

出國報告（出國類別：其他-國際會議

配送通路設計研究發表及交流

服務機關：國立高雄第一科技大學

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摘要

本研究主要探討多階層供應鏈中成品實體配送網路設計問題，並建立一模型以反映目前實務之運作方式。實體配送網路設計及配送中心的選擇屬於長期策略性規劃，所需投入成本高，且設置後影響往後長期的運作。本研究考量季節性需求變動下，以存貨補貨機制進行調整供需失衡之情形，並考慮製造商直送及透過配送中心運送之不同配送方式，結合不同程度的運輸規模經濟，期更貼近實務運方式，以尋求最佳之配送網路結構與配送中心數量位址。最後針對建立模式進行敏感度分析，以釐清各因素間之互動關係，並進一步了解問題特性。

關鍵詞：實體配送路網、存貨補貨機制、需求季節性變動、隨機規劃

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目的

商業及資訊國際學術研討會(The International Conference on Business and Information, BAI)近幾年結合 International Conference on Business and Information 及 International Journal of Business and Information 兩期刊組織來承辦會議，希望能促進商業企業管理及資訊科技管理領域的研究，吸引更多的學者、政府機關、實務界人才的參與，擴展商業企業管理及資訊科技管理領域的應用並探索新議題。舉凡生產管理、作業研究、供應鏈管理、作業管理、永續經營管理、服務管理、資訊管理、金融銀行…等，皆包含於會議討論議題。今年會議主題有下列幾類重點：企業策略管理、供應鏈管理、電子商務、商業會計、創業管理、金融管理、人力資源管理、健康照護管理、資訊系統與技術、教育管理、作業管理、非營利組織管理、創新科技…等。筆者將國科會計畫所補助的”需求季節變動下考量存補貨機制之實體配送網路設計”計畫，應用於隨機實體配送網路設計問題。於”跨領域整合技術”之子議題中，發表論文一篇，題目為『STOCHASTIC SUPPLY CHAIN DISTRIBUTION NETWORK DESIGN』。希望透過此研討會發表最新研究方向、方法與成果，與世界各國從事商業企業管理及資訊科技管理的理論與實務之專家學者與實務及研究機構進行交流。

過程

商業及資訊國際學術研討會(The International Conference on Business and Information, BAI)為一相當有歷史的國際研討會，今年已經舉辦第 10 屆，此會議提供世界各國從事商業企業管理及資訊科技管理的理論與實務之專家學者與實務及研究機構一個交流的機會，於此研討會發表最新研究方向、方法與成果。近幾年此會議並結合 International Conference on Business and Information 及 International Journal of Business and Information 兩期刊組織來承辦會議，因此參加此會議可對於兩期刊近期的重點議題及走向，有較清楚的了解，對於未來論文研究的發表，有正面的幫助。此國際會議，旨在促進商業企業管理及資訊科技管理領域的研究，吸引更多的學者、政府機關、實務界人才的參與，擴展商業企業管理及資訊科技管理領域的應用並探索新議題。舉凡生產管理、作業研究、供應鏈管理、作業管理、永續經營管理、服務管理、資訊管理、金融銀行…等，皆包含於會議討論議題。此次會議於 2013 年 7 月 7 日至 2013 年 7 月 9 日於印尼峇里島 Grand Hyatt Bali 國際會議中心舉行。今年會議主題有下列幾類重點：企業策略管理、供應鏈管理、電子商務、商業會計、創業管理、金融管理、人力資源管理、健康照護管理、資訊系統與技術、教育管理、作業管理、非營利組織管理、創新科技…等。共有 716 篇文章發表、38 個國家的專家學者參與、三百多個學者參與。研討議題之進行分為 8 個時段，每一時段有 7~8 個不同的場次，同時並有 4 組不同的 Poster sessions 在展示。筆者將國科會計畫所補助的”需求季節變動下考量存補貨機制之實體配送網路設計”計畫，應用於隨機實體配送網路設計問題。於”跨領域整合技術”之子議題中，發表論文一篇，題目為『STOCHASTIC SUPPLY CHAIN DISTRIBUTION NETWORK DESIGN』。以下針對此與會心得加以說明。

心得及建議

商業企業管理及資訊科技管理的技術，實為一個跨越不同領域、結合不同科技的學域。此次參加會議更深刻體驗到各種不同背景領域的學者專家，所著眼的問題角度雖不相同、採用的方法雖不甚相同，但仍可完整的解決問題。此次活動參與人士包括產、官、學界的不同專家，在與他們交換心得後，對商業企業管理及資訊科技管理，有更深入的體驗跟了解。筆者之研究興趣在於供應鏈管理及物流管理領域，在參與會議的過程中，擴展許多知識，學習到許多應用不同方法解決的新問題及新領域，對於筆者未來的研究方向有很大的啟發。

會中馬來西亞 University Malaysia Terengganu 的 Suhail Kusairi 教授、泰國 Thammasat University 的 Panya Issarawornrawanich 教授對本人發表之文章很有興趣，發表後進行諸多討論，並提供許多寶貴建議，亦交換此一領域的研究心得，使本人受益非淺。Suhail Kusairi 教授與本人交換論文投稿的心得，Suhail Kusairi 教授對本人發表論文中使用的方法相當有興趣，討論是否有可能應用在旅館管理或觀光管理的研究上。Panya Issarawornrawanich 教授之專長為金融財務管理領域，與本人討論應用隨機規劃理論於財務投資管理及風險管理的可能性，並約定持續聯繫討論。會中並與淡江大學陳薇如教授，討論不同的研究議題，及投稿做研究的心得。此次會議，擴展本人研究領域，受益良多。

透過本次會議，筆者得到不少與會人員的回饋，包含多項問題之澄清，及隨機規劃、風險控管相關議題，有新的認識與啟發。對於後續研究方向及論文的撰寫有相當大的幫助。筆者相信藉由所獲得之認識與啟發，將可使筆者可深入研究此類議題。對於近幾年國際上於供應鏈管理及配送網路規劃的發展，有更深的體驗。筆者相信藉由所獲得之認識與啟發，將可使筆者可深入研究此類議題。此外，筆者相信透過知識之傳達，將使研究生或準研究生更順利進行研究或啟發研究靈感，希望同儕及莘莘學子能多多參與此類活動。

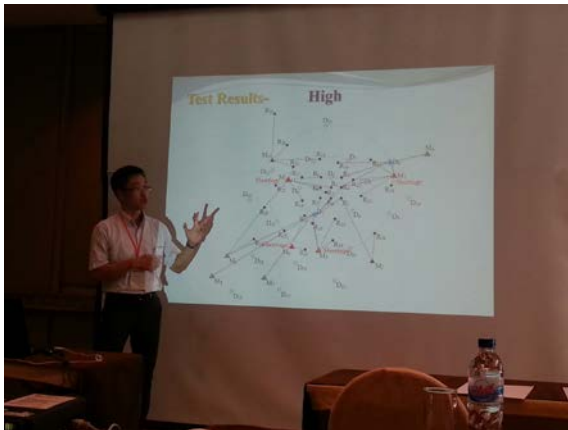
活動照片



論文發表場次及時間



論文發表過程



論文發表過程



與會人士發表內容之討論及交流

附件一

INTERNATIONAL CONFERENCE ON
BUSINESS AND **I**NFORMATION



<http://ibac-conference.org>

Organized by:

International Business Academics Consortium
Academy of Taiwan Information Systems Research

Sponsored by:

Shih Chien University
Society for the Study of Emerging Markets

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Organizers' Message

Welcome to the 2013 International Conference on Business and Information (The BAI 2013 Conference). This is the tenth time we conduct the BAI International Conference. BAI is an annual meeting for scholars around the world. Papers are invited from all related areas of Business and Information. The aim of the BAI conference is to serve as a forum for scholars of the business and information disciplines. The BAI Conference had been held since 2004 in Asia, included Bali, Sapporo, Bangkok, Kitakyushu, Kuala Lumpur, Seoul, Tokyo, Singapore, Hong Kong, and Taipei. Annual BAI conference attracts hundreds of researchers to participate in. We received more than 716 submissions from 38 countries in including Australia, Austria, Brazil, Brunci Darussalam, Canada, Chile, China, Croatia, Czech, Estonia, Finland, Germany, Greece, Hong Kong, India, Indonesia, Iran, Italy, Japan, Jordan, Korea, Kuwait, Macedonia, Malaysia, Mexico, New Zealand, Nigeria, Poland, Portugal, Puerto Rico, Russian, Singapore, South Africa, Taiwan, Thailand, Tunisia, United Kingdom, United States. Each submission was peer-reviewed by at least two anonymous reviewers and a total of 490 papers are accepted for presentation in the conference. Researchers of all five continentals of the world, Asia, Europe, America, Australia and Africa, attend the meeting. Accepted papers are scheduled for presentation in 60 parallel sessions, 4 on-site poster sessions, and one poster session. We would like to express our sincere appreciation to all the reviewers, chairs and members of that made this Conference possible.

The opening ceremony provides the opportunity to honor the best papers and to recognize the contributions of the many people who made this meeting possible. 10 papers receive this year's best paper award in recognition of their scholarly contribution.

A conference of this size requires the integrated effort of hundreds of volunteers. We would like to take this opportunity to thank Dr. Chih-Chien Wang, Dr. Mu-Fen Chao, Dr. Li-Fang Sun, Dr. Chian-Son Yu, Dr. Ta-Wei Hung, Dr. Chien-Kuo Li, Dr. Ssu-Lang Lee, Dr. Fengyi Lin, Dr. Ting-Sheng Weng, Dr. Chien-Chang Chen, Ms. Yi-Lei Chang, and Mr. Wun Yeh who did an outstanding job in organizing this conference, without their help, we can't make this conference a success.

We hope you enjoy this conference and Bali. We are delighted to announce that the BAI 2014 Conference will be held in Osaka, Japan and you are invited to submit your papers. We look forward to seeing you next year.

Wenchang Fang

Conference Chair
National Taipei University



Proceedings of Business And Information

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附件二



附件三

Business and Information 2013
(Bali, July 7-9)

STOCHASTIC SUPPLY CHAIN DISTRIBUTION NETWORK DESIGN

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ABSTRACT

This study addresses the strategic distribution network design problem for a single product, multi-echelon supply chain, which is a long-term planning involved in large capital investment and having long-lasting effects on supply chain operations. An optimization model was proposed to formulate the problem by considering demand uncertainty, direct shipment and transshipment deliveries, inventory and replenishment mechanisms, and economies of scale in transportation costs. Since it is impossible to exactly forecast the future demand, demand variation and uncertainty are an inherent problem in this model. The inventory and replenishment mechanisms are used as a buffer to respond the demand variation and uncertainty. Two different types of delivery, direct shipments and transshipments via distribution centers, are employed in the model. The economies of scale in transportation costs are also considered to approximate the real-world distribution operations.

By considering the aforementioned factors, this study tried to construct a model which is capable to reflect the different aspects in real-world supply chain operations. The stochastic programming model is used to formulate the problem and the proposed model can be treated as a two stage stochastic program. The first stage problem is the strategic decisions and would not alter due to the demand variations. The second stage problem is more tactical decisions and would change in response to the demand fluctuation. It aims to determine: 1) the optimal facility number and locations for the distribution centers; 2) the best distribution/delivery plan in response to different levels of demand variation; 3) the best inventory and replenishment mechanisms in response to different levels of demand variation. Finally, an example was created to test the performance of the proposed model.

Keyword: Supply chain management, Distribution network design, Demand uncertainty, Facility location, Stochastic programming