

# An Empirical Study of Global Logistics Management for Taiwan's Computer Industries

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## ABSTRACT

This study explores how Taiwan's computer industry depends on outsourcing to implement global logistic management and achieve its goals. It presents findings based on a mail survey used to gather data concerning the two principal roles involved in the process of outsourcing--those of outsourcing user and outsourcing provider. The survey results indicate the following conclusions: (1) The proportion of respondents utilizing some form of outsourcing is rather high. (2) Most respondents establish outsourcing relationships through contractual arrangements. (3) Manufacturing and transportation are the two outsourcing activities most frequently utilized by the outsourcing users. (4) Manufacturing and inventory management are the two outsourcing activities most frequently performed by the outsourcing provider. (5) Service or product quality is the most important criterion for selection of outsourcing partners.

**Key Words:** global logistic management, outsourcing

## 全球運籌管理委外作業之研究 - 以台灣電腦產業為例

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## 摘要

台灣個人電腦與周邊零組件廠商，早期從事委託代工製造與設計，一直到近來的委託運籌，企業專注的焦點原本是大量生產，現在企業的焦點則是放在全球運籌管理的能耐。自單純地追求降低成本，到彈性、速度、品質與成本全面性的追蹤，對廠商而言是前所未有的挑戰。全球運籌模式中企業倚賴委外作業以達成目標，將生產推進市場，存貨風險移轉給上游廠商，產品多樣多量與多點配銷等，所以企業如何善加利用委外作業攸關競爭力。

本研究針對委外作業的兩種角色—委外作業使用者與提供者，將問卷訪談所回收的資訊進

行分析，結果如下：

1. 受訪企業委外作業的比例很高。
2. 受訪企業以契約型態建立委外關係的比例較高。
3. 受訪企業委外使用的價值活動，以製造與運輸比例較高。
4. 受訪企業委外提供的價值活動，以製造與存貨管理比例較高。
5. 受訪企業選擇委外作業夥伴，最重視服務與生產品質。

**關鍵詞：**全球運籌管理，委外作業

## I. INTRODUCTION

Taiwan's computer industry has become the third largest in the world. This growth has been accompanied by a transition from original equipment manufacture (OEM) and original design manufacture (ODM) to original design logistics (ODL). During this transition the focus of attention has shifted from the manufacturing function (mass production) to global logistic management (supply chain management). This new focus of attention has caused the manufacturer's traditional preoccupation with cost to expand to include "cost, quality, flexibility, and quick response," key success factors that must be addressed as pressure to maintain competitive superiority intensifies and Taiwan's computer companies struggle to adapt to new challenges.

The global computer industry's internationally specialized division of labor in production of the personal computer and its peripheral products has brought Taiwan's computer industry many business opportunities. However, along with these opportunities come many challenging problems connected to managing in the international environment. Managing challenges include problems of global competitiveness, a short life cycle for computer products, extension of the supply chain, limitations in suppliers' capabilities, customers' requirements and so on.

This research studies the outsourcing activities through which Taiwan's computer companies implement global logistic management in order to manage the process of globalization and compete more effectively in the global computer market. Key to implementing global logistic management is the supply chain, which involves activities such as research and development, manufacture, transportation, inventory management, assembly, purchase, after-sale service, etc.

The motivation for this research is that no study has yet been made in Taiwan regarding efficient use of capital, the reduction of cost, and the enhancement of quality, flexibility, and quick response in connection with the implementation of outsourcing activities.

Global logistic management includes the activities of research and development, manufacture, transportation,

inventory management, purchase, after-sale service, etc. Current trends in global logistic management include the following: Computer manufacturers put production near the market to avoid long shipping periods, which risk a decline in value during shipping of products that are approaching the end of their life cycle. In general, global logistic management transfers the risk of inventory management to upper stream suppliers in order to reduce inventory cost. Producers make products in modularized form to respond quickly the customers' requirements in the market and make the products in large volume and great variety to meet the requirements of customerization. Enterprises and suppliers link closely so as to be able to respond quickly to the market's requirements. The integration of the supply chain for the purpose of global logistic management is an interesting and important issue for multinational enterprises. The execution of outsourcing activities through cooperation between enterprises and their suppliers is the core issue for implementing global logistic management. In view of the above, issues explored in this study are as follows:

- (1) What are the advantages and disadvantages of outsourcing from the point of view of the user?
- (2) What are the criteria an outsourcing user employs to select outsourcing suppliers?
- (3) What value-producing activities do outsourcing suppliers provide for the outsourcing user?
- (4) What are the advantages and disadvantages of outsourcing from the point of view of the provider?
- (5) Does either the size (annual sales) of the enterprises involved or the form of outsourcing relationship selected affect what advantages and disadvantages are available to the user or the provider?

The enterprises studied include those involved in producing personal computers, notebook computers, and computer-related peripheral equipment. Forty-eight computer industry companies undertake global logistic management in Taiwan according to information collected from published sources and gathered through a telephone survey.

For purposes of this study the definition of outsourcing