoretically based, interpreted and discussed through theory before considering transferability of these case findings in other waste handling settings.

Value

A substantial theoretical contribution embedding logistics processes conceptually in "waste management". This means that waste management is established as a form of industry subject to inquiry based also on logistics and SCM theory. Theoretical concern should therefore be focused on evoking particularities of an industry and adapting logistics and SCM theory to industry particularities as developed in e.g. crises management (humanitarian logistics), construction, manufacturing and services. Waste management is exposed as an identifiable and thereby particular empirical realm for developing market-driven supply chains.

Keywords

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Factors Influencing the Operations of the Halal Meat Supply Chain in Australia

Mohd Hafiz Zulfakar¹, Caroline Chan² and Ferry Jie³

^{1,2,3} School of Business IT and Logistics
RMIT University
Melbourne VIC 3000 Australia

Purpose of this paper

The purpose of this paper is to discuss the factors that influence the operations of the halal meat supply chain in the environment of a non-Muslim-majority country. Australia, a non-Muslim-majority country, is a major producer and exporter of halal meat to Muslim countries. Despite the status, little has been done to study the operations of halal meat supply chain in this country.

Design/methodology/approach

A qualitative research approach was used in this study. Data was collected from thirty-one semi-structured interviews with various participants representing the halal meat supply chain stakeholders in Australia, which includes the halal certifiers, meat processors, industry associations, Muslim workers and retailers. Reviews of relevant documents and observations at selected meat processing establishments have also been conducted to enrich the outcome of this study.

Findings

Ten factors have been identified as essential to the successful implementation of halal meat supply chain in Australia: halal program, halal understanding, halal governance, halal certification, halal segregation, role of Muslim workers, trust between stakeholders, supplier selection, religious and social obligation, and consumer awareness and obligation. These factors, however, have different impact both in the domestic and export halal meat supply chain in Australia.

Research limitations/implications

As this paper focuses only on halal meat category, future similar studies on other types of halal food categories such as manufactured consumer goods, poultry and pharmaceuticals can be conducted. Future studies can also be undertaken to see whether there is any significance differences in the factors influencing the implementation of halal food supply chain operations between Muslim and non-Muslim majority countries as well as the relationship between the factors identified with the performance of the supply chain.

What is original/value of paper

This study is the first of its kind to examine the halal meat operations from the supply chain management perspective in Australia. With increasing pressure from various quarters of halal consumers about the status and integrity of halal food produced in the non-Muslim countries, this study will provides better insights and understanding of how the halal status and integrity is protected, thus ensuring the successful implementation of halal meat supply chain operations in Australia.

Keywords

Halal meat supply chain, halal integrity, halal food industry, halal, supply chain operations

Category of the paper

Research Paper

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Green Consumerism: A Study on the Prospect of Consumers Participation in Corporate Environmental Management Programs

Siddhi Pittayachawan, Ahmad Abareshi, Booi Hon Kam and Leon Kok Yang Teo

School of Business IT and Logistics, RMIT University
445 Swanston Street
Melbourne VIC 3000 Australia
{siddhi.pittayachawan, ahmad.abareshi, booi.kam, leon.teo}@rmit.edu.au

Purpose of this paper

In most industries, the bulk of the supply chain wastes occur post-consumption. Consumers participating in retailer-sponsored product recycling or renewal programs play a significant role in reducing supply chain wastes. Extant literature on green supply chain collaboration tends to focus on the business-to-business relationships between supply chain partners, paying little attention to the role of the individual consumers. This study examines factors influencing consumer intention to collaborate in retailer-sponsored recycling programs and green initiatives aimed at reducing post-consumption wastes.

Design/methodology/approach

Drawing on the tenets of Theory of Planned Behavior and Social Exchange Theory, a model of green consumerism was first developed comprising six constructs: Green Attitude, Subjective Norms, Perceived Behavioral Control, Incentives, Green Intention, and Green Collaboration.

The model was tested using data collected via a mixed-mode questionnaire from consumers aged 18 and above resident in Singapore and Australia. A total of 189 completed responses from both countries were obtained: Singapore (103) and Australia (86).

The analysis followed a four-step structural equation modeling (SEM) approach: unrestricted model, measurement model, structural model, and pre-specified model. An exploratory factor analysis on the unrestricted model resulted in Green Collaboration being divided into Green Purchase and Green Participation and Incentives split into Explicit Incentives and Implicit Incentives, producing a conceptual green consumerism model with eight constructs linked by seven hypotheses.

The validity and reliability of each factor from the unrestricted model of both the Australian and Singapore samples were then tested using multiple-group item response theory. The resulting measurement models were then employed to develop structural models using multiple-group SEM technique. The structural models were subsequently modified to increase their parsimony in the fourth pre-specified model stage.

Findings

Both the Australia's and Singapore's models indicate that green intention positively affects green purchase. Both models also reveal that the presence of implicit incentives will lead to a strong predilection toward green collaboration, implying more green purchase and a higher level of green participation.

The results suggest that in Singapore consumers normally purchase green products before participating in other green activities. In contrast, in Australia green participation need not be preceded by green purchase. These behavioral differences underscore the dissimilar approaches adopted by customers in the two countries in response to green supply chain collaboration.

Value

Studies that frame eco-friendly consumer practices within a green supply chain are rare. This study sheds light on how consumers in two dissimilar cultures could contribute to green supply chain collaboration through their individual behavior and through influencing the practices of firms which they patronise.

Research limitations/implications

The findings underscore the importance of embedding socio-cultural factors in studying consumer participation in green supply chain collaboration. The applicability of the model should be further tested in other socio-cultural settings.

Practical implications

This study offers insights for retail managers in the two countries to develop effective policy and other measures to entice consumers to engage in green purchase and participate in green incentives.

Keywords

Green consumerism, green participation, cross-country study, environmental management program

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Physical Barriers to Seamless Movement of Rail Freight across ASEAN Borders: An Empirical Study.

Adi Aizat Yajid

Malaysia Institute of Transport (MITRANS),
Universiti Teknologi MARA (UiTM),
Shah Alam, Selangor, Malaysia.

Purpose of this paper

The purpose of this study is to explore what are the physical barriers that hinder the seamless cross border rail freight movements for the South East Asia (ASEAN) mainland

Research approach

This qualitative study was based on interviews with the carriers, agents and authorities involved in the industry. On top of that, professional academic views also gained through interviews and literature. The central references are the official documents from ASEAN.

Findings

The idea of developing the physical connectivity in ASEAN region is well accepted. It could offer a better business environment to all the members in this region. As for the rail connectivity, looking at the current connectivity available, they are far from completion in connecting the mainland even though the intention to develop them is there. As for the time being, there is only one cross border rail freight movement that happen in this region, which is between Malaysia and Thailand. Previously there was another cross border movement, which was between Malaysia and Singapore. But it had been stopped since the ownership of the facilities between Tanjong Pagar station and Woodlands had changed hands. Even so, the said cross border movement is not really a seamless movement. For the other parts of the region mainland, there are various reasons that had and could contribute to the non-connection between members through rail links. To enable the Singapore Kunming Rail Links to run seamlessly, the problems that emerged need to be addressed accordingly. As for the barriers that will emerge and had exist, the physical barriers happen to contribute quite significantly towards the completion of the project. These physical barriers are very much related to the facilities for the rail movements. These various categories of physical barriers need to be identified accordingly to enable the sufficient solutions could be provided for the seamless journey of the train.

Research limitations

The cross border rail freight movements only occurred at one part of this region's mainland, which is between Malaysia and Thailand. The information regarding this topic is very limited due to the limited number of border in this region where the cross border rail freight movements happen.

Practical implications

This study brings to the table the physical barriers that exist in the region which hinder the seamless rail freight movements between countries in this region. Overcoming these physical barriers could make the intention of connecting the ASEAN mainland through rail become more possible and reachable in the near future according to the intended plan.

Value

This research has explored various physical barriers that had and will contribute to the incomplete seamless journey for rail freight movement in the ASEAN mainland.

Keywords

Rail freight cross border movements, physical barriers, seamless journey

References

Master Plan on ASEAN Connectivity 2010, 2005 ASEAN Framework Agreement on Multimodal Transport and 1998 ASEAN Framework Agreement on the Facilitation of Goods in Transit.

Development of Forecasting Method Concerning Water Demands in the Okinawa Prefectural Waterworks Service Area

Yukio Maruyama¹ and Hisashi Yamamoto²

¹Nippon Institute of Technology

²Tokyo Metropolitan University

Purpose of this paper

The goal of this study is to propose forecasting method of water demands applying all over the country in Japan. In this paper, the value of water supply is forecasted applying proposed forecasting method using the data of water supply per day of Okinawa prefectural. And, it shows that this forecasting precision is equivalent to the forecasting precision of previous studies. Moreover, factors which are improved forecasting precision are examined.

Design/methodology/approach

The point of this forecasting method is following three matters. 1) Based multivariate regression analysis. 2) Using multiple years data of the value of water supply per day. 3) Correcting the obtained multivariate regression formula by single regression analysis.

Findings

In previous studies, forecasting method for a weekday and that for a holiday are proposed, respectively. In this examination, forecasting value of a weekday and a holiday are leaded applying same forecasting method. As the forecasting result, forecasting precision of this examination is equivalent to that of previous studies.

What is original/value of paper

Proposed forecasting method in previous studies is improved.

Keywords

Water demands, multivariate regression model, estimation of trends, forecasting precision.

Category of the paper

Case Study

References

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An Analysis of Multimodal Transport Routes for Construction Equipment in Vietnam

AKC Beresford, C-C Wang and SJ Pettit

Cardiff Business School, Cardiff University, Cardiff, CF10 3EU

Purpose of this paper

The purpose of this paper is to analyse intermodal systems in Vietnam in respect of the movement of large units of construction equipment to building projects in northern Vietnam.

Design/methodology/approach

The basis of analysis is the application of a time-cost-distance model which allows different routes to be compared directly. The paper is case-study based, using data supplied by logistics companies and their transport sub-contractors. Data were collected through interviews and questionnaires. Routeing options for the movement of oversized construction equipment from southern to northern Vietnam are compared, and strengths and weaknesses within the respective supply chains identified.

Findings

The main contribution of the paper is to identify the most suitable route for the cargo taking account of operational constraints. In Vietnam, domestic transport is shown to be complex, and under-developed because of infrastructure weaknesses and a regulatory framework which is incomplete. The cargo characteristics lead to specific requirements which elevate security, safety and avoidance of damage to high priority considerations. There are shown to be four main routes which can fulfil the overall needs of shippers but each route is shown to be sub-optimum in terms of one or other consideration.

Value

The paper provides an analysis of multimodal transport routes for 'over-sized cargoes not previously undertaken in this form for Vietnam.

Research limitations/implications

As often occurs with studies of this type the acquisition of data is difficult and the number of routes studied limited. Future research could be undertaken to explore a wider range of multimodal transport corridors and solutions.

Keywords

Multimodal Transport, Risk, Cost Model

Type of Paper

Research

Logistics Implications of the European Freight Transport Deregulation

Henrik Sternberg and Andreas Holmberg**

*Lund University, Department of Design Sciences, Division of Packaging Logistics, SE-22100, Lund, Sweden. E-mail: henrik.sternberg@plog.lth.se

Purpose of this paper

Despite political debate and media attention to the de-regulation of the European road freight market, it has received very sparse attention in academic literature. Looking at literature that has dealt with the North American truck transport de-regulation (e.g., Corsi, 2005), large differences on both strategic and operational levels are apparent. This paper aims at empirically exploring the logistics effects of the European road freight transport de-regulation, comparing the effects on environmental, social and economic sustainability.

Design/methodology/approach

Since the literature, with the exemption of one conference paper (Schramm, 2012) to our best knowledge contains no studies on European freight de-regulation from a logistics perspective, an explorative approach has been applied. To explore the implications empirically, field studies, regular media articles, calculations and interviews were carried out with various supply chain and transport managers. An in-depth, quantitative constructed case study of a large Scandinavian retailer's entire logistics network (inbound and outbound) was done to exemplify the social, environmental and economic impact of changing from domestic to foreign hauliers.

Findings

Substantial transport cost differences between Eastern and Northern European hauliers, create large opportunities for transport service purchasers to cut costs, if they are able of balancing international and domestic freights. Based on current elasticity of mode choice, major incentives for cutting intermodal transport in favour of cheaper and more flexible road transport. Nevertheless, social and environmental aspects make the use of cheaper, foreign carriers a delicate matter.

Value

This paper represents a first and unique contribution to the logistics effects of the European freight de-regulation.

Research limitations/implications

The effects of the European road freight regulation, offers important implications on options in supply chain design and firm policy and highlights the complexity in designing supply chains (Abbasi and Nilsson, 2012) For sustainable logistics, considering the fragmented market structure (Sternberg et al., 2013) becomes increasingly important.

Practical implications

For supply chain managers, this paper provides an insight into the opportunities and challenges related to the freight market de-regulation.

Keywords

Freight transport, supply chain design, transport deregulation, cabotage

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On The Road to Sustainable Future: A Roadmap for the UK Road Freight Transport Sector

Maja Piecyk¹, Phil Greening¹ and Alan McKinnon²

¹ Centre for Sustainable Road Freight, Heriot-Watt University, Edinburgh, EH14 4AS, UK

² Kühne Logistics University, Hamburg, 20457, Germany

Purpose of this paper

Heavy Goods Vehicle (HGV) operations account for around 6% of all UK GHG emissions. Economic and environmental pressures faced by the sector call for new, innovative approaches to improve its long-term sustainability (Piecyk and McKinnon, 2010). The aim of the research presented in this paper is to develop a roadmap of the sector's path to meeting the Government's goal of an 80% reduction in UK GHG emissions by 2050. This roadmap will define a long-term strategy, as well as the sequence of tactical steps and abatement measures that need to be taken along the way to achieve this goal. A conceptual framework underpinning the roadmap is presented and tested on one component of the map, i.e. the introduction of methane as an alternative fuel for diesel in trucks.

Design/methodology/approach

'Roadmaps provide an extended look at the future of a chosen field of inquiry drawn from the collective knowledge and imagination of the groups and individuals driving change in that field' (Galvin, 2004, p.101). The roadmap has been developed through a combination of workshops and discussions with key stakeholders, carried out to collate their expert opinion on future developments in HGV technologies, logistics practice and behavioural changes necessary to facilitate industry's progress towards the GHG reduction target.

Findings

We present a conceptual framework underpinning a roadmap for achieving an 80% reduction in GHG emissions from UK road freight transport. The framework is tested on one component of the map, i.e. the introduction of methane as an alternative fuel for diesel in trucks. In the next stage of the research, a large-scale model will be developed to quantify expected GHG reductions and enable analysis of 'what-if' scenarios.

Value

The roadmap is unique in incorporating a mix of technological, operational and behavioural abatement measures. It maps the complex interactions between proposed solutions and helps to identify points in time when a solid business case can be made for each of them. The roadmap is an invaluable resource for businesses attempting to develop corporate decarbonisation strategies (McKinnon and Piecyk, 2012). We also outline a programme of future research into the various carbon abatement measures that need to be implemented along the way to meet the target.

Research limitations/implications

The work presented in this paper identifies critical areas for future research in the field. The roadmap will help academics to craft their own research agendas, put them into wider context and help them to position their work within a broader strategy for the study of logistics decarbonisation.

Practical implications

The roadmap will support policy makers, trade associations and managers in making cogent strategic decisions, by identifying gaps to be filled and the sequence of steps to be taken.

Keywords

Roadmapping, GHG emission reductions, road freight transport

Category

Research paper

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Section 11: Port logistics

Departure Side Platforms: A Measure to Mitigate Road Congestion

William M. Guzman, Leslie W. Young and Konrad J. Peszynski

School of Business Information Technology and Logistics
College of Business
RMIT University
Melbourne, Australia

Purpose of this paper

This research investigates traffic congestion at railway level crossings adjacent to or in the close proximity of railway stations, proposing that a reduction of boom barriers down time periods at these locations can be derived by making alterations to the infrastructure of the railway station. These infrastructure alterations relate to the platform arrangements at stations, and present an opportunity to minimise the time of roads closure periods at level crossing, thus mitigating road traffic congestion.

Design/methodology/approach

To test this theory, computer traffic simulation software is used. Computer simulation methodology is appropriate for this research because it investigates a particular case and a situation not yet investigated using any other research methods, and because it would be physically difficult and very expensive, if not impossible, to create a rail and road network specifically for this purpose. Using computer simulation, both types of networks are emulate to study the behaviour and activities of rail and road traffic at level crossings, gaining an understanding of the operations of level crossings and of road closure of level crossings, events that cause road motor vehicular traffic congestion. The simulation process is conducted in two phases, one to emulate the current environment and the other to emulate the proposed environment.

Findings

Early simulation results testing single train arrival and departure at both the current and proposed environment have been most encouraging, confirming the proposition that the platform repositioning approach can be used to mitigate road traffic congestion at level crossings railway stations precinct. Further simulations are yet to be conducted to confirm that the theory also works when multiple train arrivals and departures are in operation.

Value

This new theory addresses the legacy of railway level crossings and specifically its links to the position of platforms at railway stations. No other research of this kind has been conducted in the past, in Australia or overseas. The research is believed to be the first to concentrate on addressing the issue platform positioning at railway stations level crossings.

Research limitations/implications

This research is not oriented, does not aim or is designed to resolve safety issues at level crossings or to reduce accidents at level crossings. The implementation of the proposed new theory could help in resolving safety issues and mitigate level crossings accidents by default.

Practical implications

The main contribution of this research is by the proposition that mitigation of traffic congestion in the vicinity of railway stations level crossings can be obtained by the new theory presented. Much research has been conducted in Australia and overseas regarding level crossings; all of these have explored the mitigation of the symptoms of level crossing problems and none has explored treating the cause(s) of the level crossings problems.

Keywords

Road traffic congestion, Level crossings, Level crossing straffic congestion

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On-Trip Freight Consolidation in Last-Mile Logistics

Narath Bhusiri¹, Mark Goh² and Robert de Souza³

¹The Logistics Institute – Asia Pacific, NUS, Singapore

² The Logistics Institute – Asia Pacific, NUS and NUS Business School, Singapore

³ The Logistics Institute – Asia Pacific, NUS, Singapore

Purpose of this paper

Last-mile logistics is identified as the most expensive, inefficient, and problem-generating part of the supply chain (Ehmke and Mattfeld, 2012), especially in the context of a large city. One associated problem being highlighted recently is the concern of under-utilization of resources, e.g. trucks (Klundert and Otten, 2011). To date, common initiative to cope with this issue is the use of consolidation centers (CC) (Taniguchi et al., 2012). While the CC could improve utilization and operational efficiency, it can only address a partial solution, especially under a situation of high investment and operational costs, very restrictive time windows for distribution, and lack of coordinated management. Our aim behind these reasons above is, therefore, to propose an alternative consolidating strategy simultaneously taking into account two on-trip freight consolidation concepts, which would overcome the prevailing drawbacks and limitations of the CC. Instead of off-trip consolidation (i.e. the CC), the alternative strategy seeks for direct participation of two or more vehicles to move and exchange their freight over their scheduled trips. Different scenarios will be discussed in this study, where the performance and evaluation of the developed mathematical model will be made.

Design/methodology/approach

This study first introduces the alternative notions of on-trip freight consolidation. Then, we combine these notions with the existing last-mile logistics model. Specifically, a new route optimization model incorporating on-trip freight consolidation concepts is developed. An approximation-based solution approach is also developed to tackle such a computationally expensive but realistic model. Finally, we test the model on a given instance.

Findings

In the numerical experiments, we find that use of the alternative concept can help to improve asset utilization and overall performances. Moreover, advantages and impacts of on-trip freight consolidation will be highlighted.

What is original/value of paper

A novel vehicle routing optimization model simultaneously incorporating on-trip freight consolidation concepts will be developed. This, if incorporated properly, can better support the last-mile logistics operations in the context of a large city, notably in many countries in East Asia and the Pacific. The theoretical implication is that we are developing an integrated last-mile logistics model, which blends the traditional vehicle routing problem together with two on-trip freight consolidation concepts, i.e. deposit and transshipment, for the final leg of delivery chains.

Keywords

Freight consolidation, Last-mile logistics, Route optimization

Category of the paper

Research paper

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An Integrated Shipment Planning and Warehouse Capacity Decision: A Case Study of Bulk Item

Nyoman Pujawan and Mansur Maturidi Arief

Department of Industrial Engineering
Sepuluh Nopember Institute of Technology, Surabaya – 60111 Indonesia
E-mail: pujawan@ie.its.ac.id

Purpose

In a transportation and distribution system, the shipment decisions, fleet capacity, and storage capacity are interrelated in a complex way, especially when we take into account uncertainty of the demand rate and shipment lead time. In this paper we investigate the effect of various factors on total costs and service level of a distribution system. The objective is to obtain a better policy related to a number of issues in transportation and distribution under uncertain situation.

Design / Methodology

We develop a simulation model that mimics transportation and distribution of bulk cement by the use of ships in a large cement company in Indonesia. The system consists of a storage at the port of origin, storage at two port of destinations. We develop scenarios related to storage capacity at port of origins as well as port of destinations, number of ships employed, operating hours of ports, and rules for ship dispatching. Each scenario is evaluated in terms of shipment costs and service level. A factorial experiment has been conducted and ANOVA has been used to analyze the results.

Findings

The results suggest that significant all factors have significant effects on both total costs and service level. However, the use of different number of ships appear to have the most substantial impacts on those two performance measures. We also observe a strong correlation between total costs and service level and able to show the efficient frontier of cost and service level.

Practical Implications

This paper brings an important recommendation to the company as well as insight for maritime logistics in general. Cost is a very important competitive factor for bulk items like cement, and thus the proposed scenarios could be implemented by the company for substantial transportation and distribution cost reduction. In addition, the efficient frontier graph resulted from this study can be used as an internal target or performance benchmark.

Keywords

Transportation and distribution, maritime transport, simulation

Impact Analysis of Transportation System on City Logistics

G. Panchal^a, T. Cheong^b, R. de Souza^c and M. Goh^{a, d}

^a The Logistics Institute-Asia Pacific, National University of Singapore

^b Industrial & Systems Engineering, National University of Singapore

^c The Logistics Institute-Asia Pacific, National University of Singapore

^d NUS Business School, National University of Singapore

Purpose

Sustainable transportation systems are an important topic of concern for land-scarce countries. With the growth in urban traffic and the transmigration of people to cities, external costs are generated through traffic congestion, emissions, safety hazards, and socio-economic behaviour (Hunt&Stefan 2007). The growing cities are embracing decentralization concept in their efforts to reduce these external costs in the urban transport network (Israel&Cohen-Blankshtain 2010) and better manage the land use. Decentralization, in its effort need critical analysis in reducing the external costs. This paper seeks to understand the impact of decentralization on city logistics.

Design/methodology/approach

We use system dynamics (SD) (i) to identify various factors and their interactions in the system, (ii) to define the policy parameters and scenarios generated from the policy parameters, and (iii) to optimize the policy with which the objective of minimum congestion is satisfied.

Findings

The results from the analysis advocate the causal relationships identified in the SD modeling. The defined policy parameters make an important impact on reducing the congestion level in the city. It is also found that single policy parameter is not sufficient to manage the congestion level. With the inclusion of other parameters, the congestion and other traffic related issues are well managed.

Value of paper

The SD tool is important to help understand the policy dichotomy and incommensurability in order to make efficient transportation with the desired sustainability, considering the impact of transport modality and choice. Using SD, the policy makers can make the efficient decision on transport planning in the city.

Research limitation/implications

The analysis in the paper is rather verified with interviews and discussion with policy makers. However, using real data from the industries may improve the outcomes of the analysis. Also, the possible impacts of movements in the facilities (like shopping mall distribution) will add research contribution to last mile transportation literature.

Practical implication

Such analysis to solve the policy dichotomy will help policy makers to decide how much traffic volume can be diverted in the decentralized facilities (or precinct). The possible threat of counterintuition will be reduced by considering all the important factors in transport planning.

Keywords

City logistics, System dynamics, Sustainability

Article classification

Research paper

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The Effectiveness of National Single Window: An Evaluation of Freight Forwarders Perspective

Nor Bakhriah Sarbani¹ and Harlina Suzana Jaafar^{2,3}

¹ Researcher, Malaysia Institute of Transport (MITRANS), Universiti Teknologi MARA, 40450 Shah Alam, Selangor,

² Deputy Director, Research and Industrial Linkages, Malaysia Institute of Transport (MITRANS), Universiti Teknologi MARA, 40450 Shah Alam, Selangor,

³ Senior Lecturer, Faculty Business Management, Universiti Teknologi MARA, 40450 Shah Alam, Selangor, Malaysia

Purpose

This paper discusses the importance of the single window concept recommended by United Nation European Economic Commission (UNECE) to support trade facilitation initiative to overcome impediments in international cross border. Malaysia has developed its National Single Window (NSW) as national agenda, but issues about the effectiveness of its delivery to facilitate international trade remains highly debated among freight forwarders as the main users of national single window facility.

Methodology

This study adopts a qualitative research approach. In depth face to face semi-structured interviewed has been conducted with 12 freight forwarders who were in the single window user group. Every respondent has to answer a standard set of control questions. All interviews were properly recorded, coded and analysed using thematic analysis.

Findings

The findings resulted in a set of eight categories that influence the effectiveness of the implementation of single window in Malaysia. They are (1) government policy, (2) institutional cooperation, (3) stakeholder awareness, (4) electronic system reliability, (5) training, (6) ICT supporting facility and (7) simplified procedure (8) steering committee commitment. In addition, a total of 30 elements were found under these seven factors

Value

This research discovered that the government policy has become the most important factor that influence the effectiveness of the implementation of single window. The result demonstrated that the push and pull factors need to be streamline in the form of policy setting was lacking resulting to the problematic implementation of single window in Malaysia. It was also found that it was the users who will determine the effectiveness of the development of national single window as a trade facilitation measures for cross border administration.

Research implication

This research fills in the gap through the identification on the important role plays by government policy in trade facilitation environment, particularly in the national single window process, which was previously very lacking. However, this research was conducted from the users' perspective.

Practical implication

The findings in this research provide an insight to the policy maker and authorized stakeholders on the factors leading to an establishment of a highly reliable system for the benefit of the trading community and the nation as a whole.

Keywords

trade facilitation, single window, custom clearance, cross border activities

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Chindia: An Exploratory Study of Multimodal Logistics

Kulwant S Pawar¹, Abhijeet Ghadge² and Helen Rogers³

1 Nottingham University Business School, University of Nottingham, Jubilee Campus, UK

2 School of Management and Languages, Heriot Watt University, Edinburgh,
EH14 4AS, UK

3 Friedrich Alexander University Erlangen-Nuremberg, Germany

Purpose of this paper

The paper explores bilateral trade between two emerging economies, namely China and India, from a logistics perspective. The exploratory study seeks to identify trade patterns, economic and political challenges and potential opportunities and areas for improvements within the logistics and supply chain domain. Multimodal transport, associated infrastructure and networks between two countries is studied and analysed from a systems thinking perspective to generate insights.

Design/methodology/approach

The objective of this study is to analyse the type, volume and intensity of goods traded between the two countries and evaluate these against logistical implications and performance. Primary and secondary data collected from multiple sources is analysed based on systems thinking perspective.

In the first stage, data is explored through field observations, focus group activities and semi-structured interviews to better understand the nature of trade between the two countries. In the second part of the paper, primary and secondary data collected is analysed from a systems perspective to conceptualize the multimodal logistics models currently in operation and this is followed by a synthesis to assess the overall impact on operational performance..

Findings

Barriers and constraints to realise full potential of bilateral trade are identified. Conceptualised multimodal logistics model incorporates the findings drawn through the analysis.

Value

A multimodal logistics model for Chindia will help to better understand the impact of increasing trade links both between the countries under study and in a wider context.

Research limitations/implications

The developed model is in a conceptualisation phase and needs further testing to validate its implications. Additional case studies will be utilised to validate the findings.

Practical implications

The study will bring visibility to the current trade links between India and China. The study is also expected to benefit developing countries in improving their existing logistics system following proposed multimodal logistics model.

Keywords

Multimodal logistics, Bilateral Trade, Systems Thinking.

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Section 12: Supply chain skills, capability and education

Academic-Industry Collaboration: SCM Research and Knowledge Building

*Xiaohong Liu¹, Yen-Chun Jim Wu*² and Mark Goh³*

¹ Business School, Central University of Finance and Economics, Beijing, P.R. China

² Department of Business Management, National Sun Yat-Sen University, Kaohsiung, Taiwan

³ NUS Business School, NUS and University of South Australia, Singapore

Purpose:

Operating in a global and rapidly changing environment, there is an imperative for greater collaboration between universities and industry to foster rigorous theory building and relevant knowledge transfer. However, collaborative academic-industry research within the context of Supply Chain Management (SCM) remains to be examined. This empirical study represents the first attempt to explore how academics and practitioners engage each other in the SCM discipline, and provides a better understanding of collaborative SCM research between both parties.

Design/methodology/approach:

A two-pronged approach, involving a content analysis and an e-mail survey, is employed to explore a series of issues on collaborative SCM research. We examine 122 articles co-authored by both scholars and practitioners of six relevant SCM journals from 2003 to 2012. Specifically, we analyze the motivations, expectations, and communication involved in the process of collaborative research.

Findings:

Our findings suggest that academics and practitioners can function as co-investigators in research collaboration to better explore an array of SCM phenomena embedded in SCM practice. Further, building collaborative SCM knowledge relationships expedites collaboration and benefits SCM knowledge learning, transfer, and co-production.

Research limitation /implication:

As a piece of exploratory research, the sample size obtained could be larger. Although we consulted the six top-tier journals, we may have missed information from the other journals. In addition, we conducted an e-mail survey rather than face-to-face interviews. Moreover, the response rate was not very high. To some extent, this conduct may influence the explanatory power of the survey data. Future research could, however, pursue a larger sample for further inquiry.

Practical implication:

Collaborative SCM research is emerging as a viable approach to bridge the gap between rigor and relevance. It yields significant benefits for both academics and practitioners. Practitioners obtain scientific knowledge input which is beyond their own experience while academics are allowed to access the real world, fueled with a practical test for their scientific inquiry. The effect of the collaboration has not only created a co-learning environment for both sides, but also has improved the productivity and quality of collaborative SCM research.

Value:

The development of practice-based scientific SCM knowledge is useful for SCM theory building and serves to bridge the gap between rigor and relevance. Our work contributes to the greater picture of logistics education in Asia where the need for good talent to enter the industry is great.

Keywords

Collaboration, Supply chain management, Collaborative SCM research, Survey

Paper Type

Research Paper

* Corresponding author

Port Centric Logistics: An Operations Strategy for UK Ports in the Era of Servitisation

Nikolaos Valantasis-Kanellos¹, Maja Piecyk² and Nigel Caldwell³

Heriot-Watt University, Logistics Research Centre,
School of Management and Languages,
EH14 4AS, Edinburgh, UK

¹E-mail:nnv1@hw.ac.uk

²E-mail:M.Piecyk@hw.ac.uk

³E-mail:N.D.Caldwell@hw.ac.uk

Purpose of this paper

Servitisation and Port Centric Logistics (PCL) are two emerging concepts in operations management, logistics and supply chain management and maritime literature. Servitisation has received significant attention both from scholars and practitioners as a strategy that organisations can follow in order to increase revenue and sustain relationships with customers (Baines et al. 2009). On the other hand, in the UK port sector the concept of PCL attracted increased attention as a diversification strategy for UK ports, in order to increase customer base and revenue by offering value added services (Mangan et al. 2008). The concept of PCL is also widely accepted in the academic literature. However, research on PCL remains limited. This paper aims to provide interconnection between these two concepts. We propose a conceptual framework for future research on PCL as an operations strategy in the era of servitisation, which will enable UK ports to regain competitive advantage and superiority in their environment (Slack and Lewis 2008).

Design/methodology/approach

A two stage literature review has been conducted in order to develop the conceptual framework. The first stage of literature review aims to classify the drivers of servitisation for organisations. Furthermore, this classification is used as the basis of a systematic review and analysis of the existing academic literature on PCL. Finally, the findings of this literature review are used to form the suggested conceptual framework.

Findings

The analysis of the two literature streams has identified considerable similarities between the two concepts and sets the basis for the formation of the hypothesis that PCL can be adopted as an operations strategy for UK ports aiming to increase and secure revenue and strengthened relationships with customers. PCL is also likely to result in environmental benefits.

Research limitations/implications

The findings of this research need to be verified by primary data collection in order to evaluate the potentials of this operations strategy for ports.

Practical implications

The conceptual framework proposed in this paper will influence the decision making criteria regarding the formation of an operations strategy for UK ports in servitisation era.

What is original/value of paper

This paper combines two literature streams in order to provide the basis for future research in the ports operations strategy domain and to evaluate the case of PCL as an operations strategy for ports.

Keywords

Servitisation, Port Centric Logistics, Operations strategy.

Category of the paper

Conceptual paper

References

Baines, T., Lightfoot, H. W., Benedettini, O. and Kay, J. M. (2009) 'The servitization of manufacturing: A review of literature and reflection on future challenges', *Journal of Manufacturing Technology Management*, 20(5), 547-567.

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A Study on the Executives Competency Requirements in the Port Industry

Taih-Cherng Lirn¹, Vinh-Van Thai² and Dejan Mircetic³

1National Taiwan Ocean University, Taiwan

2Nanyang Technological University, Singapore

3University of Novi Sad, Republic of Serbia

Purpose of this paper

As the port industry is facing the constant challenge from the ever changing world business and trading environment, thus an investigation on the importance of port executives' competency requirement is deemed necessary before a port can perform well. This study aims to survey their staffs' competency and skills requirements perceived by executives in a port holding company, tanker terminal operator, ocean container terminal operator, bulk terminal operator, and stevedoring company in Taiwan.

Design/methodology/approach

This is an empirical research by a series of post questionnaire survey. Sixty five items of competency requirement are grouped into business related, port and logistics affairs related, and management related dimensions. With responses from the five groups of surveyees mentioned in the research purpose section, a comparison study on their perception differences on the importance of the above mentioned 65 items is calculated by F-test technique. Descriptive statistics on the importance of these 65 items for port executives in the next decade are also analyzed.

Findings

On average, these executives perceived information system management competency, port revenue/cost and charges competency, and port safety & security competency are ranked as the top three important competencies required by these executives. And information system management competency remained the top important competency perceived by these executive in the next decade.

Value

This is the only research that has identified the core competency required by executives in different types of port terminal. Training institutions operated by port authorities and port companies can use the findings in this research to design their training curricula for the next generation port/terminal executives in the future.

Research Limitations/implications

This research only makes one empirical survey to port executives in a single nation. In the long run, cross national comparison across the western world and eastern world on port executives' competency requirements should be carried out to generate more fruitful research result.

Practical implications

Ports are used to be perceived as a node point for physical movements of cargoes and exchange of transport modes. In the emerging economics such as Vietnam, container ship and yard operations competency is perceived to be the most important competency required by their port executives. However, in an economic with more developed shipping practices such as Taiwan, the port is rather perceived to be an information hub and a maritime knowledge center than a physical cargo movement node. Shipping training institutions should bear this finding in their mind before an appropriate port management curricula and training programme is designed.

Keywords

Port Management, Competency, human resource management

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Cooperative Modes among Port Corporation, Carriers, and Terminal Operators- The Case of Taiwan

Shiou-Yu Chen

National Taiwan Ocean University

Purpose of this paper

As the theories of supply chain management thrived, more and more business entities have moved to creating competitive advantages via collaborative partnering relationships with their suppliers and customers. Through integrated with sea-end container carriers and land-end terminal operators, Seaport Corporation could provide more complete and efficient logistics services to customers. This paper aims to determine and to examine critical services attributes of seaports to container carriers and terminal operators. Meanwhile used identified attributes to select appropriate cooperative modes to implement the integration strategy.

Design/methodology/approach

Based on extant literature review and expert interviews, this paper built an evaluation system comprising 3 dimensions and 12 criteria respectively. Next combined DEMATEL and ANP to construct the causality of the dimensions and criteria and transferred from the interdependence to the degree of importance. Finally, the VIKOR evaluates the total gap of cooperative modes performance of a case study – TIPC (Taiwan International Port Corporation).

Findings

The results suggest that the best cooperative mode among seaport, container carriers and terminal operators is the majority shareholder, and then minority shareholders. The seaport wants to develop solid relationships should consider the controlling powers shipping industrial chain in order to improve the success rate of cooperative strategy.

What is original/of value in paper?

The whole approach developed by this study can serve as a reference to construct an evaluation framework to evaluate cooperative strategic choices in the shipping-related industry. DEMATEL not only can convert the relations between cause and effect of criteria into a visual structural model, but also can be used as a way to handle the inner dependences within a set of criteria.

Research limitations/implications

The unit of analysis is corporation, and there is only one port corporation exist in Taiwan to be surveyed. However, we conducted expert interviews from container carriers, terminal operators and the academic that consist of more than ten experts.

Practical implications

The findings are expected to provide Taiwan Port Corporation with reference frame for competing globally. The casual relationships among critical services attributes can be effective in helping TIPC managers allocate and configure their limited resources in time and space.

Keywords

Port Corporation, Cooperative Mode, DEMATEL, VIKOR

References

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A Proposed Model of Visionary Leadership for Supply Chain Management in the Manufacture Industrial Of Thailand

Bunnoiko Kasem¹, Atthirawong Walailak²

^{1,2}King Mongkut's Institute of Technology Ladkrabang, Thailand

Purpose

This research aims to propose the conceptual framework of visionary leadership of supply chain management in the manufacturing industrial of Thailand in order to develop the logistics and supply chain human potential. The benefit of this model is used for planning and designing strategies for supply chain leadership potential development in the context of management in Thailand. As such, this paper draws upon the literature to illustrate aspects of the proposed model. Moreover, visionary leadership behavior, expression level, and factors affecting the visionary leadership for supply chain management are explained.

The organizations have to adapt their self-development to those that are moving by technological progress and innovation continually. They also have to change their strategies and working styles from what they are used to doing in their countries to what other people are doing globally. By doing this, they will be able to step from only exporting to other countries but also exporting globally. Wongkiatkhajorn (2010). This idea is in accordance with the ideas of Kangpen (2011) who mentioned about the success of the management in the workplaces, no matter how big they are, they can have a success only if they have the factors leading to a successes it is not far. The most important factor is "the leader."

Methodology

This research has brought out various factors that affect the visionary leadership from the literature review. Furthermore, those factors and their causal relationships are confirmed via interview 5 key experts in the supply chain management directors. Which type of variables i.e. endogenous, manifest and exogenous variables are also investigated. After that a hypothesis and framework model from the synthesizing of factors influencing visionary leadership are constructed. According to the goal of this research, the questionnaire will be then carefully designed and distributed to the supply chain administrators in the manufacturing industry in Thailand. Then the research framework model will be statistically tested by using AMOS program based on path and factor analysis concept.

Findings

From literature review on visionary leadership, it can be concluded that there are 5 factors influencing visionary leadership: communication, creativity, emotional intelligence, organization climate, and traits. A summary of each factor brought about determining the factors and structure of cause - effect relationships to create a hypothesized model of the factors that have an influence on visionary leadership.

Value

From literature review on visionary leadership, it can be constructed the model of visionary leadership with 5 factors. This model is used for planning and designing strategies for supply chain leadership potential development in the context of management in Thailand.

Keywords

Leadership, Visionary leadership, Transformation leadership.

Category of the paper

Conceptual paper

Reference

- Kangpheng, S. (2011). Servant leadership in organization: Concept, principle, Theory and Research. Khonkhen University.
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Resources, Dynamic Capability, and Firm Performance: Evidence from Logistics Service Providers in Vietnam

Kuo-Chung Shang^{1}, Le Hang Nguyen Thi² and Taih-Cherng Lirn³,*

¹ Department of Transportation Science, National Taiwan Ocean University, No. 2, Beining Rd., Keelung City 202, Taiwan, R.O.C

^{2,3} Department of Shipping and Transportation Management, National Taiwan Ocean University, No. 2, Beining Rd., Keelung City 202, Taiwan, R.O.C

Purpose of this paper:

One of the most significant changes in the paradigm of business management is the fact that individual businesses no longer compete as single entities, but rather as supply chains. Logistics performance has been elevated to a strategy level to create competitive advantage for large enterprises.

Researches on organisations' specific resources and dynamic capabilities has received much attention in logistics industries in the past decade, but studies on Vietnam' logistics service providers (LSPs) have rarely focused on these aspects. Vietnam has experienced rapid economic growth and widespread poverty reduction over the past 20 years. This impressive economic performance placed Vietnam among the world's five fastest-growing economies between 1990 and 2010.

Logistics remains a very new sector in Vietnam and logistics companies themselves are still lack of professional management knowledge. For example, according to statistics, Vietnam's total logistics cost currently accounts for 25 percent of GDP, while the rate in China is around 18 percent, and the rate in developed countries like the United States is only about 8 percent. If Vietnamese LSPs can improve their resource allocations to enhance dynamic capability and reduce this rate even by just 1-2 percent, it will greatly strengthen their competitive advantage.

The primary objective of this study is to examine the relationship between the resource, dynamic capability approach and firm performance for the logistics service providers in Vietnam. The other research objectives includes (1) an investigation on the relationship between resource attributes, dynamic capabilities, and financial performance. (2) A review on the crucial resources and dynamic capabilities of the Vietnamese LSPs.

Design/methodology/approach:

This study, based on a survey of LSPs in Vietnam, uses structural equation modeling to examine the relationships among resources, dynamic capability, and firm performance. The design of our postal questionnaire was firstly based on a comprehensive literature review and then pilot tested by interviewing both academic and practical experts.

Findings:

One of the research results demonstrates that top managers must enforce and improve the resource and dynamic capability to acquire and maintain these Vietnamese LSPs' competitive advantage.

Value:

Logistics service providers are mostly protected by Vietnamese law. But Vietnam government has committed to gradually open up its logistics services market to international competition by 2014. Thus it is the best timing to explore the development of Vietnamese logistics industry and the relationship between its LSPs' resources, dynamic capabilities, and performances. Hopefully the local LSPs can use the findings from this research to well prepare themselves to meet the future strong competition from abroad.

Keywords

Resource, dynamic capability, performance, logistics, logistics service providers

References:

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Supply Chain Competencies: The Contribution of Work-Based Learning in Executive Education Programmes

Seamus O'Reilly (s.oreilly@ucc.ie)

University College Cork, Ireland

Purpose:

In recent years work-based learning has received increasing attention in executive education programmes. This pedagogy promotes an iterative approach between work-based and classroom based learning. The purpose of this paper is to explore the role of this pedagogy in a SCM executive education programme.

Design:

The programme chosen was designed to explicitly incorporate workplace learning. This was an open access, part-time postgraduate (lean SCM) programme that has been established for a number of years. The scope of the study was confined to the individual experience of participants. Raelin's (1997) individual level model of work-based learning (conceptualisation, experimentation, experience and reflection) was adopted. Data collection consisted of two stages: (i) a web based survey of all participants of one class (15 of 20 participants responded) and (ii) depth interviews conducted with 6 of these participants. The survey questionnaire addressed the four levels of the popular Fitzpatrick (1994) programme evaluation framework, i.e. satisfaction, learning, impact (on job) and business result. The findings from this survey informed participant selection for depth interviews, the following criteria were used: origin (participant and/or employer) of initiative to participate, organisational maturity (with regard to programme subject matter), programme embeddedness in the organisation, industry and function in which the participant was employed.

Findings and Originality:

Conceptualisation did challenge participants' existing mental models. The use of teaching and learning tools and techniques supported experimentation in the workplace. This was particularly manifest in adaptation of approaches to leadership that arose from linkages between conceptualisations of leadership and associated learning tools with workplace improvement project activity. While participants went into the field with these concepts (awareness) and tools, evidence of knowledge learned tacitly and then embedded in practice is of most interest. Competencies identified include some of those considered important to development of supply chain management professionals: process management, problem-solving, decision-making and project management. There were numerous examples of reflection-in-action, most of these could be classified as single-loop learning in that they were reflection on 'content' and 'process'. The most striking evidence of double-loop learning (reflection on 'premise') related to personal development and this was primarily associated with the interplay between leadership development activity and learning and application of this in the improvement project.

Value:

These findings point to the synergistic value of both classroom ('codified/theoretical' knowledge) and workplace (knowledge discovered through action) environments. To paraphrase Revans (1982), 'action learning adds to traditional learning'.

Limitations

The study has some obvious limitations as it is based on one programme and data collection was restricted to participants. The next stage of the research will encompass embedded case studies of participant companies. This work will pursue some of the findings from this study, including in-company learning sets and client company journey.

Keywords:

Work-based learning, pedagogy, competencies.

References:

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Teaching Supply Chain Management: Current Status and Evaluation of Effectiveness

Christos Braziotis (corresponding author)

Nottingham University Business School
Jubilee Campus, Wollaton Road, Nottingham, NG8 1BB, UK
E-mail: Christos.Braziotis@nottingham.ac.uk
Tel: +44 (0) 115 9514026

Helen Rogers

Technische Hochschule Nürnberg Georg Simon Ohm, Germany

Jannicke Baalsrud Hauge

BIBA - Bremer Institut für Produktion und Logistik GmbH, Germany

Purpose of this paper

A wide range of teaching methods is employed in Supply Chain Management & Logistics (SCM&L) in Higher Education (HE), and the relevant courses are on a dynamic state of matching the industry practice (Gravier and Farris, 2008). This paper reports on the second phase of a project that identifies and clarifies the current content and effectiveness of these teaching methods across the world. We investigate this from the point of view of the key stakeholders, namely academic educators, students and practitioners (industry). The research has a global reach and aims to examine current course content, methods of delivery and approaches to assessment. We look at this from the 'as is', as well as the 'to be' perspective. The overall purpose is to reveal how SCM teaching can be improved and in what ways teaching is likely to (and should) change in the future.

Design/methodology/approach

In order to effectively capture and analyse the perspectives of the key sub groups (educators, students, and practitioners), an online survey instrument will be employed. This paper presents the scope of the study considering the outcomes of a pilot phase. It also presents the following planned steps, including development of an online survey instrument, the use of which should allow for a good level of comparison of the perspectives of the sub groups.

Findings: This paper draws on the results of the pilot phase of this project, and how they are utilised, alongside past research and experience, as inputs to design the interview protocol for the next phase presented in this paper.

Value

The pilot survey indicated that there is a high level of interest in this topic. Furthermore, this is one of the few studies that looks specifically at teaching effectiveness in SCM&L.

Research limitations/implications

To date the results are drawn from a relatively small sample size. However following the next phase of the project, we seek to gain a better overview of opinion from some of the primary stakeholders in SCM&L teaching.

Practical implications

This research has clear practical implications in that employers will benefit from gaining insights into SCM&L course curricula and expressing their opinions on the relevance and applicability to industry of their input.

Keywords

SCM teaching, course content, effectiveness, assessment.

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19th ISL

The first Symposium on Logistics was held in Nottingham in 1993 and it is now considered as the premier international event in the field of Logistics and Supply Chain Management. The chosen theme of the 19th ISL is "*Designing Responsible and Innovative Global Supply Chains*". This theme reflects the changes taking place in recent years resulting in increased risk, complexity and uncertainty in supply chains. Papers in the proceedings represent the latest in academic thinking, as well as case examples of successful practices and innovative approaches to counter act the current situation.

1993 – Nottingham, UK	2005 – Lisbon, Portugal
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2001 – Salzburg, Austria	2010 – Kuala Lumpur, Malaysia
2002 – Melbourne, Australia	2011 – Berlin, Germany
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