Segment 2: Purchasing, Outsourcing and Strategic Alliances.

Segment Description:
We begin this segment by addressing the classic make or buy decision. The management of business processes is contrasted with a focus on functional management. Topic 2.1 presents the basic principles of purchasing decisions and how companies should decide whether to build a product or purchase from a supplier. Topic 2.2 discusses how companies can decide what processes are possibilities for outsourcing. Once the decision has been made to outsource a function, then companies must determine metrics and guidelines to manage this relationship. Topic 2.3 focuses on what happens when companies decide to enter a strategic alliance. How can firms determine whether a possible strategic alliance is a good fit? This segment will provide guidelines to make this decision.

Learning Outcomes for the Segment:
Upon completing the segment and assignment, students should be able to:

- Understand sourcing decisions and the factors impacting supplier selection
- Understand how to assess what functions within a business are candidates for outsourcing.
- Identify methods for choosing and managing suppliers.
- Analyze the qualities of successful strategic alliances.
- Understand the necessity of performance metrics in managing supplier contracts.

Segment Topics
- Topic 2.1 – Purchasing Decisions: Make or Buy
- Topic 2.2 – Outsourcing and how to Manage Supplier Relationships
- Topic 2.3 – Strategic Alliances: A Business Marriage
Reference Reading:

- Article, “JIT II: A Purchasing Concept For Reducing Lead Times in Time-Based Competition” by Claudia H. Pragman, Business Horizons, July/August 1996, pg 54-58
Make or Buy

The most basic SCM decision that a firm must make is whether to make product itself or purchase it from another vendor/supplier. The make or buy decision can be a complex strategic decision. Sometimes it is reduced to a simple break-even analysis but this should not be done in most cases. Instead a supply chain manager must assess both pros and cons of each decision.

So what are the reasons for making a product in-house? These can be summarized as:

- Protect proprietary technology. Intel would not willingly allow AMD to use its designs to produce microprocessors. Neither would Coke provide Pepsi with its secret recipe so that Pepsi could produce product for Coke.
- No competent supplier. In some fields (especially technical ones), the market may not have progressed to the point where a suitable supplier is available.
- Better quality control. Firms that excel in quality control may wish to keep manufacturing in-house.
- Use existing idle capacity. Of course a key operational goal in manufacturing is to limit idle capacity. The savings caused by using idle capacity may offset price savings offered by other vendors.
- Control of logistics- Firms may feel the need to be able to control lead-time transportation, and warehousing costs.
- Lower cost. This is the only case where a simple break-even analysis can be applied.

On the other hand, there are practical reasons for purchasing a product or service outside the company. These are:
Cost advantage: Especially for components that are non-vital to the organization’s operations.

Insufficient capacity: A firm may be at or near its production capacity.

Lack of expertise: Firm may not have the necessary technology and expertise.

Quality: Suppliers have better technology, process, skilled labor, and the advantage of economy of scale.

So how are these issues assessed and balanced? Again, the first step is to compare the to the firm’s competitive strategy. A decision must be made as to how strategic a particular part or product is. The following figure outlines this managerial process.

In practice, three of the four quadrants tend to be fairly easy to decide. However, the upper left hand quadrant, Novelty items are the most difficult. It is this type of product that requires a “gut-check” decision to be made. Decision making in this quadrant also holds the greatest risk.
So let us assume that this assessment has been completed and the decision has been made to purchase the product or sub-assembly from another vendor. When that occurs we enter the realm of procurement.

**Procurement**

Purchasing has traditionally been one of the most powerful elements of a company’s internal supply chain function. This was because purchasing managers had the power to strong arm potential suppliers on price in order to buy from the lowest cost supplier that could be found. While this is still an important activity, the role of purchasing has expanded in order to support the overall goals of SCM. Thus this expanded function is now referred to as procurement or sourcing. The procurement function can be broken down into five main areas:

- Purchasing
- Consumption Management
- Vendor Selection
- Contract Negotiation
- Contract Management

*Purchasing* is defined at the acquisition of needed goods and services at optimum cost from competent, reliable sources. There are two general types of products that companies purchase. These are strategic materials need to make the products that the company sells and indirect or maintenance, repair and operations (MRO) products that a company needs to support daily operations.

The day to day operations of purchase both types of product are similar. These include the following:

- Selecting and qualifying suppliers
- Rating supplier performance
- Negotiating Contracts
- Comparing price, quality and service
Sourcing goods and services
Timing purchases
Setting terms of sale
Evaluating the value of goods received
Measuring inbound quality of goods
Predicting price, service and demand changes
Specifying the form in which goods are to be received.

Each of these requires a great deal of information to be based between the various entities involved. This data includes items and quantities ordered, delivery dates and addresses, as well as prices and payment terms. Thus one of the key areas of procurement is data management. The management of this data includes making sure the data is timely and error free. This is one of the key reasons that various information technology capabilities such as electronic data interchange (EDI) and radio frequency ID tags (RFID) are so popular in SCM.

Consumption Management focuses on developing a detailed understanding of the products needed throughout the entire company. This can be a large undertaking considering the proliferation of products within business units in recent years. This detailed understanding requires information on how much of each general product category will be required and it what time frame. These product categories require various raw materials or sub-components that must be developed in-house or purchased elsewhere. This requires a firm to perform aggregate planning which will be discussed in more detail in the next class. Once aggregate levels of product are known then individual product lines must be assessed. Again the same issues arise. How much of each of these products will we be needed and what are the required raw materials and labor needs. When will these materials need to be delivered? Are there price reductions for volume purchases? These types of issues are incorporated into EOQ analysis which again will be addressed in the next class.
Note that to accurately assess these issues requires accurate demand forecasting. Thus when consumption is significantly above or below what is expected, this reflects poor forecasting and should be addressed by the various affected parties in the supply chain. Of course, if you are consuming less than planned this may reflect poor forecasting, but it may also reflect operational efficiencies that should be taken advantage of. Consumption that is much greater than expected can also reflect poor forecasting, or it may reflect decreased operational efficiencies that must be addressed as soon as possible.

*Vendor Selection* is a process that has changed dramatically in recent years. As mentioned earlier, the past focus was on low cost. Today the emphasis is on choosing vendors that provide the capabilities needed to support the company’s strategic plan. Thus if a company is competing on speed of response, that criterion becomes a major factor for vendor selection. The value of product quality, service levels, JIT delivery capabilities and technical capabilities are just some of the factors that must now be taken into account.

An additional change in vendor management includes the effort to reduce the number of vendors that a company has. The goal is to have a few select suppliers that the firm builds a long-term relationship with. This allows a firm to leverage its purchasing power with a few suppliers in order to get better prices in return for larger purchase volumes. In addition, a longer term relationship allows the suppliers to better understand the needs of the company and vice-versa. This allows for the possibility of win-win technology and product sharing efforts in the future.

*Contract Negotiation* is a necessary part of the vendor management process. This is where the details of are purchase is worked out and requires specific information on item selection, prices, and expected service levels. Again, in the past the focus on cost allowed firms to use a simple negotiation method where contracts just indicated indirect purchases from vendors selected for low cost. In today’s SCM world multiple criterion are used and thus contracts are more complex. For example, the emphasis on quality control and zero defects requires that contracts be structured to reflect very exact quality
specifications. These demands are also tied into the need for high service levels and technical support of the product itself.

In addition, as many firms embrace JIT techniques in order to reduce inventories, they require their vendors to make more frequent deliveries. In an effort to make sure that order data is correctly transferred, contracts are stipulated very specific IT capabilities. For example, since the 1980’s Wal-mart has required all its suppliers to have EDI capability. Of course, if this is required by the firm, another contract requirement is how these expectations will be enforced. Thus performance metrics must be determined and targets set with penalties for when they are not met. This leads us to the next issue of contract management.

*Contract Management* requires that once contracts are in place vendor performance must be measured and managed. This requires that the firm has very specific metrics and be able to gather performance data easily just as in consumption management. Any supplier that does consistently falls below expectations must be expected to address the problems. In some cases they may need to be replaced because they may be the only source for an entire category of raw materials or sub-components that is necessary for a firm to produce its products. In this case, the entire firm’s strategy can be undermined by this single supplier. However, while in the past the burden was on the vendor to fix any problems, this approach is now changing by the move to develop long-term partnerships with vendors. In this model, if there is a problem such as a performance goal not being met, instead of penalizing the supplier, both the supplier and the firm work jointly to solve the issue. This engenders long term trust. When trust has been developed, different vendor management options are now open to a company. For example, a supplier can be given the responsibility of tracking their own performance and respond to any changes they see as necessary. This is the concept behind vendor managed inventory (VMI). In VMI, the vendor tracks the inventory level of products in a firm and proactively ships products as needed. They then invoice the customer.
To summarize the key concepts we have discussed the following table compares the differences between traditional procurement approaches and modern SCM approaches that emphasize relationship building in supplier partnerships.

<table>
<thead>
<tr>
<th>Traditional Approach</th>
<th>Supplier Partnerships</th>
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<tbody>
<tr>
<td>Primary emphasis on price</td>
<td>Multiple Criteria</td>
</tr>
<tr>
<td>Short term contracts</td>
<td>Longer term contracts</td>
</tr>
<tr>
<td>Evaluation by bids</td>
<td>Intensive and extensive evaluation</td>
</tr>
<tr>
<td>Many suppliers</td>
<td>Fewer selected suppliers</td>
</tr>
<tr>
<td>Improvement benefits shared based on relative power of</td>
<td>Improvement benefits are shared more equitably</td>
</tr>
<tr>
<td>the firms</td>
<td></td>
</tr>
<tr>
<td>Improvement at discrete time intervals</td>
<td>Continuous improvement is sought</td>
</tr>
<tr>
<td>Problems are suppliers’ problem to correct</td>
<td>Problems are jointly solved</td>
</tr>
<tr>
<td>Clear delineation of business responsibility</td>
<td>Quasi-vertical integration</td>
</tr>
<tr>
<td>Information is proprietary</td>
<td>Information is shared</td>
</tr>
</tbody>
</table>

It takes time to develop a mutually trusting relationship between a company and suppliers. This relationship depends on the interdependency of the two players. Why is this important? Because it ensures that neither party has an incentive to short-change the other. Interdependence motivates the buyers and suppliers to develop long-term relationships characterized by stability, cooperation, and seeking mutual benefits. This tends to occur when each party depends on resources controlled by the other party, and both firms can gain by pooling their resources.

However, not all vendors are equally important and thus there is a hierarchy of buyer-supplier relations. Specifically there are four levels determined primarily by the degree of interaction between the design teams of the two firms. As that interaction grows and becomes more sophisticated, closer relationships are required. These are
Of course, suppliers can interact with a given buyer in different ways. For example, a supplier can act as a subcontractor for components for which only minor design skills are required and as a major supplier for products that require considerable design skills. A supplier functioning in multiple categories is especially common when the buyer is evolving its supplier relations towards the more complicated forms.

**Common suppliers** provide materials and sub-components that are commonly available and are purchased by many buyers. Most of these standard components have established commodity prices, and other than negotiation to do with volume and delivery, the supplier’s selling price is pretty much a given. The buyer’s relationship with its common suppliers is the most basic of all the supplier categories. Typically, common suppliers are viewed as interchangeable, and cost is often the deciding factor in the choice of supplier.

**Subcontractors** are brought into the process after the product has been designed. The buyer designs the components of the new product and then instructs the subcontractor to manufacture them. Often the components for a given product are manufactured by different subcontracting firms and then assembled by the buyers. The buyer’s relationship with subcontractor is richer than that with common suppliers but still fairly basic. The buyer often will help the subcontractor to become more efficient by providing engineering and sometimes managerial support.

**Major suppliers** respond when the buyer provides high-level specifications and then requests the supplier to design the major product or subassembly. Major suppliers are involved in the design process after the product has been conceptualized but before its detailed design is established. As would be expected, the buyer’s relationship with its major suppliers is more complex than with its common suppliers and subcontractors. Here, both the buyer and supplier have technological expertise in the design of the major
function or subassembly. Engineers of the individual firms work together on a regular basis and support each other to become more efficient.

*Family members* are responsible for completely designing and delivering a major function of the final product. They have the highest degree of autonomy and act almost as an integral part of the buyer’s design team. Family members are full service providers that have extensive R&D skills of their own. They often develop new solutions independent of their customer in order to gain a strategic advantage over their competitors. At this stage, the buyer’s relationships with its family members are the richest of all the supplier categories. It is with these suppliers that the greatest level of SCM integration occurs. What you would typically see is the buyer and supplier jointly developing specifications for the end product.

**Procurement: Centralized vs. Decentralized.**

As a final topic, we need to give some thought to how procurement departments can be set up as part of the integrated supply chain. Procurement departments fall into a gamut between extremes of centralized or decentralized.

- **Centralized Procurement-** purchasing department located at the firm’s corporate office makes all the purchasing decisions.
- **Decentralized Procurement-** individual, local purchasing departments, many at the plant level, make their own purchasing decisions.

There are particular advantages to the extremes of centralized or decentralized procurement. For centralized procurement departments the advantages are:

- Concentrated volume--centralizing purchases allows for leveraging to be applied for volume discounts
- Avoid duplication—lack of multiple procurement departments can save costs.
- Specialization
- Lower transportation costs
No competition within units—competition for suppliers can actually cause costs for some business units to be increased.

Common supply base—having a common group of suppliers allows for easier management of the long term relationships.

On the other hand decentralized procurement departments also have advantages. These are:

- Closer knowledge of requirements—this key advantage allows for quicker responses to market changes.
- Local sourcing—this may allow companies to access lower cost sources that can supply local needs but are not large enough to supply the entire firm.
- Less bureaucracy—this also allows organizations to respond quicker to market changes.

The overall structure of any procurement department will depend on many factors such as the particular market condition and the types and proximity of materials needed. Another factor will be whether the firm has expanded internationally or not. If so, then the international structure of the firm will impact the procurement department. For example, for a multinational firm responding to individual markets in individual countries, the procurement department must be decentralized in order to support individual market needs. For a global firm with global products, a centralized procurement department is the best option.

In some cases companies may opt for a hybrid structure.

- A hybrid procurement organization- both decentralized at the corporate level and centralized at the business unit level may be needed in some cases

This type of structure strives to achieve the specific advantages of decentralized or centralized procurement structures that are helpful to the firm. There is not one general
structure of a hybrid system since it is specific to the organization. Regardless of the structure that is determined the procurement departments must still begin with the make or buy decision that we began this section with. An issue arises of what firms can do when it is not just a product that will be purchased from outside the organization but it is determined that an entire process can be better done by another organization. This leads us to our next section on outsourcing.
What is Outsourcing?

Outsourcing is “having a service or product supplied by others.” These products and services or other business functions are vital to the smooth functioning of a business, so successful outsourcing is critical to understand.

Outsourcing is commonly confused with other terms that when implemented seek to achieve similar business goals, but are slightly different.

- **Offshoring** is relocating business functions to an overseas location. Typically, these locations will have lower costs. The processes are still internal to the organization; they are just conducted in a different location than previously conducted.

- **Offshore outsourcing** is a combination of outsourcing and offshoring. Business functions are supplied by outside firms that are primarily located overseas.

Outsourcing throughout business history

Adam Smith wrote in 1776, “It is the maxim of every prudent master of a family never to make at home what it will cost him more to make than to buy.” Outsourcing was common during the Industrial Revolution as firms procured products and services from vendors, added value to them, and sold them to customers.

Early Twentieth-Century style mass production called for vertical integration, or incorporating as many business functions as possible within the firm. This was practical as long as products and services were simple.

Today’s market demands complex products and continuous product improvement. The ability to handle relationships with external groups is critical to remaining competitive. Recall that from the first segment of this course, we discussed the value chain (as can be seen below). Each activity on the primary and secondary value chain is a potential...
candidate for outsourcing. The reason is that no firm can be superb at every activity they undertake. What they are weak in can be outsourced to a company who excels at that

![The Value Chain](image)

...specialty. Most researchers such as Pahalad and Hamel, recommend that companies outsource only “non-core” functions, that is, functions that do not provide a sustainable competitive advantage to the firm. Core functions usually comprise core competencies that take a long time to develop and that competitors cannot easily duplicate. When a function is outsourced, the accompanying loss of personnel and their expertise exposes the firm to the risk of losing the ability to continue innovation in the outsourced function. If that function was the source of competitive advantage, the firm may lose knowledge upon which it had previously built a competitive advantage. Nevertheless, some argue that core functions may be outsourced in certain situations. For example, a firm may lack the ability to become competent at a function that the market has judged to be essential to competition in an industry. This applies especially to start-ups that lack the time and capital to develop expertise internally.

For whatever reasons firms outsource initially, they tend to outsource other functions later. Corbett states that “As organizations expand their use of outsourcing, they move along the continuum and begin to outsource more strategic activities viewed as ever closer to the core of their business”. As a stopping rule, Rock suggests that “…
many companies will continue to outsource everything they can until they find something that they cannot – with whatever that is being defined as the ‘core competence.’ The danger is that the choice becomes a matter of ideology rather than one of careful assessment.” Some firms have gone as far as to outsource entire value-added processes—the virtual enterprise. In the virtual enterprise, all physical operations are outsourced to third parties: Order entry, manufacturing, and distribution may be carried out externally. A business with this strategy concentrates on developing and marketing its products. It reduces its fixed costs associated with physical operations by using third-party manufacturing and distribution expertise to offer its customers the best possible service levels. However, this does not mean they lack control over their operation. They often retain key functions such as inventory management and customer credit control. As you might expect, successful virtual enterprise must be expert at SCM. A classic example of the virtual enterprise is NIKE. It only consists of a marketing and R&D arm. All other functions are outsourced. Other examples can be found in several industries:

**Outsourcing Mini Cases**

**Airlines**

Delta enlisted two vendors to handle select customer reservations functions: Sykes Enterprises and Wipro Spectramind, a subsidiary of Wipro Limited, India. The airline is slated to save $26 million in 2003 from offshoring reservation processes.

In 1996, British Airways opened an offshore processing center in Mumbai, India, to handle Customer relations (handling complaint letters rather than phone calls) and passenger revenue accounting. The ROI from offshoring included savings of nearly $23 million per year per 1,000 jobs it relocates to India, reduced delays in answering complaint letters (from more than two weeks to less than three days), shorter training periods, and higher work quality.
Government

The Greater London Authority awarded a $10 million contract to offshore software company Mastek to develop the software and run the back end of the radical new program in London that charges toll for driving within the city during rush hours. Data show that buying services offshore saved the city $4 million to $5 million.

Another trend has been the outsourcing of functions to customers. Technology improvements such as ATM’s, kiosks, websites, self-check out lanes and automated phone systems have made self-service a hidden form of outsourcing.

Understanding Outsourcing

Why do companies outsource?

As indicated by Adam Smith, controlling costs is a leading reason for outsourcing. There are several others.

- Achieve cost reductions and economies of scale
- Focus on strategic core competencies
- Create enterprise-wide value enhancement
  - Implementing new technology
  - Reducing headcount
  - Outsourcing value-added functions

When outsourcing overseas, there may be several additional benefits:

- Improved supply chain reliability
- Access to unique or superior products
- Ease the penetration of trade barriers to new markets
- Conduct business continuously 24/7 while maintaining normal working hours at any particular location
Example: India is approximately 12 hours ahead of the U.S. in time. Technical support workers in the U.S. and India can work during normal hours while the firm offers 24/7 technical support worldwide.

Example: In developing the Joint Strike Fighter, Lockheed Martin teamed three different engineers located in different time zones (roughly eight hours apart) throughout the world. Each engineer worked on the project individually and in sequence, sending it to the next team member, literally following the rotation of the earth.

- Secure tax advantages from foreign governments

What business functions are commonly outsourced?

Any business function that is not considered a core competency is a prime candidate for outsourcing. The most common are:

- Basic services (janitorial services, cafeteria services, etc…)
- Information Technology
- Human Resources
- Manufacturing
- Telecommunications/E-Commerce
- Facilities Management

How dramatic can cost reductions be?

Significant anecdotal and statistical evidence exists showing the dramatic cost savings that can be obtained through outsourcing, particularly to overseas locations that have lower labor costs. However, from a pure research standpoint it is often difficult to measure direct savings. Thus this is an area of continued research.

According to a recent article in an Indian publication, “One Singaporean worker costs as much as three in Malaysia, eight in Thailand, thirteen in China, eighteen in India.”
Average Salaries of Programmers

<table>
<thead>
<tr>
<th>Country</th>
<th>Salary Range</th>
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<tbody>
<tr>
<td>Poland and Hungary</td>
<td>$4,800 to $8,000</td>
</tr>
<tr>
<td>India</td>
<td>$5,880 to $11,000</td>
</tr>
<tr>
<td>Philippines</td>
<td>$6,564</td>
</tr>
<tr>
<td>Malaysia</td>
<td>$7,200</td>
</tr>
<tr>
<td>Russian Federation</td>
<td>$5,000 to $7,500</td>
</tr>
<tr>
<td>China</td>
<td>$8,952</td>
</tr>
<tr>
<td>Canada</td>
<td>$28,174</td>
</tr>
<tr>
<td>Ireland</td>
<td>$23,000 to $34,000</td>
</tr>
<tr>
<td>Israel</td>
<td>$15,000 to $38,000</td>
</tr>
<tr>
<td>USA</td>
<td>$60,000 to $80,000</td>
</tr>
</tbody>
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Hourly Wages for Selected Occupations US and India, 2002/2003

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Hourly Wage, US</th>
<th>Hourly Wage, India</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telephone Operator</td>
<td>$12.57</td>
<td>Under $1.00</td>
</tr>
<tr>
<td>Health Record Technologists/</td>
<td>$13.17</td>
<td>$1.50- $2.00</td>
</tr>
<tr>
<td>Medical Transcriptionists</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Payroll Clerk</td>
<td>$15.17</td>
<td>$1.50- $2.00</td>
</tr>
<tr>
<td>Legal Assistant/Paralegal</td>
<td>$17.86</td>
<td>$6.00- $8.00</td>
</tr>
<tr>
<td>Accountant</td>
<td>$23.35</td>
<td>$6.00- $15.00</td>
</tr>
<tr>
<td>Financial Researcher/ Analyst</td>
<td>$33.00 - $35.00</td>
<td>$6.00- $15.00</td>
</tr>
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</table>

Labor isn’t the only cost factor that needs to be taken into consideration. According to Boeing CEO Harry Stonecipher, “If wage levels were the most important determinant, most of global manufacturing would be situated in the poorest countries in the world. And that is clearly not the case.” The same is true for services.

Can outsourcing be risky to a firm?
Yes. Outsourcing involves giving up control over a critical business function or process to another firm. Risks associated with outsourcing include:
Ensuring the vendor’s values and objectives align with the customer’s needs

Unclear expectations leading to an unstable relationship

Loss of quality control

Loss of internal expertise

Communications problems

Increase in hidden costs

Costs of selecting a vendor – additional .2 – 2% annual cost

Cost of layoffs – severance and retention bonuses; losing people to help with transition

Cultural cost – productivity and changing cultures

Cost to the community

Lower employee morale

As you might image, there are additional risks involved when outsourcing globally:

Exchange rate fluctuations

Cash flow challenges between the time payment is made and the time goods or services are received

Subjecting proprietary technology to the IP laws of another country

Subjecting employees and customers to the privacy laws of another country

Differences in measuring tolerances and specifications

Preferred methods for resolving disputes

Risks associated with political turmoil

Due to these uncertainties, there are instances of outsourcing being reconsidered and the function moved internally again:

Dell Corporate Call Center: Due to complaints from corporate customers, Dell has stopped sending US technical support calls for two of its corporate computer lines to a
Bangalore, India, call center. Dell customers complained of language difficulties and delays in reaching senior technicians when speaking to tech support personnel in India. However, non-corporate US customer calls will still be routed to India as well as EU and Asian corporate customer calls.

Conseco: Indianapolis-based Conseco is a holding company for two operating businesses: insurance and finance. In April 2002, Conseco acquired a firm specializing in customer service and back-office outsourcing to India and planned to move 14% of its U.S. jobs to India over the next two years. However, later in 2002, Conseco backed away from its plan and announced that it sold its interest in the outsourcing firm to EXEL Service as part of its efforts to allow it to refocus its resources and management time on core businesses.

Costco: Costco has decided to return more of its overseas jobs to its U.S. facilities. The decision was based on two factors: 1) reduced volume of business and 2) the need to exercise close control over the processes that most directly affect its relationships with current customers and distribution partners. The company admitted that it found that some of these processes difficult to manage successfully from a distance.

Other example is Lehman, which abandoned its BPO agreement with Wipro Spectramind, for its internal IT help desk, citing low levels of quality and service.

Implementing Outsourcing

What can companies do to outsource effectively?

Effective outsourcing can be challenging. Below the surface is a myriad of factors that must be assessed in order to make wise choices. We will assess five key areas that should be considered by management when you are outsourcing.

Understand why a function is outsourced – Look beyond cost savings. Is there a strategic reason for outsourcing a function? Is there a potential vendor with a strategy that aligns
with the firm’s strategy? Aligning strategies will enhance the relationship beyond simply cost reduction, and make obtaining support from top management easier.

**Properly evaluate opportunities** – Look beyond direct costs and include indirect costs. With direct costs, it is typically evident that tradeoffs are being made regarding transport and support service charges relative to the cost of the goods or services themselves. Indirect costs can be particularly critical when shipping overseas when there is greater opportunity for disruption to supply inflows. Indirect costs such as inventory buffers, longer lead times, the potential for increased rework, increased paperwork and cash flow challenges should also be taken into consideration. Costs will be incurred during the transition period. The morale of workers not affected by outsourcing may be damaged, and unforeseen cultural barriers may hamper productivity.

**Develop metrics and gather initial data**– Developing metrics forces a firm to determine what they will be judging an outsourcing firm by. For example, if a firm wishes to outsource its logistics functions, it might determine that on-time delivery percentage, percentage of products damaged, maintenance costs and insurance costs might be valuable data to assess a firm on. However, just determining these metrics is not enough. A firm should also gather this data on themselves *before* outsourcing. If they do not, then how can they determine if the outsourcing firm is actually saving them money and improving performance? Of particular interest to supply chain managers will be the Supply Chain Operations Reference model (SCOR). Businesses that are just embracing SCM are often overwhelmed by the complexity and sheer size of the many processes and activities that must be managed. When it comes to determining metrics and gathering data, they feel that these are of minor importance compared to the major problems they are already facing. In response to that, Pittiglio Rabin Todd & McGrath and Advanced Manufacturing Research collaborated with over 80 major companies to develop the SCOR reference model. This is the first reference model that can be used to align and configure the supply chain based on a company’s business strategy. It provides straightforward, standard descriptions for the thousands of activities within the supply chain, and identifies the performance measurements and supporting tools that can support each
activity. Of course, we cannot address the model in detail here. However, supply chain managers should know that the SCOR framework consists of the following:

- Standard descriptions of the individual elements that make up the supply-chain processes
- Standard definitions of key performance measures
- Descriptions of best practices associated with each of the process elements
- Identification of software functionality that enables best practices

This is available to supply chain managers through the Supply-Chain Council, an independent, not-for-profit organization (http://www.supply-chain.org) with over 470 corporate members worldwide.

Manage risks – Management techniques can help mitigate risks, particularly when outsourcing internationally. Hedging can help offset exchange rate risks. Understanding IP laws in a potential vendor’s country can help avoid risks associated with sharing technology. Specifying the preferred method for dispute resolution can settle differences more expediently. Clearly identifying and agreeing on specification and tolerances can preempt shortages caused by rejecting shipments. Another key issue is to have contingency plans ready to immediately execute. This can mitigate risks associated with political turmoil.

Adjust accordingly – Radical change can be difficult to implement. Start small, and expand as lessons are learned. Relationships should be evaluated continuously; once more work is outsourced, fewer vendors will be needed, so the vendor base can be streamlined and new outsourcing opportunities may be identified.

Can technology make outsourcing easier?

Yes. The Internet, voice over Internet protocol, and software packages such as ERP and EDI have made it easier than ever to hire, manage vendors and remote functions, particularly in distant locations worldwide.
Economic and Political Ramifications of Outsourcing

If companies are continually outsourcing key business functions, how does this affect the economy?

The effects of outsourcing have existed for as long as business has become too expensive to conduct in one location and can be conducted equally well but cheaper in another. The migration of the textile industry from New England to the southern U.S. created economic costs in New England and benefits in the South. However, New England currently has a higher standard of living than it did when it was home to significant levels of textile employment.

Carly Fiorina, chairman of Hewlett-Packard, is an advocate for “Be Creative, Not Protectionist.” She states, “There is no job that is America's God-given right anymore. Any job losses to foreign countries are particularly painful when the U.S. economy is failing to produce net job gains. Every job is important because each one represents an American's livelihood and ability to raise a family. Yet spending our time building walls around America will do nothing to help us compete for the millions of new jobs being created. Instead, we must focus on developing next-generation industries and next-generation talent - in fields like biotechnology, nanotechnology and digital media distribution; around issues like IT security, mobility and manageability - that will create long-term growth and jobs here at home, while raising all of our living standards in the process.

Boeing CEO Harry Stonecipher agrees, and likens the debate over outsourcing to the book Robinson Crusoe. “Robinson Crusoe is forced to become a jack-of-all-trades because – literally – there is no one to trade with.” However, as Stonecipher points out, a modern business that is totally self-sufficient would be highly unusual. “To compete effectively, you need optimal value coming in the door from outside vendors, and you need optimal value going out the door after your own people have completed their work. That’s true whether the company has five employees or whether – like Boeing – there are more than 155,000 employees.” To adapt to the economic challenges created by
outsourcing, “we would do well to emulate the example that Robinson Crusoe set in his
determination to master new skills and to keep on learning something new every day. In
that sense, Robinson Crusoe does present one heck of a good role model.”

In other words, Robinson Crusoe struggled to survive because he had to. But by learning
new things, he was able to adapt to new challenges. In an interconnected world, new
challenges arise continuously. As Ms. Fiorina pointed out, the talent needed to operate
them must be prepared.

*How extensive are the effects of outsourcing on the economy?*

- A Goldman Sachs study estimates 300,000 to 500,000 jobs were lost in the past three
  years to foreign relocations. "In the next decade, as many as 6 million jobs might be
  sent to India and other nations by US companies in search of lower costs and a tech-
  savvy, English-speaking workforce."
- By 2015, Forrester Research estimates that as many as 3.3 million U.S. jobs and $136
  billion in wages could be moved to such countries as India, China, and Russia.
- The total jobs at risk are projected to be at 14.1 million by a study at UC Berkeley. It
  should be noted that the total size of the U.S. Labor Force is 140 million jobs.

However, it is important to put these figures into context. In an average year, the
American economy creates slightly more than the 30 million jobs it destroys. This
dwarfs the effects of overseas outsourcing.

*If Outsourcing isn’t bad for the economy, what are the benefits?*

While the economic hardships created by outsourcing are highly visible, the benefits are
diffused throughout the economy, making them difficult to identify.

- Companies around the world outsource. Countries that lose jobs in one sector from
  outsourcing may be gaining jobs from outsourcing in another sector.
- Outsourcing is driven primarily from potential cost savings. Lower cost means price
  competition which means lower costs for consumers.
As we do business with poorer countries, their standard of living improves and creates additional demand for products that they currently cannot afford.

*Why has outsourcing become a topic of political debate?*

Evolutionary change is continuous in an economy. It is impossible to stop, but opposition is generally very vocal. Jobs provide people the means to provide the basic necessities for life, so anything that threatens employment causes alarm among people who are employed. When people are losing their jobs, it is very easy for them to blame political leaders.

The economic consequences and political fallout of outsourcing are similar to that of trade. N. Gregory Mankiw, chairman of President Bush's Council of Economic Advisers, said recently that outsourcing gains, "that take place over the Internet or telephone lines are no different than the gains from trade in physical goods transported by ship or plane." "When a good or service is produced at lower cost in another country, it makes sense to import it rather than to produce it domestically." Mankiw continues, "It is natural to ask what new jobs will be created in the future. Policy makers should create an environment in which businesses will expand and jobs will be created. But they should not try to determine precisely which jobs are created or which industries will grow. If government bureaucrats were capable of such foresight, the Soviet Union would have succeeded as a centrally planned economy."

Given that outsourcing as a business option is a historical and practical reality, supply chain managers should embrace it and seek to use it in the areas that would best serve their company. In some cases, the basic idea of outsourcing may need to be applied on a far larger and strategic scale. In that scenario, companies begin to embrace strategic alliances which we address in the next segment.
Sub-segment 2.3
Strategic Alliances

What is a Strategic Alliance? In its most basic form it is a cooperative agreement. However, unlike a general outsourcing agreement it must be long-term, explicit agreement between at least two firms. Some type of exchange must take place between the firms. This can involve

- financial remuneration,
- an exchange of goods/services
- an information exchange
- some combination of the previous three

An overall synopsis is listed in the table below. We do not have the time to go into each of these types of agreements with their concomitant legal and business structures.

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However, the key issues for us to understand are

- what types of strategic alliances are usually used in business,
- what drives businesses to use them, and
- how can strategic alliances be managed successfully?
The graph below provides a perspective on the first issue.

The majority of strategic alliances take place in the center of the graph in the circled area. Joint development and licensing agreements are becoming more common among large firms. The reason is the large financial cost of development and manufacturing new technologies and products. Thus you see GM and Toyota sharing hybrid engine technology and Honda and Isuzu cross-licensing vehicles with different name plates.

Some times, this type of agreement grows into a Joint Venture. This has several effects on the cooperating firms. First, there is a new legal entity. However, while it is a separate entity legally, it can be structured to either operate its own facilities or be a non-operating administrative joint venture. The key issue to understand is that both firms hold a mutual hostage position over the joint venture by combining real and financial assets. This provides an incentive to share technology and marketing information, invest in the relationship with specific assets, and to monitor one other’s actions. Of mutual benefit to both firms in the joint venture is the effect on the market. The joint venture can have the affect of increasing market power by binding upstream suppliers or downstream
distributors. This also can place a higher market entry barrier to other possible competitors.

SCM managers should also understand that the type of strategic alliance is also limited by the size firm that you are working with. As might be expected, small and medium sized enterprises (SMEs), without large financial reserves tend to work in the lower left of the graph with technology trials and commercial contracts. On the other hand, it tends to be only large firms that operate in the upper left of the figure (minority interests and acquisitions) because of the financial resources required.

**Why do Firms Enter into Strategic Alliances?**
The academic basis for why firms enter strategic alliances is rooted in Transaction Cost Theory. This theory argues that during daily business operations, a firm must conduct transactions either internally within the firm and its hierarchies or externally though markets. If a particular transaction occurs regularly, then the parties may be better off negotiating a long-term contract. Also, as external market transactions become more costly, a firm is more apt to internalize its activities in order to save on transaction costs. Of course in reality, more complex contracts do increase the uncertainties that must be managed in the alliance. In addition, there is also the possibility of opportunistic behavior by a partner. Yet given these issues there are still incentives to entering in a strategic alliance. These are summarized next.

**Incentives to Enter Strategic Alliances**
- Information exchange between firms
  - Reduce risk and search costs
  - E.g., Technology transfer or technological complementarity
    - SMEs embrace this because they can reduce risks through research sponsored by multiple big firms
    - Big firms embrace this because they can mitigate risk by supporting multiple innovative SMEs
Complementary resources
  • New entrant gains access to efficient production facilities, established
    channels of marketing and distribution, customer loyalty
  • Existing competitor may share new technology for rapid expansion of
    market share in response to revolutionary innovations

Economies of scale
  • Until a new entrant has reached its own economies of scale in production, it
    is at a significant cost disadvantage. However, a strategic alliance allows
    a firm to use its partner’s economies of scale which would otherwise have
    been a competitor.
  • These combined economies of scale may reduce average unit cost and
    create additional entry barrier to other potential competitors.

International expansion
  • International expansion through a domestic partner at reduced risk (e.g.,
    for commercialization)
  • May be appropriate if speed of deployment is of great importance.
  • This is often chosen by small firms (less capital intensive) or as a result of
    trade laws/restrictions in various countries.

Mini Cases: Strategic Alliances

Sun Microsystems and Microsoft

In a recent example that occurred during the spring of 2004, Sun Microsystems and
Microsoft announced a strategic alliance incorporating Windows on Sun entry level
servers. The Sun-Microsoft alliance has had an immediate effect, with several Sun
iForce members bring the product match-up to market. AvcomEast is one such Sun
partner. The solution provider, based in Silver Spring, Maryland, has begun offering Sun
boxes with Opteron and Windows Server 2003, a combination that has quickly become a
modest hit for AvcomEast. According to Rob Wolfe, president and CEO of AvcomEast,
the alliance is a positive development and exciting opportunity for the industry that
should benefit solution providers on both sides of the coin. On one hand the impact for Microsoft will be small since it already controls the operating systems market. However, the alliance has a much larger impact on Sun. Specifically, Windows gives Sun an entry into the midmarket, and the company a host of new resellers to team with who have never sold Sun equipment before. To quote Bob Wambaugh, principal engineer at Sun “We were already losing Sparc and Solaris business, so I’d rather see hardware business stay in the Sun family instead of going to HP or IBM. Now we have all kinds of customers running Solaris, Windows and Linux on our machines.” Sun vice president of partner sales, Greg Stroud sees that “it has the potential to change our entire partner ecosystem.”

**Federal Express and Intel**

FedEx has developed a strategic alliance with Intel by providing Intel with logistics services. FedEx provides a warehouse and distribution services for the chips that Intel manufactures in Southeast Asia. FedEx does what it does well--using its systems to monitor inventory levels and optimal shipping times. It also increases the utilization of its existing facilities in Southeast Asia. On the other hand, Intel does what it does best; manufacturing top-of-the-line microchips. By allowing FedEx to handle logistics and warehousing issues for them, Intel can continue to focus on its core competency.

**Myths**

While strategic alliances have practical benefits, many firms enter into them without being realistic about their own strengths and weaknesses. Because of this, they end up developing relationships which, in many cases, end up destroying the firm. The five biggest myths or lies concerning strategic alliances that firms embrace are:

- “We’re better off allying with X than competing against it in our core business”
- “By joining forces with another second-tier company, we can create a strong company while fixing our problems together”
• “We need a strong partner to improve our skills”
• “By partnering with another company in our industry, we can access its new products and technologies while minimizing our investments in core products and technologies”
• “We can use an alliance to raise capital without giving up management control”

Only when firms are realistic about their abilities and their potential alliance partner’s abilities can mutually equitable alliances be developed. Given this variance between belief and reality, what type of outcomes do we see in practice? There are six basic groupings that are seen.

*Collisions Between Competitors* These involve the core businesses of two strong direct competitors. This alliance tends to be short-lived because of the competition and fail to achieve their strategic and financial goals initially set out. The end result is usually dissolution or a merger.

*Alliance of the Weak* The (disillusioned) hope is that together the weak firms will improve their positions. In reality they usually grow weaker and the alliance fails. The end result is often an acquisition by a third party.

*Disguised Sales* A weak company combines with a strong company which is often a (future) direct competitor. The weakling remains weak and is eventually acquired by the stronger partner. Disguised sales alliances tend to be short-lived, usually less than five years.

*Bootstrap Alliances* This is a combination of a strong and a weak company. The weak partner tries to improve its capabilities, but usually remains weak and is often acquired by partner. In the rare cases where these alliances are successful, it evolves into an alliance of fairly equal partners.
Evolutions to a Sale  Two strong but compatible partners decide to align. As with two strong-willed married people, many times tensions develop over who will be in control, bargaining power shifts, and often one of the partners ultimately sells out or relinquishes control to the other. In the short-term there is often great success in meeting the initial objectives. These alliances may exceed a seven-year period. An example currently being seen is the Daimler-Chrysler alliance/merger.

Alliances of Complementary Equals  As in a successful marriage, in this case there are two strong and complementary partners. The partners remain strong during the course of the alliance. Because this is a mutually beneficial alliance there is a high likelihood that it will last much longer than seven years.

Note that in describing these various alliances we used the descriptor of married couples. In reality that is what is happening. Firms have personalities and ways of doing things just as individual marriage partners do. These traits have to be integrated in order for the long term relationship to be successful. If there is an imbalance between partners or a high degree of selfishness or one side, the long term outlook for a successful alliance is dim. In fact, the peak of strategic alliance breakups occurs in the 5-7 year period, the same time frame as seen in modern marriage. In fact, much of the SCM research in this area reflects that of the research in marriage. Thus in this last section, we outline the key concepts on successful relationship management in strategic alliances. This is drawn from the SCM research. Notice how the same concepts can be applied to a marriage.

Keys to Relationship Management in Strategic Alliances

- Carefully assess the complementarity or your potential partner.
- Know your partner
- Achieve goal and strategy congruency
- Identify conflict points
- Make clear rules
- Make transactions transparent
- Communicate clearly and often
• Control creatively
• Share equitably
• Be flexible
• Review and revise
• Know when to exit

Keeping these issues in mind, one way to view strategic alliances is like a marriage. There is no perfect marriage and all marriages require constant work. The same is true with strategic alliances.