### SCM: Learning Outcomes

- Appreciate the importance of taking a total supply network perspective;
- Analyse the concepts of vertical integration versus outsourcing;
- Apply location analysis;
- Understand how supply chains are planned and controlled;
SCM in practice

- “Supply chain versus supply chain” world

Dell

Disneyland Paris
Decision of integration: Direction, extent and balance of vertical integration

Balance — should excess capacity be used to supply other companies?

Extent — Narrow process span
Extent — Wide process span

Direction — Upstream vertical integration
Direction — Downstream vertical integration

The decision logic of outsourcing

- **Is activity of strategic importance?**
  - Yes
  - No

- **Does company have specialized knowledge?**
  - Yes
  - No

- **Is company’s operations performance superior?**
  - Yes
  - No

- **Is significant operations performance improvement likely?**
  - Yes
  - No

- **Explore keeping this activity in-house**
- **Explore outsourcing this activity**

Slack et al (2010)
Supply-side and demand-side factors in location decisions

Supply-side factors which vary to influence costs as location varies.

For example:
• labour costs
• land costs
• energy costs
• transportation costs
• community factors

Demand-side factors which vary to influence customer service/revenue as location varies.

For example:
• labour skills
• suitability of site
• Image
• convenience for customers
The cost breakdown of shirt

- Manufactured in various countries and sold in France

<table>
<thead>
<tr>
<th>Country</th>
<th>Labour</th>
<th>Transport</th>
<th>Fabric</th>
<th>Supplies</th>
<th>Customs duties</th>
<th>Total Cost (€)</th>
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<tbody>
<tr>
<td>France</td>
<td>8</td>
<td>2</td>
<td>6</td>
<td>4</td>
<td>1</td>
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<tr>
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<td>3</td>
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<td>3</td>
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<td>5</td>
<td>2</td>
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<td>1</td>
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<td>5</td>
<td>3</td>
<td>1</td>
<td>9.60</td>
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</table>
SCM: flow of materials; information and money

‘Upstream’ flow of customer

- Long-term plans and requirements
- Market research information
- Individual orders
- Payment
- Potential new products and services.

‘Downstream’ flow of products and services for customer

- Products and services
- New products and services
- Delivery information
- Payment request/Credit.

Flow between processes

Operation 1

Operation 2

Operation 3
The purchasing function

Suppliers
- Prepare quotation for specification, price, delivery, etc.
- Produce products and services

Purchasing function
- Request for quotations
- Select supplier(s)
- Prepare purchase order

The operation
- Request for products and services
- Receive products and services
- Deliver

Liaison between purchasing and the operation

Supply chain relationships

**Business to business (B2B)**
- Most common, all but the last link in the supply chain
  - *E-commerce examples:*
    - EDI networks
    - Business information exchanges.

**Business to consumer (B2C)**
- Retail operations
- Catalogue operations, etc.
  - *E-commerce examples:*
    - Internet retailers
    - Amazon.com, etc.

**Consumer to business (C2B)**
- Trading ‘swap’ and auction transactions
  - *E-commerce examples:*
    - Specialist ‘collector’ sites
    - Ebay.com, etc.

**Consumer to consumer (C2C) or ‘peer to peer (P2P)**
- Consumers ‘offer’, business responds
  - *E-commerce examples:*
    - File sharing networks (legal & illegal)
    - Napster
The character of internal operations activity

Types of supply relationship

- **Do nothing**
  - Transactional – many suppliers
  - Virtual spot trading

- **Do everything**
  - Close – few suppliers

- **Do everything important**
  - ‘Partnership’ supply management
  - Vertically integrated operation
  - Long-term virtual operation

Types of supply relationship:

- **Transactional**
  - Many suppliers
- **Virtual spot trading**
- **Close**
  - Few suppliers
- **Partnership supply management**
- **Vertically integrated operation**
- **Long-term virtual operation**
Fisher’s (1997) matrix

<table>
<thead>
<tr>
<th>Nature of demand</th>
<th>Functional products</th>
<th>Innovative products</th>
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</thead>
<tbody>
<tr>
<td>Predictable</td>
<td>–</td>
<td>Unpredictable</td>
</tr>
<tr>
<td>Few changes</td>
<td>–</td>
<td>Many changes</td>
</tr>
<tr>
<td>Low variety</td>
<td>–</td>
<td>High variety</td>
</tr>
<tr>
<td>Price stable</td>
<td>–</td>
<td>Price markdowns</td>
</tr>
<tr>
<td>Long lead-times</td>
<td>–</td>
<td>Short lead-times</td>
</tr>
<tr>
<td>Low margin</td>
<td>–</td>
<td>High margins</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Supply chain objectives</th>
<th>Responsive</th>
<th>Efficient</th>
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<tbody>
<tr>
<td>Fast response</td>
<td>- Low cost</td>
<td>- High utilization</td>
</tr>
<tr>
<td></td>
<td>- Low utilization</td>
<td>- Minimum inventory</td>
</tr>
<tr>
<td></td>
<td>- Minimum inventory</td>
<td>- Low cost suppliers</td>
</tr>
<tr>
<td>Deployed inventory</td>
<td>- Low cost suppliers</td>
<td>- Flexible suppliers</td>
</tr>
<tr>
<td>Flexible suppliers</td>
<td>- Flexible suppliers</td>
<td>- Flexible suppliers</td>
</tr>
</tbody>
</table>

- Lean supply chain management
- Mismatch
- Agile supply chain management
Lean versus agile

**Agility**
Customer responsive supply

- Supplier
- Manufacturer
- Depot
- Outlets

**Lean**
Efficient fast throughput supply

- Supplier
- Manufacturer
- Depot
- Products
- Information

**Process Flow Chart**

- Little’s law
- Pareto’s law
- Self-managed Learning
- Process Design
- Introduction
Self-managed learning

Slack et al 2011 (white cover)
- Chapter 7: Supply Network Management
- Chapter 9: Inventory Planning and Control

Slack et al 2010 (black cover):
- Read Chapter 6. Supply Network Design and Chapter 13. Supply Chain Planning and Control
- Complete the workshop task (if not complete in the class)
- Continue working on your assignment
Questions