Chapter 10
Information Systems Sourcing

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Opening Case - Kellwood

• Kellwood, an American apparel maker, ended its soup-to-nuts IS outsourcing arrangement with EDS after 13 years.
• The original outsourcing contract integrated 12 individual acquired units with different systems into one system.
• In 2008, Sun Capital Partners purchased Kellwood and made it private.
• The COO was facing a mountain of debt and possibly bankruptcy and wanted to:
  – bring the IS operations back in-house.
  – reduce costs.
  – overcome the lack of IS standardization.
• The CIO was concerned that the transition from outsourcing to insourcing would cause serious disruption to IS service levels and project deadlines.

Opening Case – Kellwood (Cont.)

• Kellwood hired a third-party consultant.
• Backsourcing would help save money and respond to changes caused by both the market and internal forces.
• The transition and the implementation went smoothly.
• By performing streamlined operations in-house, it was able to report an impressive 17% savings in annual IS expenses after the first year.
• Companies adopt outsourcing as means of controlling IS costs and acquiring “best of breed” capabilities.
• IS departments must maximize the benefit of these relationships to the enterprise and preempt problems that might occur.
• Failure could result in deteriorating quality of service, loss of competitive advantage, costly contract disputes, low morale, and loss of key personnel.

Learning Objectives

• Describe the Sourcing Decision Cycle Framework.
• Explain the differences between insourcing and outsourcing, inshoring and offshoring, and nearshoring and farshoring.
• List the major drivers for outsourcing.
• Describe how offshoring must be managed.
• Define the different ways of outsourcing including ASPs.
• Understand the difference between full and selective outsourcing.
• Describe the risks and strategies utilized to mitigate risks.

Key Drivers Competitive Market

• It is a very competitive for any businesses competing in a global market.
• Cost (profit) and quality (or satisfaction) are key drivers in this market place.
• Porter’s five competitive forces model apply as external influences on the company, but are insufficient alone to inform the company in the market place.
• Why?


SOURCING DECISION CYCLE FRAMEWORK
Sourcing Decision Cycle Framework

- **Sourcing** involves many decisions (Figure 10.1).
  - The first step is the *make* or *buy* decision.
    - If the “buy” option is selected, the company outsources.
    - The company must decide on “how” and “where.”
    - Is the outsourcing provider in its own country, offshore, or in the cloud?
    - If the company decides to offshore, it must decide whether to offshore nearby or far away.
  - Periodically must evaluate the arrangement and adjust it.
  - Continual evaluation is needed to determine if the arrangement is satisfactory or not—either for outsourcing or insourcing.

Insourcing

- A firm provides IS services or develops IS in its own in-house IS organization.
- This is the “*make*” decision.
- Drivers that favor this decision:
  - Keep *core competencies* in-house.
  - IS service or product that requires considerable security or confidentiality.
  - Time available in-house to complete IS projects.
  - In-house IT personnel.
- Challenges to insourcing (Figure 10.2 and 10.Extra):
  - Getting needed IT resources from management.
  - Finding a reliable competent outsourcing provider.

<table>
<thead>
<tr>
<th>Insourcing Drivers</th>
<th>Insourcing Challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good for <em>core competencies</em></td>
<td>Dealing with inadequate support from top management to acquire needed resources due to lack of expertise of knowing the complexity of the projects etc.</td>
</tr>
<tr>
<td>Good for confidential or sensitive IS services or software development</td>
<td>Finding a reliable, competent outsourcing provider that is likely to stay in business they are in the consulting industry.</td>
</tr>
<tr>
<td>Time available in-house to complete software development projects</td>
<td></td>
</tr>
<tr>
<td>In-house IT professionals have adequate training, experience or skills to provide service or develop software</td>
<td></td>
</tr>
</tbody>
</table>

**Figure 10-Extra**: Insourcing drivers and challenges
OUTSOURCING

• What company was the first one proposed/promoted the concept of Outsourcing? And When?

• Ans: Author Andersen in 1972

IT Outsourcing

• With IT, there is equipment and personnel involved
• Equipment and facilities are sold to outside vendors
• Personnel might be hired by outside vendors
• Services are hired from the vendors
• Common length of agreement: 10 years

Deciding Where - Onshore, Offshore, or in the Cloud?

• Previously outsourcing options were either to use services onshore (same country as the client) or offshore (a distant country).
• New sourcing option: cloud computing
• Comparison of the two sourcing options (insourcing and outsourcing) (Figure 10.3).

Sourcing Options

<table>
<thead>
<tr>
<th></th>
<th>Insourcing</th>
<th>Outsourcing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic</td>
<td>Domestic in-house production Company produces its products domestically without any outside contracts</td>
<td>Domestic outsourcing Company uses services supplied by another domestic-based company</td>
</tr>
<tr>
<td>Offshore</td>
<td>Offshore in-house sourcing Company uses services supplied by its own foreign-based affiliate (subsidiary)</td>
<td>Offshore outsourcing Company uses services supplied by an unaffiliated foreign-based company</td>
</tr>
</tbody>
</table>

Outsourcing

• The phenomenon that appeared in the information systems field in the late 1980s was outsourcing, which means turning over a firm’s computer operations, network operations, or perhaps other information systems functions to a vendor for a specified time - generally, at least for three years.
• “…IT outsourcing is a harbinger of traditional IT department transformation and provides a glimpse at the emerging organizational structures of the information economy. “
• Definition: The purchase of a good or service that was previously provided internally, or that could be provided internally but is now provided by outside vendors.
Outsourcing (cont.)

• Drivers (Advantages) include:
  ✓ Reducing costs/risks
  ✓ Transition to new technologies
  ✓ Focus on core business strategies (competency)
  ✓ Provide better management and focus of IT personnel
  ✓ Infusion of cash

• Disadvantages are present in outsourcing and include
  ✓ Losing control
  ✓ Expensive to undo decisions, etc.
  • Backsourcing is when a company brings back previously outsourced IS functions.
  Example, Call Center
  • Outsourcing has expanded to include essential functions such as customer service and other aspects that provide competitive advantage.

Economics of Outsourcing

• Benefits:
  – Sell equipment, buildings (large cash inflow)
  – Downsized payroll – outsourcer hires employees

• Costs:
  – Services provided for a fee
  – Fixed costs usually over 10-year term

Figure 10-Extra: Outsourcing Drivers and challenges

<table>
<thead>
<tr>
<th>Outsourcing Drivers</th>
<th>Outsourcing Challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Offer cost saving</td>
<td>Abdication of control</td>
</tr>
<tr>
<td>Offer service quality</td>
<td>High switching cost</td>
</tr>
<tr>
<td>Offer opportunity for better strategic focus</td>
<td>Loss of strategic advantage</td>
</tr>
<tr>
<td>Ease transition to new technologies</td>
<td>Lack of technology innovation</td>
</tr>
<tr>
<td>Provide better management of IS staff</td>
<td>Reliance on outsourcer</td>
</tr>
<tr>
<td>Offer better ability to handle peaks</td>
<td>Mitigating outsourcing risks</td>
</tr>
<tr>
<td>Make it easier to consolidate data center</td>
<td>Problems with security/ confidentiality</td>
</tr>
<tr>
<td>Provide a cash infusion</td>
<td>Evaporation of cost savings</td>
</tr>
</tbody>
</table>

The Driving Forces Behind Outsourcing

• Two main drivers
  – **focus**
  – **on core business**
  – **value**
  – **stakeholder**

Decisions about How to Outsource Successfully

• Decisions about whether or not to outsource need care and deliberation.
• Requires numerous other decisions about mitigating outsourcing risks.
  – Three major decision areas: selection, contracting, and scope.
    1. **Selection**:
      ➢ Find compatible providers
    2. **Contracting**
      a. Try for flexible management terms
      b. Try for shorter (3-5 year) contracts
      c. Try for single or multiple vendors (see next slide)
    3. **Scope** – Determine if full or partial (selective) outsourcing (or cloud computing)
      ➢ With “best-of-breed” approach

Single vs. Multiple Vendors

• Pros/cons between these two options?
• Multiple vendors (multisourcing) allows client companies to distribute work to the “best in breed.”
  – Requires more coordination.
  – If problems may be a tendency to finger point.
• Single vendor model is simpler but **riskier**.
  – Only one company to coordinate.
  – All IS “eggs” are in one basket.
Deciding Where - Onshore, Offshore, or in the Cloud?

- New option: cloud computing (on-demand computing)
  - is a kind of Internet-based computing that provides shared processing resources and data to computers and other devices on demand.
- Works when outsourcing or insourcing

Cloud Computing

- Cloud computing:
  - A third party provides IT services over the Internet.
  - Provides an entire data center’s worth of servers, networking devices, systems management, security, storage, and other infrastructure.
- Clients buy the exact amount of storage, computing power, security, or other IT functions they need, when they need it, and pay only for what they use.
  - Cost saving.
- 24/7 access from multiple mobile devices.
  - High availability for large backup data storage.
  - Ease of use.

Cloud Computing Options

- Cloud computing options:
  - On-premise.
  - Private clouds.
    - Data is managed by the company and remains within the company’s existing infrastructure, or it is managed offsite by a third party.
  - Community clouds.
    - The cloud infrastructure is shared by several organizations and supports the shared concerns of a specific community.
  - Public clouds.
    - Data is stored outside of the corporate data centers in the cloud provider’s environment.
  - Hybrid clouds.
    - Combination of two or more other clouds.

Public Clouds Characteristics

- Infrastructure as a Service (IaaS).
  - Provides infrastructure through grids or clusters or virtualized servers, networks, storage, and systems software.
  - Designed to augment or replace the functions of an entire data center.
  - The customer may have full control of the actual server configuration.
  - More risk management control over the data and environment.
- Platform as a Service (PaaS).
  - Provides services using virtualized servers on which clients can run existing applications or develop new ones without having to worry about maintaining the operating systems, server hardware, load balancing, or computing capacity.
  - Provider manages the hardware and underlying operating system.
  - Limits the enterprise risk management capabilities.

Public Clouds Characteristics (cont.)

- Software as a Service (SaaS) or Application Service Provider (ASP).
  - Software application functionality through a web browser.
  - The platform and infrastructure are fully managed by the cloud provider.
  - If the operating system or underlying service isn’t configured correctly, the data at the higher application layer may be at risk.
  - The most widely known and used form of cloud computing.
- Some managers shy away from cloud computing because they are concerned about:
  - security—specifically about external threats from remote hackers and security breaches as the data travels to and from the cloud.
  - data privacy.

Onshoring

- Onshoring, or inshoring, is performing outsourcing work domestically.
- Onshoring may be considered the opposite of offshoring.
- Rural sourcing, hiring outsourcing providers with operations in rural parts of America, is a growing trend.
  - Lower salaries and living costs.
  - A closer time zone, similar culture, and fewer hassles that crop up when dealing with foreign outsourcing providers.
  - Too small to handle large-scale projects.
  - May not have the most technologically advanced employees (Figure 10.Y).
Outsourcing Abroad

Offshoring

- **Offshoring** (or *outsourcing offshore*) - the IS organization uses contractor services or even builds its own data center in a distant land.
- Functions range from routine IT transactions to increasingly higher-end, knowledge-based business processes.
- Programmer salaries can be a fraction of those in the home country.
  - Other costs increase due to additional technology, telecommunications, travel, process changes, and management overhead.
- Offshore providers are often “profit centers” and have established Six Sigma, ISO 9001, or another certification program.

Offshore Destination - Development Tiers

Carmel and Tjia suggest there are three tiers (level of development) of software exporting nations:

- **Tier 1: Mature** (the highest tier)
  - United Kingdom, United States, Japan, Germany, France, Canada, the Netherlands, Sweden, Finland, India, Ireland, Israel, China, and Russia.
- **Tier 2: Emerging**
  - Brazil, Costa Rica, South Korea, and many Eastern European countries.
- **Tier 3: Infant**
  - Cuba, Vietnam, Jordan, and 15 to 25 others.

Tiers were determined based on industrial maturity, the extent of clustering of some critical mass of software enterprises, and export revenues.

- The higher tiered countries have higher levels of skills and higher costs.

Deciding Where Abroad: Nearshoring, Farshoring, or Captive Center?

- **Offshoring** can be either relatively proximate (nearshoring) or in a distant land (farshoring).
- An alternative to offshoring is a captive center.
- **Farshoring** is a form of offshoring that involves sourcing service work to a foreign, lower-wage country that is relatively far away in distance or time zone (or both).
- India and China are the most popular farshoring destinations.
- **Nearshoring** is when work is sourced to a foreign, lower-wage country that is relatively close in distance or time zone.
- The client hopes to benefit from one or more ways of being close - geographically, temporally, culturally, linguistically, economically, politically, or from historical linkages.
Captive Centers

- A captive center is an overseas subsidiary that is set up to serve the parent company.
- These subsidiaries operate like an outsourcing provider but are owned by the firm.
- **Hybrid** and **shared**.
  - The hybrid captive center performs the more expensive, higher-profile or mission-critical work for the parent company.
  - Outsources the more commoditized work that is more cheaply provided by an offshore provider.
- The shared captive center performs work for both a parent company and external customers.
- **Nearshore** or **farshore**.

Cultural Differences

- Misunderstandings arise because of differences in culture, language, and perceptions about time.
- Carmel and Tjia outlined some examples of **communication failures** with Indian developers:
  - Indians are less likely than Westerners to engage in small talk.
  - Indians often are not concerned with deadlines.
  - Indians, like Malaysians and other cultures, are hesitant about saying **NO**.
  - What is funny in one culture is not necessarily funny in another culture.

Reevaluation—Status Quo or Change?

- **Backsourcing** is a business practice in which a company takes back in-house assets, activities, and skills that were part of its IS operations and were previously outsourced to one or more outside IS providers.
  - **Partial** or **complete** reversal
- Companies backsource after terminating, renegotiating, or letting their contracts expire (e.g., Continental Airlines, Cable and Wireless, and Halifax Bank of Scotland)
- 70% of outsourcing clients have had negative experiences and 25% have back sourced.
- 4% of 70 North American companies would not consider back sourcing.
- **Backsourcing** is followed by another cycle of decisions as the company responds to its dynamic environment.

Backsourcing Reasons

- Mirror reason for outsourcing (to reduce costs, increase quality of service, etc.)
- Costs were higher than expected
- Poor service
- Change in management
- Change in the way IS is perceived within the company
- New situations (mergers, acquisitions, etc.)

Crowdsourcing

- **Definition**:
  1) Taking a task traditionally performed by an employee or contractor, and outsourcing it to an undefined, generally large group of **people**, in the form of an **open call**
  2) The dynamic SM process of employing users to participate in product design or product redesign.
  - E.g. eBay often solicits customers to provide feedback on their eBay experience.
  - Other examples?
  - **Wikipedia** and **PSY Horse Dance**
- Two forms: 1) **collaboration**, and 2) **tournament**
- Used by companies to increase productivity, lower production costs, and fill skill gaps and can be used for a variety of tasks.
- Companies do not have control over the people doing the work.
- Has cost more than traditional methods.

Why Outsourcing Alliances are So Difficult?

- Exacerbating the situation is the timing of benefits
  - **Customer**
  - **Outsourcer**
  - and their perspective/interests are conflict or reverse
- Only a few outsource rs have the critical mass and access to capital markets to undertake large contracts
- Evolution of technologies often changes the strategic relevance of IT service to a firm.
**When to Outsourcing?**

- Which IS activities are strategic to our company's business?
- Will outsourcing save us at least 15 percent?
- Does our firm have access to the needed technology and expertise?
  - If not, outsourcing may be the answer to acquiring these resources
- Does outsourcing increase our firm’s flexibility?

**What Activities that Management should not Outsource?**

- Strategy
- Policy role
  - the decisions about when to introduce information systems into the organization
  - the management of the vendor
  - when the system (IS) department is well managed, and where IT is a core competency

**Outsourcing Recommendations**

- Write shorter contracts - less than 5 years
- Subcontract control, Why?
  - may not be consistent or seamlessly integrated
- Selective outsourcing
  - choose the best candidate (not the cheapest) in the field

**Outsourcing and Strategic Networks**

- Many issues and risks are involved with outsourcing.
- A strategic network is a long-term, purposeful arrangement by which companies set up a web of close relationships that provide a product or service in a coordinated fashion.
- The client becomes a hub with suppliers as part of its network.
- Lowers the cost of working with others in the network.
- Company can become more efficient and flexible than its competitors.
- The Japanese keiretsu is similar to a strategic network.
  - The Japanese companies manage their outsourcing activities based on the types of inputs from different types of suppliers.
  - The Mitsubishi Keiretsu contains over 30 firms spanning many industries. The members use each others’ services and don’t compete: Toshiba, Fujifilm, Sony are members

**Additional Strategic Networks**

- Business ecosystems: Informal, emerging relationships
  - “an economic community supported by a foundation of interacting organizations and individuals – the organisms of the business world.”
  - The community is comprised of customers, suppliers, lead producers, competitors, outsourcing providers, and other stakeholders.
- Another type of strategic network is one with a parent organization or multinational and a number of their subsidiaries.
- Often one subsidiary performs outsourcing services for another subsidiary in the network.
- Given the increasingly complex structure of today’s multinationals, the role of strategic networks in outsourcing arrangements is likely to grow.
Outsourcing and Strategic Networks

A **strategic network** is a long-term, purposeful arrangement by which companies set up a web of close relationships that provide a product or service in a coordinated fashion.

Given the increasingly complex structure of today’s multinationals, the role of **strategic networks** in outsourcing arrangements is likely to grow.

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<thead>
<tr>
<th>In-sourcing (Firms provide IS services from internal group, developing and deploying products in-house)</th>
<th>Outsourcing (products or services provided by outside vendors)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cloud Computing (third party provides services over the Internet)</td>
<td>Outsourcing (subcontracting work performed domestically)</td>
</tr>
<tr>
<td>New sourcing option</td>
<td>Offshoring (outsourcing work performed in another country)</td>
</tr>
<tr>
<td>Nearshoring (at a country nearby)</td>
<td>Farshoring (at a country far away, usually India, China, or Eastern block countries)</td>
</tr>
</tbody>
</table>

Figure 10-Extra: Sourcing options

Patterns of Market Exchange

**The Trend is From …**

- Vertical integration
- Selective sourcing
- Virtual corporation
- Disintermediation of distribution and supply channels (E-Business)
- Outsourcing/Offshoring
- Cloud computing/sourcing

Strategic Grid for Decisions on Outsourcing

<table>
<thead>
<tr>
<th>Competitive Advantage</th>
<th>Strategic Importance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>In-sourcing</td>
<td>Leverage (K-How to partners)</td>
</tr>
<tr>
<td>Strategic Alliance</td>
<td>Outsourcing</td>
</tr>
</tbody>
</table>

Summary: Factors driving outsourcing

1. Cost savings
2. Qualified IT staff are difficult to find and retain
3. By bringing in outside expertise, management needs to focus less on IS operations and more on the information itself.
4. Outsourcers are specialists, should understand how to manage IS staff more effectively.
5. Outsourcers may have larger IS resources that provide greater capacity on demand.
6. Outsourcing can help a company overcome inertia to consolidate data centers that could not be consolidated by an internal group, or following a merger or acquisition.

Summary

- Firms typically face a range of sourcing decisions.
- Cost savings or filling the gaps in the organization’s IT skills are powerful drivers for outsourcing.
- Offshoring may be performed in a country that is proximate along one or a number of dimensions (nearshoring) or that is distant (farshoring).
- Different ways of outsourcing include cloud computing and crowdsourcing.
- Full or selective outsourcing offers organizations an alternative to keeping top-performing IS services in-house.