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# 生產與作業管理

2021/9/15

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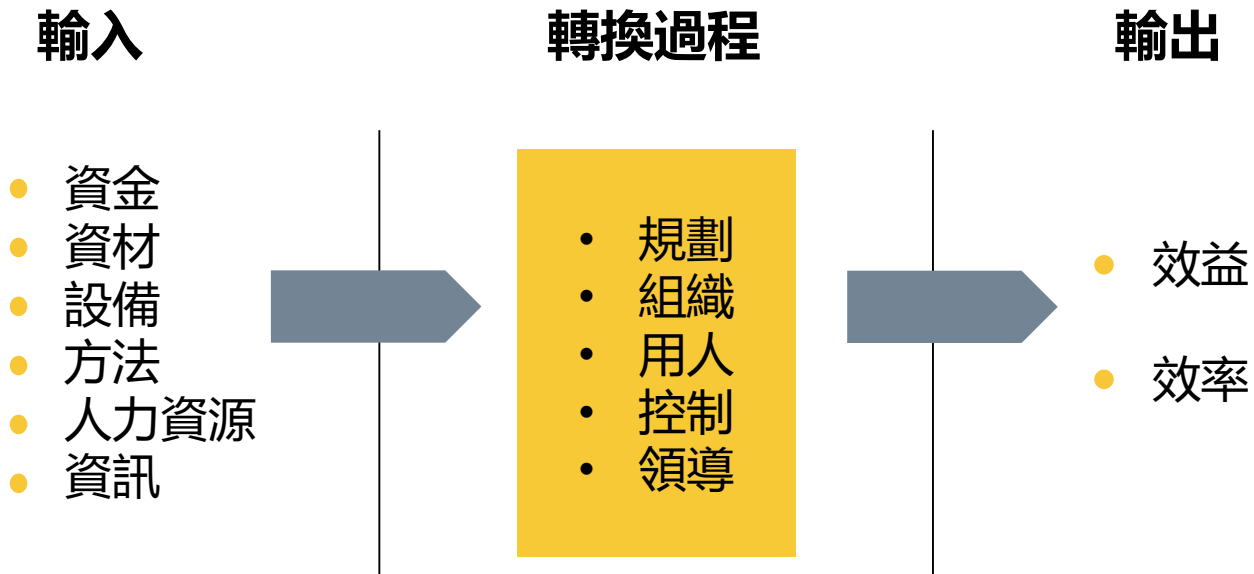
” Chapter 1: Introduction

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# Outline

- 1 What is operations management and supply chain management (OSCM)?
- 2 Operations and supply chain processes
- 3 Differences between services and goods
- 4 Operations as service
- 5 Why should operations be perceived as important?
- 6 Historical development of OM
- 7 Current issues in operations and supply chain management

# 製造產品或提供服務有關的一切活動



民視新聞台 HD

新  
疾管署稍後20:00  
再舉行記者會

台南-台中

政府廠商規劃口罩產量 民眾持正確觀念為重點

# 美政府計畫投資30億美元 以打造疫苗供應鏈

鉅亨網編譯凌郁涵 2021/09/03 13:40

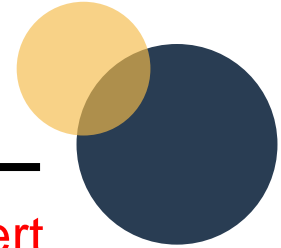


白宮新冠肺炎顧問 Jeffrey Zients 在記者會上表示，這筆資金將重點用於新冠肺炎疫苗生產所需的原料製造商、以及用來填裝和包裝的設備。這 30 億美元 的投資將用在美國企業，來擴大關鍵供應的產能。

Zients 也表示，投資重點的項目將包括脂質奈米顆粒 (LNP)、生物反應袋 (bioreactor bags)、輸送管、針頭、注射器和個人防護設備。白宮目前尚未決定哪些企業將能獲得投資。

# Transformation processes

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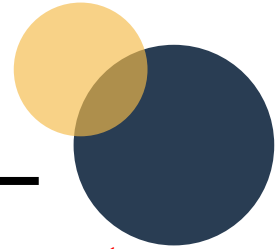
- A transformation process uses resources **to convert inputs into some desired output.**
- Transformation processes are used in all types of business.
- In general, transformation processes can be categorized as follows,
  - Physical (爆米香)
  - Location (運輸業)
  - Exchange (以物易物交換網)
  - Storage (物流)
  - Physiological (醫院)
  - Informational (商周學院)

# Input-Transformation-Output Relationships for Typical Systems

系統	基本輸入	資源	基本轉換功能	輸出
醫院	病人	醫生、護士、醫療設備、儀器	保健事業 (生理的)	健康的人
餐廳	飢餓的客戶	食物、廚師、服務生、環境	好的食物、好的服務、舒適的環境	滿意的客戶
汽車製造廠	鋼板、引擎	工具、設備、員工	加工及裝配汽車 (實體的)	高品質的汽車
大學	高中畢業生	老師、書、教室	教導知識和技能 (資訊的)	具專業知能的學生
百貨公司	採購者	展示、存貨、銷售服務員	吸引顧客、促銷產品、完成訂單的需求 (交換的)	銷售產品並讓客戶滿意
物流中心	倉庫	存貨、員工	儲存與再配送	快速配送適量的貨物
航空公司	旅客	飛機 / 飛航人員、排程與訂票系統	飛往目的地	準時、安全地抵達目的地

# 1. What is operations management and supply chain management (OSCM)?

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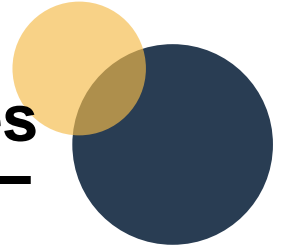


- OSCM is defined as the **design, operation, and improvement of the systems** that create and deliver the firm's primary products and services.
- Like marketing and finance, OSCM is a functional field of business **with clear line management responsibilities**.
- At the most fundamental level, OSCM is about **getting the day-to-day work done quickly, efficiently, without errors, and at low cost**.
- In addition to making processes work right, an essential feature of OSCM is helping companies **create dramatic improvement in customer service and reductions in cost**.



## 2. Operations and supply chain processes

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### Operations

Manufacturing and service processes used to transform resources into products

### Supply Chain

Processes that move information and material to and from the firm

## (cont'd)

- **Operations** ➔ manufacturing, service, and health care process that are used to transform the resources employed by a firm into physical products or service desired by customers.
- **Supply chain** ➔ processes that move information and material to and from the manufacturing and service processes of the firm.
  - **Logistics processes** that physically move product and the warehousing and storage process that position products for quick delivery to the customer.

# iPhone 10 甜蘋果

## 7檔甜蘋果概念股，靠量與良率取勝！

個股	iPhone零件	2018預估 EPS(元)	7/31股價(元)	目標價(元)
台積電	代工處理器	13.69	246	259
大立光	鏡頭組	198.34	5150	5350
鴻海	組裝	7.84	83.8	95.36
可成	機殼	35.29	376.5	412.57
台郡	LCP天線軟板	8.58	108	113
臻鼎	LCP天線軟板	6.81	72	75.59
碩邦	COF封裝	6.20	65.8	80.6

資料來源：券商富邦、日盛、Yahoo Finance 整理：蔡靚萱

# Operations and supply chain processes

**Making**

**Sourcing**

**Planning**

**Delivering**

**Returning**

## (cont'd)

**Planning** → the processes needed to operate an existing supply chain strategically

**Sourcing** → the selection of suppliers that will deliver the goods and services needed to create the firm's product

**Making** → Where the major product is produced or the service provided

**Delivering** → carriers are picked to move products to warehouses and customers

**Returning** → the processes for receiving worn-out, defective, and excess products back from customers

## FNG寶特袋 | 100%回收寶特瓶製作 | 回收者友善收購計劃

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目標 \$300,000

**10537**

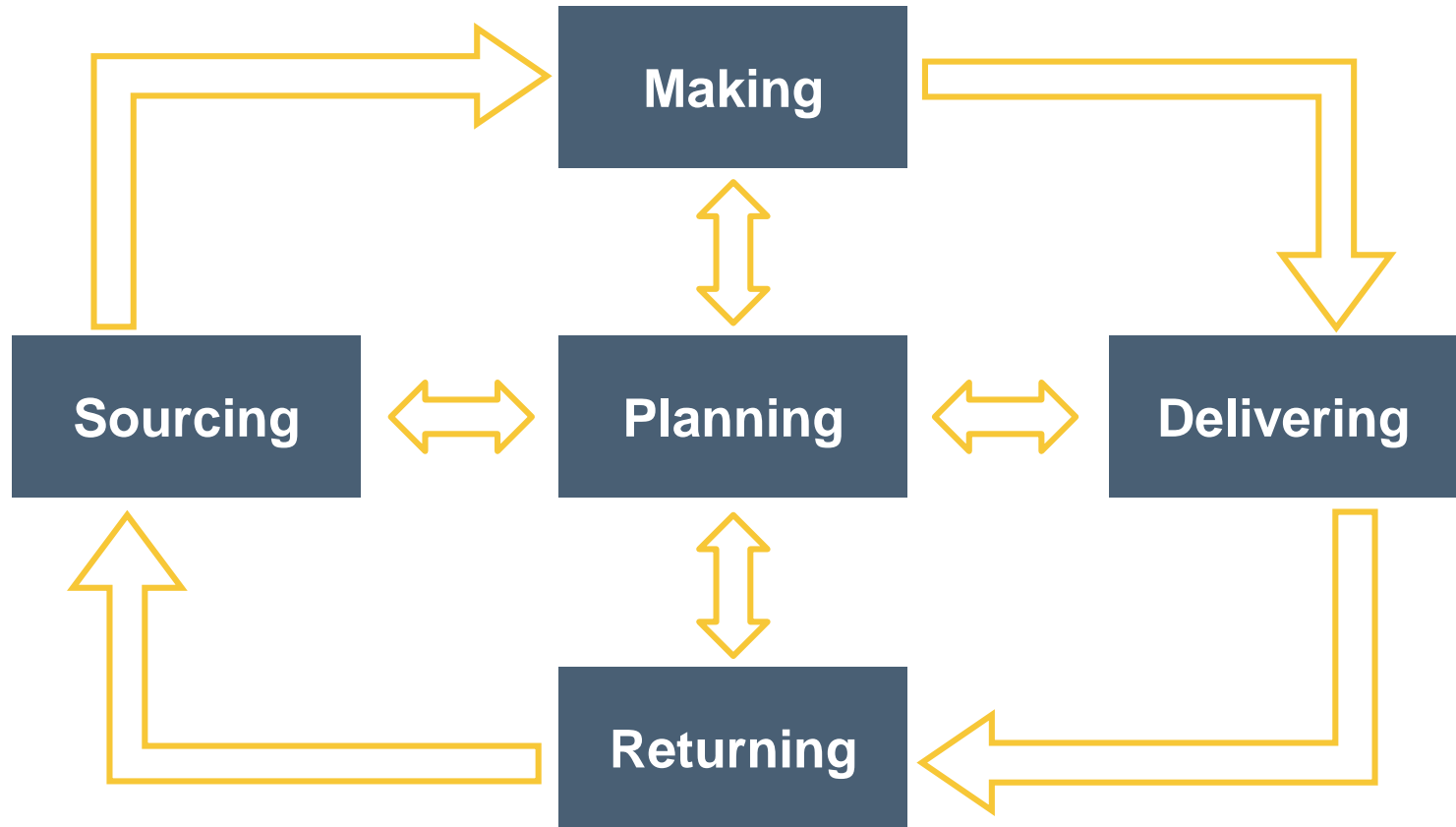
人贊助

已結束

此計劃於 2018/06/20 - 2018/08/29 期間募資，專案募資成功！

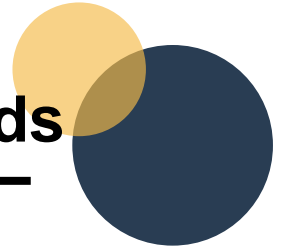
分享

# Operations and supply chain processes



### 3. Differences between services and goods

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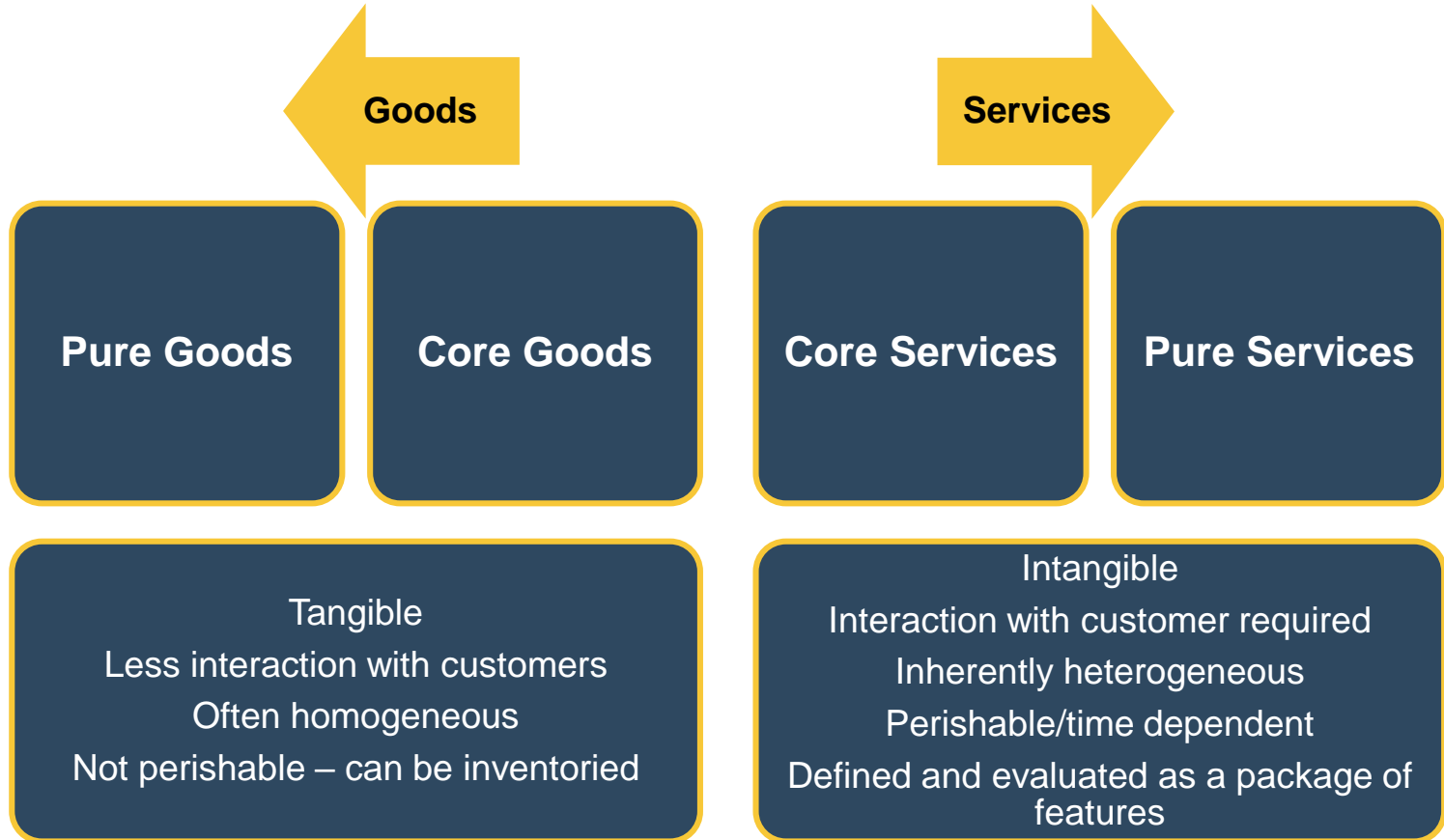
- Service is an **intangible process** that cannot be weighed or measured, whereas a good is the physical output of a process.
- Service includes direct **interaction** with customer in creating the output; in goods production, they usually are not.
- Some gray areas:
  - Manufacturers provide many services as part of their product, and many services often manufacture the physical products they deliver to their customers or consume goods in creating the service.
  - For example, TSMC、**王品**



## (cont'd)

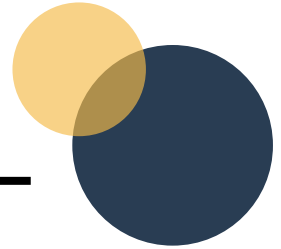
- Services with the big exception of hard technologies such as ATMs are **inherently heterogeneous**. Goods can be produced to meet very tight specifications without variability.
- Services as a process are **perishable and time dependent**, and unlike goods, they can't be stored.

# Goods versus Services



## 4. Operations as service

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- Every organization is in the service business → **Servitization**
  - A company builds service activities into its product offerings for its current users
- In manufacturing, services can be divided into two types:
  - **Core services**: customers want the products to be made correctly, customized to their needs, delivered on time, and priced competitively.
  - **Value-added services**, which simply make the external customer's life easier or help internal customers to better carry out their particular function.
    - 筆電的2年完全保固、58分鐘快速完修

## (cont'd)

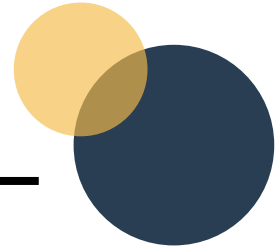
- Four categories of value-added services:
  - **Information** is the ability to furnish critical data on product performance, process parameters, and cost.
  - **Problem solving** is the ability to help solve problems, especially in quality.
  - **Sale support** is the ability to enhance sales and marketing efforts by demonstrating the technology, equipment, or production systems the company is trying to sell.
  - **Field support** is the ability to replace defective parts quickly or to replenish stocks quickly to avoid downtime or stockouts.

## (cont'd)

- The benefits of value-added services can be provided to external customers:
  - To differentiate the organization from the **competition**.
  - To build **relationships** binding customers to the organization in a positive way.

## 5. Why should operations be perceived as important?

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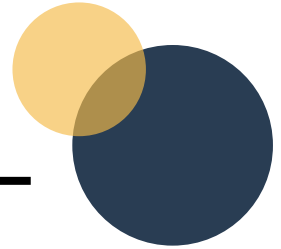
- No matter production or service that one firm offers, three critical issues are concerned:
  - **Efficiency**: doing something at the lowest possible cost
  - **Effectiveness**: doing the right things to create the most value for the company
  - **Value**: quality divided by price

# 6. Historical development of OM

年代服務品質	原則	工具	觀念產生者或發想者
1910年代	科學管理的原則 工業心理學 移動是裝配線	時間研究和工作研究 動作研究 作業排程圖	泰勒(美國) Gilbreth夫婦(美國) 亨利·福特、甘特(Gantt)(美國)
1930年代	品質管制 霍桑研究	抽樣調查和統計圖表 抽驗結果以分析工作	Walter Shewhart、H.F. Dodge、H.G. Romig(美國) Elton Mayo(美國)、L.H.C. Tippett(英國)
1940年代	跨學門團隊以解決複雜的系統問題	線性規劃之單形法	作業研究群(英國)、George B. Dantzig(美國)
1950~60年代	大量的作業研究工具	模擬、等候線理論、決策理論、數學規劃、PERT、CPM等專案排程技巧	美國和西歐
1970年代	大量的應用電腦 服務品質與生產力	排程、物料管理、預測、專案管理、MRP 大量生產導向的服務業	電腦製造商(IBM)、Orlicky和Wight(美國)是MRP的先驅 麥當勞
1980年代	製造策略典範	以製造為競爭武器	哈佛企研所教授
	JIT、TQC和工廠自動化  同步生產	看板、防呆措施、CIM、FMS、CAD/CAM、機器人  瓶頸分析、OPT、限制理論	豐田汽車的大野耐一(日本)、戴明和朱蘭(美國)工程學門  Eliyahu M. Glodratt(以色列)
1990年代	TQM  企業流程再造 電子化企業 供應鏈管理	美國國家品質獎、ISO9000認證系列、品質機能展開、價值及同步工程、持續改善 革新模式 網際網路 SAP/R3, 主從架構軟體	國家標準局、品質學會(美國)、國際標準組織(歐洲)  Michael Hammer和顧問公司(美國) 美國政府、Netscape、Microsoft SAP(德國)、Oracle(美國)
2000年代	電子商務	網際網路、全球資訊網	亞馬遜書店、e-Bay、美國線上、雅虎

## 7. Current issues in the field of OSCM

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- Coordinating the relationships between mutually supportive but separate organizations (SCM)
- Optimizing global supplier production, and distribution networks
- Increased co-production of goods and services  
(Amazon Go)
- Management customer touch points
- Raising senior management awareness of operations as a significant competitive weapon



## (cont'd)

- Some typical management and staff jobs in OSCM
  - Plant manager
  - Hospital administrator
  - Branch manager
  - Department store manager
  - Call center manager
  - Supply chain manager
  - Purchasing manager
  - Business process improvement analyst
  - Quality control manager
  - Lean improvement manager

# 電影分享：黑狗兄

