

## Introduction to SCM

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## Traditional View: Logistics in the Economy (1990, 1996)

- Freight Transportation \$352, \$455 Billion
- Inventory Expense \$221, \$311 Billion
- Administrative Expense \$27, \$31 Billion
- Logistics related activity 11%, 10.5% of GNP.

Source: Cass Logistics

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## Traditional View: Logistics in the Manufacturing Firm

- Profit 4%
- Logistics Cost 21%
- Marketing Cost 27%
- Manufacturing Cost 48%

Profit
Logistics Cost
Marketing Cost
Manufacturing Cost

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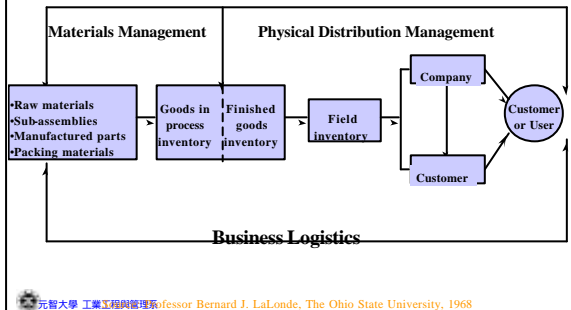
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## Business Logistics Management (OSU) (1968)




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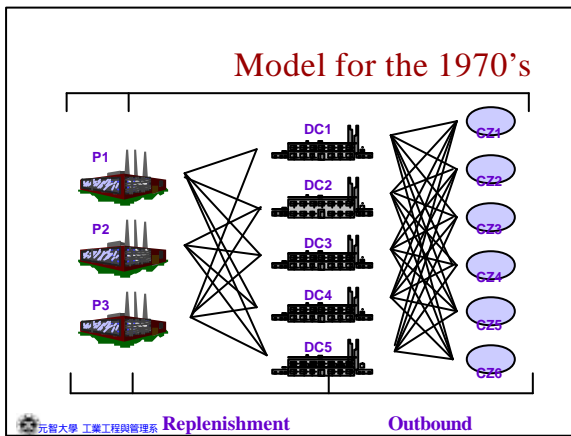
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## Model for the 1970's




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## 1985 CLM Definition of Logistics

*Logistics* is the process of planning, implementing, and controlling the efficient, cost effective flow and storage of raw materials, in-process inventory, finished goods, and related information from point of origin to point of consumption for the purpose of conforming to customer requirements.

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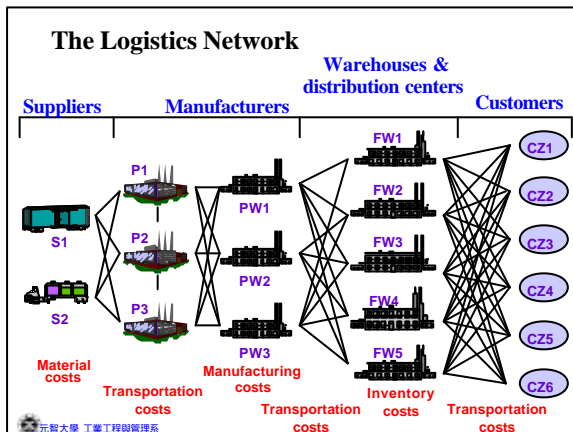
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### 1998 CLM Definition of Logistics

*Logistics is that part of the supply chain process that plans, implements, and controls the efficient, effective flow and storage of goods, services, and related information from the point-of-origin to the point-of-consumption in order to meet customers' requirements.*

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### Supply Chain Management

is a set of approaches utilized to efficiently integrate suppliers, manufacturers, warehouses, and stores, so that merchandise is produced and distributed at the right quantities, to the right locations, and at the right time, in order to minimize systemwide costs while satisfying service level requirements.

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## 1998 Global Supply Chain Forum

*Supply chain management* is the integration of key business processes from end user through original suppliers that provides products, services, and information that add value for customers and other stakeholders.

*Supply-chain management* is all about having the right product in the right place, at the right price, at the right time, and in the right condition.

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## 7R's

Ensuring the availability of the

- Right **Product** in the
- Right **Quantity**
- Right **Condition** at the
- Right **Place** at the
- Right **Time** for the
- Right **Customer** at the
- Right **Cost**

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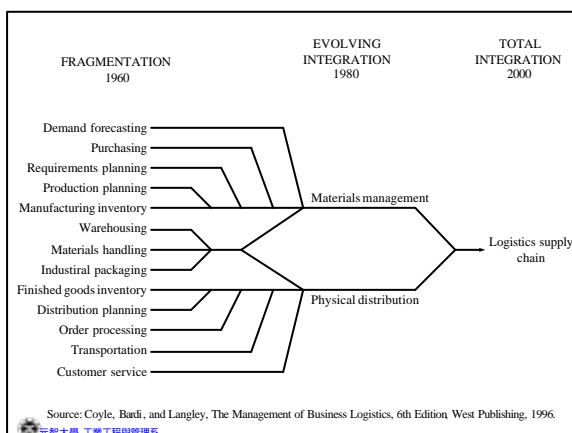
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## Business Trend

- Production oriented
- Financial oriented
- Sales oriented
- Customer (Marketing) oriented

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## Customers Expect

- Better quality
- Better service
- More choices
- Freshness
- Low cost
- .....

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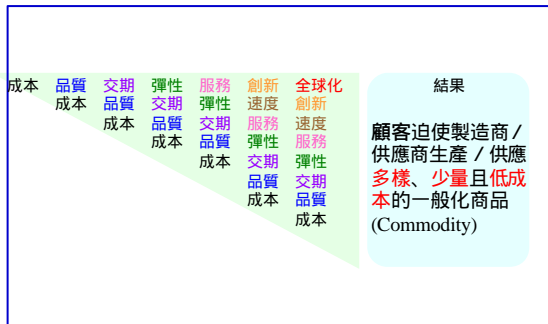
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## 管理目標的改變



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## 大量客製化之效應

過去	目前 / 未來
<ul style="list-style-type: none"> <li>• 階層式架構(推式) ( Hierarchy ( Push ) )</li> <li>• 自己自足(Self Sufficiency)</li> <li>• 只有到緊要關頭才考慮找合作對象(Partner as a Last Resort)</li> <li>• 產品導向(Products Oriented)</li> <li>• 靜態 有效率之績效指標(Static, Efficient Goals)</li> <li>• 強調競爭(Competition)</li> <li>• 公司與公司之競爭(Company v.s. Company)</li> <li>• 實體中介体系(Intermediary)</li> </ul>	<ul style="list-style-type: none"> <li>• 重疊之網路架構(推&amp;拉)(Network ( Push &amp; Pull ))</li> <li>• 相互依存(Interdependencies)</li> <li>• 積極找尋長期合作夥伴(Long-term Partner Opportunistically)</li> <li>• 核心競爭力導向( Core Competencies )</li> <li>• 動態指標(Dynamic Goals)</li> <li>• 強調綜效/同步化(Synergy / Synchronization)</li> <li>• 供應鏈與供應鏈的陣仗(Supply Chain v.s. Supply Chain)</li> <li>• 資訊中介体系(Informediary)</li> </ul>

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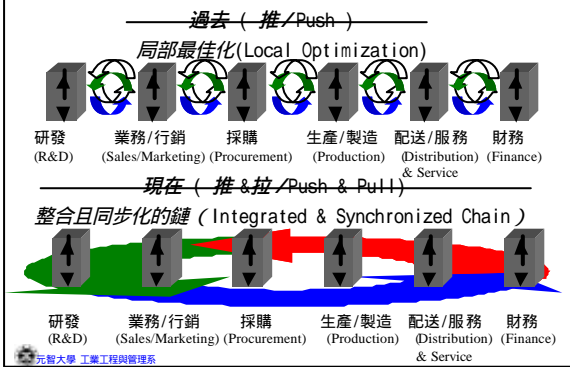
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## 產銷模式變遷




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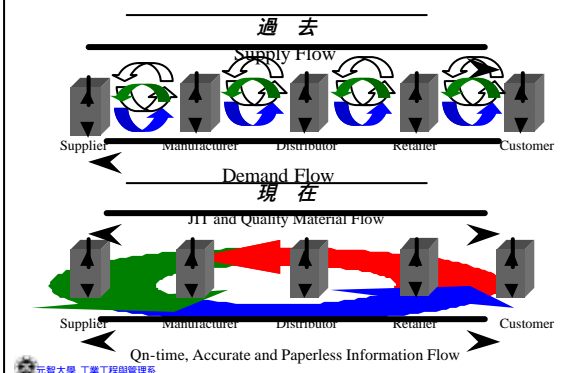
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## 產銷模式變遷




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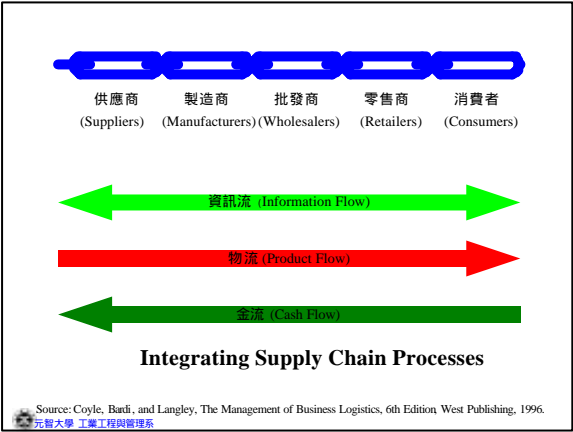
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- ### Supply Chain Includes
- Management of information systems
  - Sourcing and procurement
  - Production scheduling
  - Order processing
  - Inventory management
  - Warehousing
  - Customer service
  - After-market disposition (reverse logistics)
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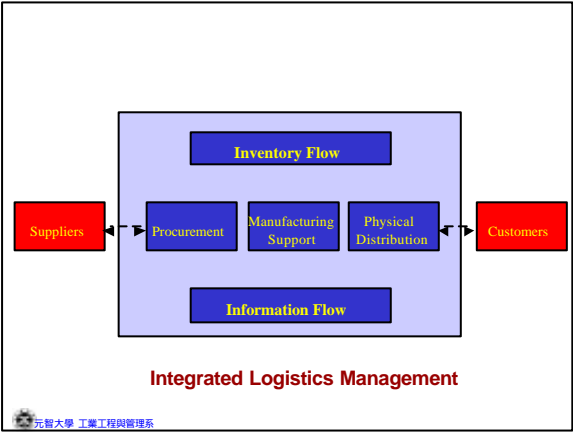
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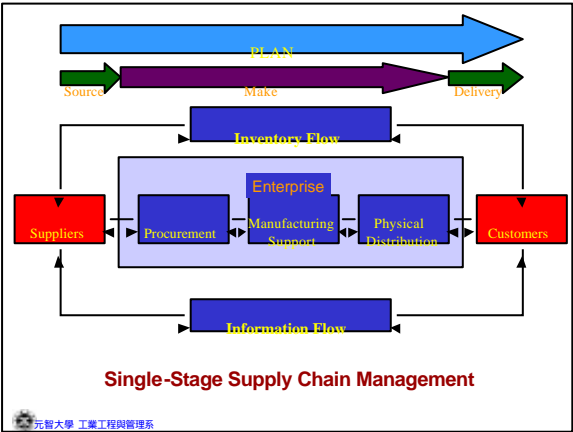
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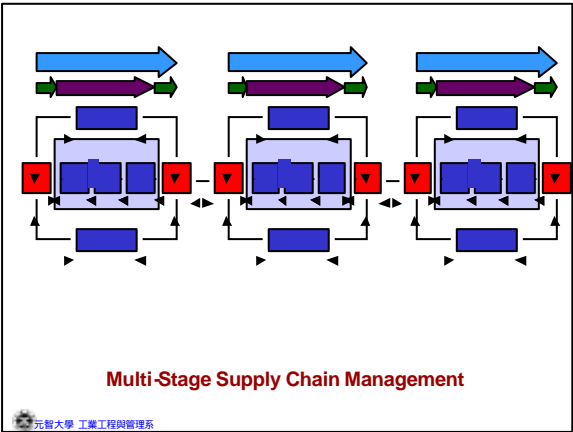
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## SCM Complexity

- The supply chain is a complex network
- Matching supply and demand is a major challenge
- System variations over time
- Many supply chain problems are new

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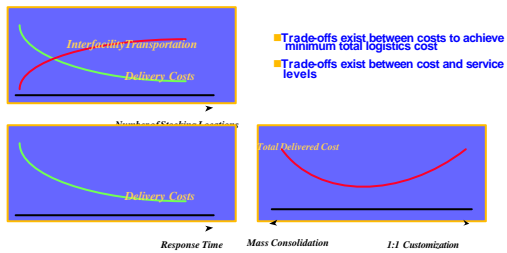
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## Optimize the Supply Chain Network



Supply Chain Network Optimization considers the trade-offs between acquisition costs; manufacturing costs; interfacility and outbound transportation costs; distribution center costs; and inventory costs, as well as service response times and fill rates, in order to determine the optimal operations network strategy.

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Source: i2 Technologies

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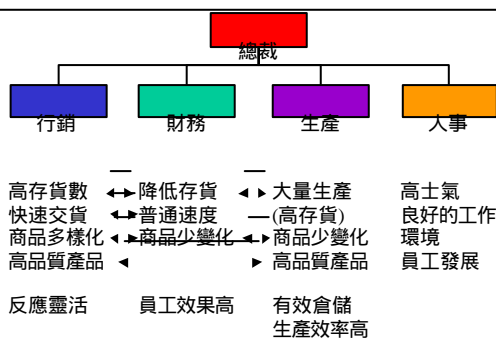
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## Key Issues

- Customer Value
- Distribution Network Configuration
- Inventory Control
- Distribution Strategies
- Supply Chain Integration and Strategic Partnering
- Product Design
- Information Technology and Decision-Support Systems

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## Planning Horizons

- **Operational: immediate to one week**
  - shipment planning/dispatching
  - production scheduling
- **Tactical: one week to one year**
  - production planning
  - MRP/DRP/forecasting
- **Strategic: one year to multiple years**
  - network design
  - fleet sizing
- **From operational to strategic**
  - term of resource commitment *increases*
  - speed of effecting change *decreases*

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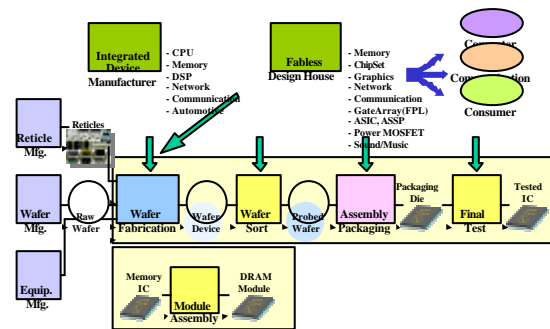
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## Semiconductor SCM Model



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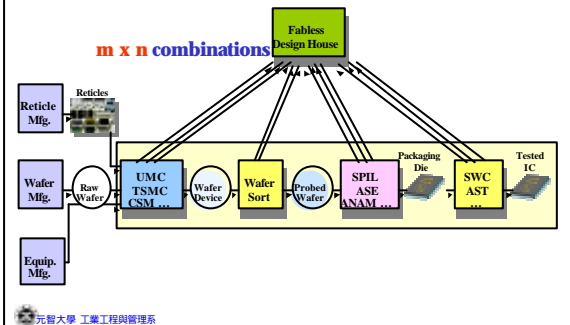
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## Massive Lot Tracking Information




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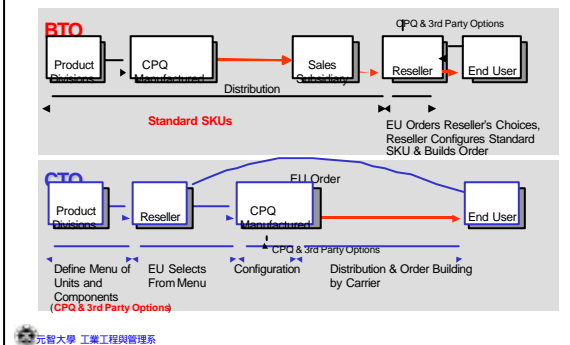
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## Build To Order Vs. Configure To Order




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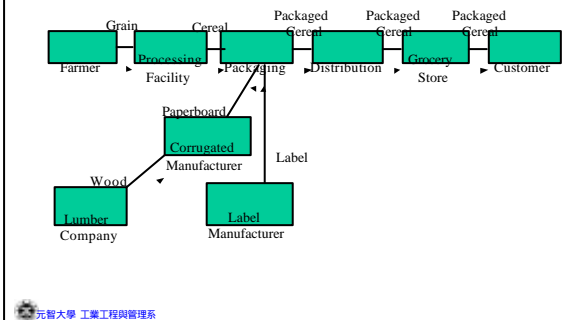
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## A Cereal Manufacturer's Supply Chain




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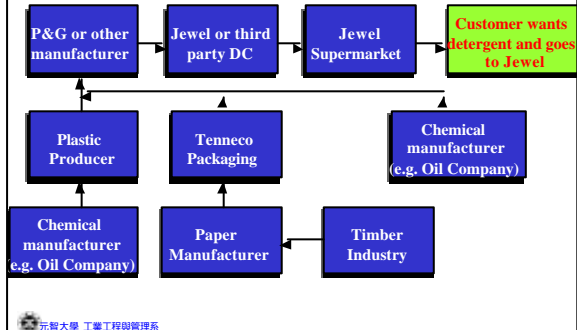
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### What is a supply chain?




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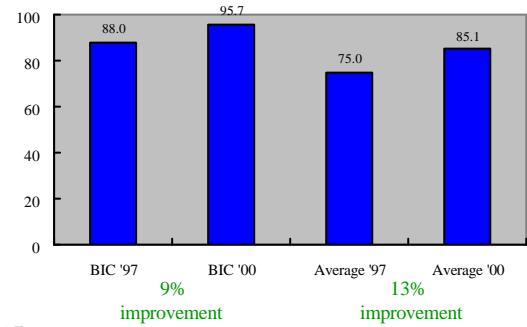
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### Unit Forecast Accuracy 1997-2000 Telecom and CEE




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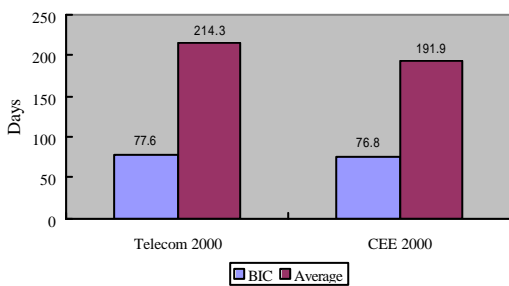
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### Supply Chain Response Time



cumulative source/make, forecast, replan, intra-manufacturing, order fulfillment lead time

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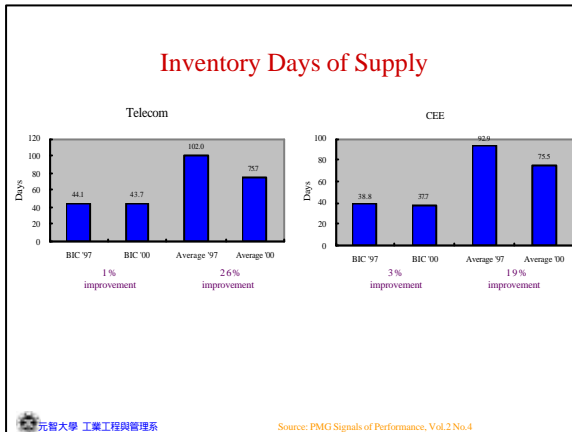
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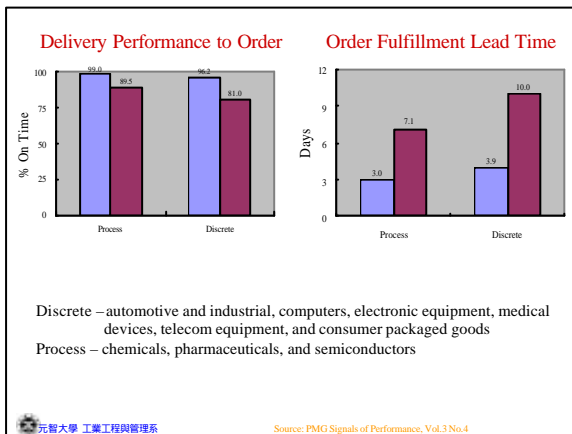
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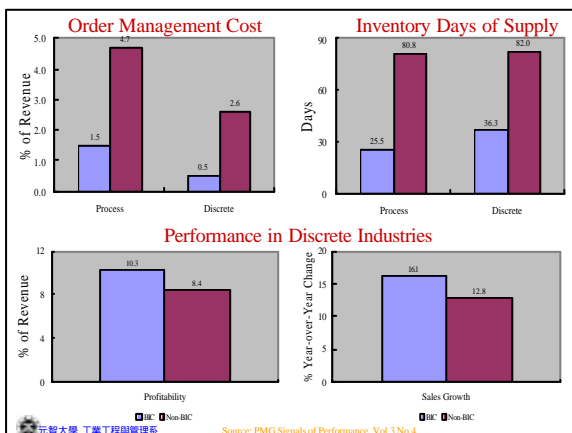
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### Supply Chain Management: The Magnitude in the Traditional View

- Estimated that the grocery industry could save \$30 billion (10% of operating cost by using effective logistics and supply chain strategies
  - A typical box of cereal spends 104 days from factory to sale
  - A typical car spends 15 days from factory to dealership
- Laura Ashley turns its inventory 10 times a year, five times faster than 3 years ago

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### Supply Chain Management: The True Magnitude

- Compaq estimates it lost \$0.5 billion to \$1 billion in sales in 1995 because laptops were not available when and where needed
- When the 1 gig processor was introduced by AMD, the price of the 800 meg processor dropped by 30%
- P&G estimates it saved retail customers \$65 million by collaboration resulting in a better match of supply and demand

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### 供應鏈管理的導入步驟

- 主導者出面及供應鏈間的協調折衝
- 整體供應鏈成員簽署書面化協議
- 供應鏈管理作業流程設計
- 供應鏈管理實際運作
- 供應鏈管理稽核評估
- 實施成果的檢討改善

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## 供應鏈管理的效益

- 增加營收
- 節省運輸成本
- 縮短採購周期
- 減少聯絡成本
- 縮短訂單週期
- 提高準時配達率
- 降低庫存量，減少缺貨率，提升庫存周轉率

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## 供應鏈管理成功的關鍵因素

- 整體供應鏈成員的共識及企業主的支援
- 企業內人員的調適與訓練
- 專案團隊
- 資訊的流通與整合共享
- 系統分析與流程建構
- 商業交易行為規範
- 供應鏈間效能的評核
- 訊息同步化(集中)
- 物流體系的共同化

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## IKEA

- 遍佈28個國家
- 150家分店
- 4萬4千名員工
- 營業額達6.25兆美金

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## 降低物流成本

- 減少倉儲設備-直接送到自助取貨展售中心(50-60%->90%)
- 降低成本密集運輸
- 減少整體運作成本
  - Quick Response
  - Vendor managed inventory
  - 國外的送貨商由碼頭直接送往展售屋

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