

Simplification and Complexity: The Best of the Best in Supply Chain Management

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For many companies, price is now a given – i.e., for the level of service, product features, and quality they provide, price is not a characteristic on which they can differentiate themselves from their competitors. Rather, it is the base point from which they start to build the value equation.

At the same time, many businesses are seeing their customers consolidating, either through acquisition or through the formation of cooperative buying groups. These consolidated customers are then rationalizing their sources of supply and reducing the number of suppliers, while forming more comprehensive long-term relationships with the remaining few (Exhibit 1). This process creates intense competitive pressure at all levels of the value chain. Companies that lose out in current competition can no longer take comfort in the old adage, „Try again next year,“ as this option may no longer be available. The stakes are no longer just transactional opportunities, but relationships. And the strong bonds forged in those relationships will make creating new opportunities far more difficult.

Ironically, while all this consolidation is taking place along the value chain, a metamorphosis within each of many enterprises is simultaneously increasing the complexity of the business process and bringing more entities into the overall supply chain. This is the trend to focus on core competencies and concentrate management and other resources on those activities deemed the basis for each organization’s competitive advantage – while outsourcing other activities.

Participants in this year’s Best-of-the-Best Colloquium on supply chain management focused on these themes: integrated networks of enterprises, process integration, communications and information technologies, outsourcing as a strategy, and the need for leadership to help organizations to learn to realize their vision.

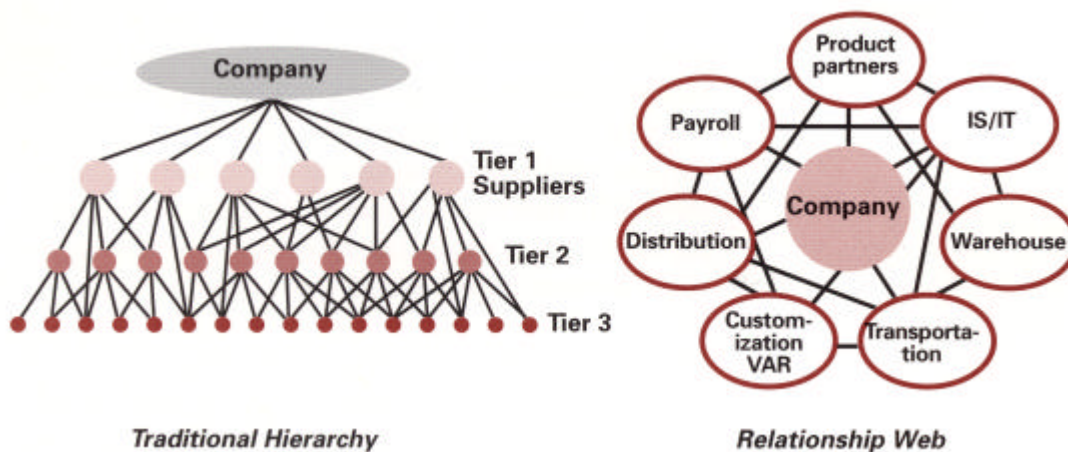
Supply Chain Networks and Virtual Integration

If the integrated supply chain has a mantra, it is that „inventory is evil.“ The strategic role of inventory is to buffer production processes against the uncertainty of demand. But companies can no longer afford that luxury. The new pressures of time-based competition, product proliferation, dynamically changing markets, and escalating service requirements have raised the stakes. Today, the cost of inventory obsolescence, together with pressure to reduce working capital, are pushing companies to work together to remove inventory from the supply chain.

In some early interpretations of just-in-time (JIT) production and inventory techniques, JIT supplier relationships were essentially leveraged buying, with the supplier holding the inventory and positioning it near the customer’s point of use. Companies are now recognizing that their suppliers are part of integrated supply chains that allow their products to compete effectively, and that they must work closely with their suppliers to lower inventories and streamline the overall process.

Exhibit 1

Evolution of the Supply Chain



This close working relationship is exemplified by the use of „efficient consumer response“ and other technologies that pass information throughout the supply chain. Transportation, manufacturing lot sizes, economic order quantities, production set-up times, and other basic operational ingredients need to be completely re-thought to meet the needs of today's and tomorrow's supply chains. As these supply chains become both simpler – in terms of numbers of competing suppliers – and more complex – in terms of partnering arrangements and close working relationships, there is a great need for both integrated information and communication systems.

As a result, we are now seeing the rapid deployment of integrated supply chain management software packages, such as Manugistics and Numetrix, to complement the new client-server enterprise management applications. For example, leading companies are attempting to measure the cash cycle time through the entire supply chain in days – and shorter is better. Of course, this measure requires a clear understanding of the value chain. Many companies that have achieved this understanding are reengineering for efficient growth and service, as opposed to cutting costs and capability.

In the computer industry, the average product life cycle is only about 18 months. As new products are developed and old ones discontinued, the network of companies in the supply chain will change and adapt. An essential skill that companies need is the ability to enter and exit alliances that meet the needs of the market and provide high value, but that are also capable of realigning for the next generation of product.

By the year 2000 it will be essentially impossible, at least in certain industries, to compete at any level as an isolated entity. A more likely scenario will be a constellation of companies – for example, a network of kitchen appliance suppliers, distributors, retailers, manufacturers, and a variety of other support providers all tightly aligned and tightly coordinated – competing against another network of companies by focusing their collective energy on delighting customers. „Corporate boundaries may be hard to detect in some cases,“ said Harvard Business School Professor Roy Shapiro, „and the business environment will be very fluid – fluid in terms of product flow, in terms of information flow, and in some cases, in terms of people flow.“

In this new world of competition, the battle is now supply chain versus supply chain. In each case, the whole constellation must be brighter than the sum of its parts. As competitive supply chains are likely to cross each other at some point (by having a common component or service supplier, or a supplier who also competes with another part of the value chain), issues of exclusivity, confidentiality, resource priority, and ethics will need to be specifically addressed. A very clear message from the participants in this year's Best-of-the-Best colloquium is that regulatory and contract limitations cannot respond quickly enough to be an effective means of ensuring compliance with relationships. Nonetheless, participants were not greatly concerned about this issue, because the penalty for a breach of faith in a partnership agreement is that you are out of the game.

The long-term challenge is to create seamless partnerships that extend from the manufacturer through the supply chain to the end user. Partnerships will be built on a solid foundation of trust and mutual commitment to continually improve the „value package“ and reduce overall costs throughout the channel.

Manufacturers and distributors must find ways to constantly add value to the customers' operations through cycle time reduction, inventory improvements, product innovations, and enhancements to the overall procurement process.

Purchasing operations must work to gain commitment from the end-users throughout their organizations to enable standardization and product substitution, particularly in maintenance, repair, and operational (MRO) products, to make the various supply arrangements truly effective.

More and more, people within a supply chain will work amid varying layers of competition. For example, global supply chains will compete with each other. At the same time, some levels of supply will be common across these competing supply chains. And, perhaps most complicated of all, some companies will supply competing customers. This practice is now common in the automotive industry. „On a regular basis, I go into factories where a big curtain hangs down the middle of the plant,“ explained Honda's David Nelson, Vice President of Purchasing. „Development on a new strategic project for Ford happens on one side of it, and for us on the other side.“ Even though supply chains compete against each other, there are invariably „stars“ that straddle more than one constellation.

Process Integration

Process integration is being driven by the need to lower costs in an increasingly complex supply chain, in order to fulfill the organization's business strategy. To manage the complexity caused by shorter product life cycles, the proliferation of items offered, and increasing customization, companies must achieve faster fulfillment cycles, lower inventory cost, higher stock availability, and specialized packaging, transport, and services.

Instead of the old „over the wall“ string of discrete transactions that marked the jerky flow from raw material through consumption, the modern supply chain will function more fluidly with constant feedback loops along the chain for flow management and continuous improvement.

This integration carries important implications for legacy communication and information systems, as well as for physical manufacturing, material handling, distribution, and transport systems. Processes will need to respond to partial information and operate with lower inventory buffers between process steps, while achieving reduced cycle times and improved first-pass yields at each link of the supply chain.

The actual implementation of new operating procedures and measurement and control mechanisms can be a frightening and risky undertaking – analogous to changing a tire while the car is moving. Therefore, companies are turning to powerful evaluation tools, both to convince people of the „do-ability“ of new methods and to help them truly understand what they can achieve. Since people learn best from experience, process simulation is becoming an essential tool, not only for the design phase of a process engineering effort but for the training and testing phases. With effective simulations, workers can evaluate the performance of the supply chain through a wide range of events and establish performance benchmarks for the actual system during start-up.

Communications and Information Technologies

With the intense cost pressures on the new supply chain, managers need to focus on the application of information technology to displace capital through rethinking and reengineering the business process, as opposed to displacing labor by „paving the cowpaths“ of existing processes. In this area, colloquium participants see two major driving forces. First, there will continue to be technological changes – a much broader application of automation to processes, to be sure, but also other advances in information technology, as well as electronic data interchange (EDI), and telecommunications systems. The second driver affecting the supply chain will be an explosion in communication, which will permit more sophisticated tools for decision-making and will also enhance the decision-making process itself. Certain decisions will remain highly centralized because of a given person’s access to information, while other decisions will be made at multiple levels within the structure. And the structure itself will change from the traditional, hierarchical structure to a far more virtual structure.

„One of the things that seems absolutely critical to delivering winning performance,“ said Pacific Bell’s Stephen Welch, Vice President-Shared Services, „is a new information infrastructure, one that brings distributed, standards-based, open-interface information systems technology right to the desktop. In trying to optimize performance, most of us are centralizing methods of operation and standards in order to drive out costs. The idea of creating autonomous entities, which was so popular in the early 1980s, is not what we’re working on now. We’re seeing an imposition of standards across the corporate structure – centralizing strategic business planning and market planning, yet at the same time keeping execution decentralized. The new information infrastructure ties this structure together and keeps it responsive to changing markets.“

Of course, this centralization has its limits: if a company takes centralization too far, the centralized bureaucracy will take too long to localize product adaptation and customization for markets. And there will always be a competitor eager to meet those needs.

What can prevent that from happening? One executive suggested it was important to make sure that everyone in a supply chain was looking at the performance of that chain with the same data and the same access to real-time, on-line information. The person in Singapore who wants influence in corporate strategic planning must be talking with the same data in front of him or her as the people in the importer’s office, or the central decision zone. Sharing the best information is likely to lead to the very best decisions.

Interestingly, the early adopters of EDI technology developed proprietary systems and protocols in an effort to meet their specific needs and ensure security. It is now clear that the imposition of proprietary technologies in a world of shirting alliances and rapidly forming and dissolving relationships requires universal standards and open architectures. As a result, many of the early systems are being reworked or discarded.

Outsourcing As a Strategy

Moving to the network structure envisioned in Exhibit 1 will allow management to focus on its core capabilities and the entire trans-organizational supply chain process to compete holistically against other networks. Managers must decide which activities and functions they want to accomplish within their own organizations (today’s core competencies as well as tomorrow’s), and which they would like to outsource (Exhibit 2). The most difficult question associated with this perspective is determining future core competencies. Nike, Inc., for example, doesn’t manufacture anything and has no retail stores. Its core competencies are marketing and product development. Other

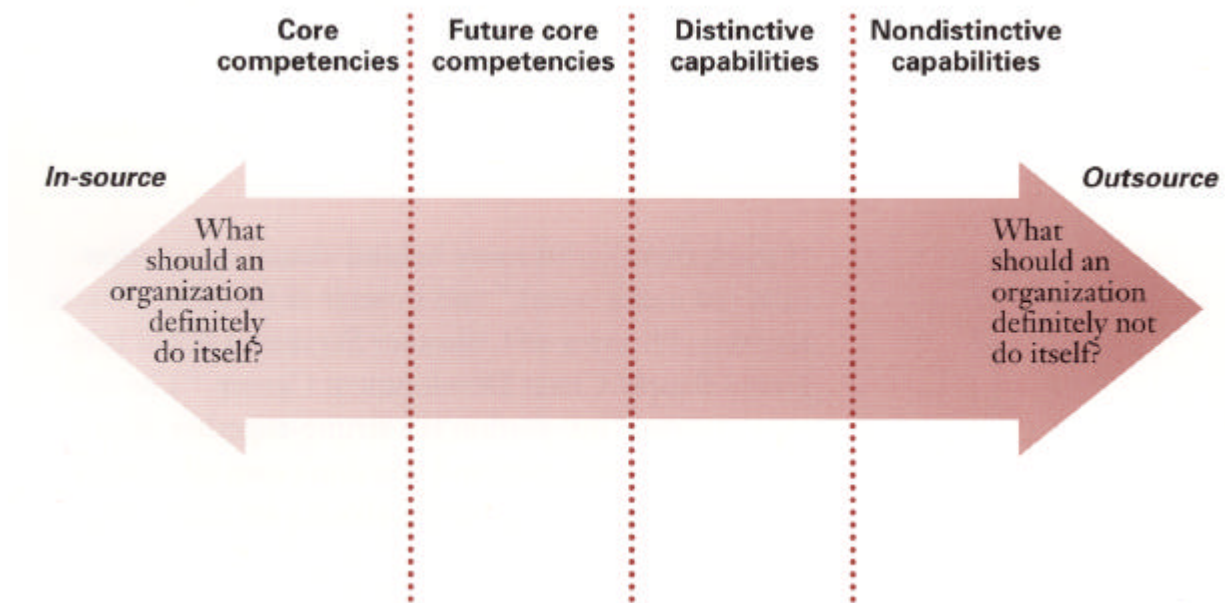
firms may focus on manufacturing and outsource marketing and distribution. Each organization has to determine its own value contribution.

Unfortunately, too many companies have outsourced key functions simply because they were not performing well. These decisions were made independent of the strategic direction of the business, and many have proven to be mistakes. Understand that with an outsource arrangement, you're not getting rid of a problem child; rather, you're bringing a new member into the family and increasing the complexity of the system.

Arthur D. Little is seeing a strong trend toward outsourcing as a distinct strategy. Within this trend, the number of examples of „outsourcing gone wrong“ is disturbing. In some cases, the decision about what to outsource was flawed and „knee-jerk“ in nature. In others, the process by which the outsource provider is managed was never thought out in advance. In yet others, the outsource provider was not able to deliver on the promises by which they „sold“ themselves. The lessons from these experiences follow a clear theme: do the work required to ensure that your decision to outsource is in the best overall interest of the company, and demonstrate this to yourself and your company. Plan in detail how the outsource arrangement will work, both in transition and in steady-state mode, before doing it. Change your own business processes if needed to make the relationship succeed – probe for ways to change to make the supply chain more effective, rather than just expecting the supplier to jump through hoops. Understand what you are getting from the outsource provider. How do you know they can deliver? What will happen if they don't? They won't be the only ones feeling the pain – you will too.

Exhibit 2

Assessment of Competencies



Leadership and Learning

The Best of the Best executives largely agreed with the notion that leading companies will stay ahead of the game by focusing on their core competencies. By the year 2005, companies will manage three major business processes: demand creation, demand fulfillment (product supply broadly defined), and support activities.

What will it take to become world-class at these activities? Colloquium executives identified four critical challenges: making virtual integration work, creating a new information infrastructure, reassessing human resources capabilities (specifically, how people will accomplish the changing nature of their work), and rethinking the role of leadership in helping organizations adapt to change.

„I think there’s a lot more behind virtual integration than just a new word,“ said Procter & Gamble’s Travis Rushing, Director of Customer Services, Global Integrated Supply Chain Development Center. „The concept of virtual integration is a strung-together chain of expert technologies, and you don’t own all of them. It’s about outsourcing, but it’s about a lot more than outsourcing. The breakthrough here is how you take third-party, highly competent, functional suppliers and strategically integrate them into your business, with seamless information and common objectives, measures, and cost accounting. If you can do that, you’ll get a highly effective streamlined supply chain.“

The big challenge is winning within that kind of concept. „Working to optimize the total chain’s performance requires some downstream things to happen,“ explained Pacific Bell’s Steve Welch. „The upstream people easily understand that. But they also have to learn that optimizing the total chain’s performance means that improving the chain anywhere improves the whole thing.“

John Slayton, Grainger’s Senior Vice President, Product Management, cited an example of how his company is changing. „Our customers are demanding more products, services, and information from fewer and fewer suppliers. The implications of adding hundreds of thousands of products, maintaining millions of data elements, and interacting with thousands of suppliers are significant. It was clear that our approach to managing the product process had to change.

„At the center of the new approach is the formation of multifunctional, high-performance product teams around logical industry and product groupings. Team members come from cross-functional areas that have the highest level of interaction with suppliers, products, and sales and field operations.

„We expect improved communication efficiencies, reduced cycle times, real-time collaborative decision-making, effective knowledge sharing and learning, job enrichment, alignment around common goals and objectives, and, most importantly, greatly improved responsiveness to the needs of our customers.“

„One inspired person can really make a difference,“ said Ron Ferner, Vice President, Low-Cost Business Systems, Campbell Soup Company. „We have seen this over and over again from the leadership of our CEO down through the reengineering efforts of our supply chain team leaders.

„Major systems efforts do not fail today because of problems with the hardware or software, but due to a leadership failure in ‘change management.’ To be successful, users must become owners of the system, not just operators of the system. This change in perception is crucial to the success of any project, as is the development of the proper performance measures,“ Ferner added.

Virtual integration presents profound implications for leaders: dropping old paradigms for dealing with suppliers, confidentiality, and the empowerment of people; and taking up new concepts such as working in virtual organizations – dotted-line networks that are more fluid and much faster than ever before. All the participants’ talk about enhancing capabilities came down to one sticking point: the all-too-frequent resistance of senior management to change.

One executive put it succinctly: „The largest transformation has to occur at the leadership level. When my company began to convert old union plants into high-performing work systems, we had some great successes, but no one has ever been able to scratch corporate headquarters. Upper management always says that change in the work system is for someone else. They say, ‘We’ve got to get those union people straightened out in their parochial, tunnel-vision, restrictive job practices.’ Management often doesn’t want to admit it, but they’re often just like that.“

The world of „bid, quote, purchase order, credit approval, make, ship, invoice, and pay“ is being replaced by an integrated, dynamic value chain with unclear boundaries and extraordinary service and communication demands. Those organizations that are able to assemble their „stars“ and effectively focus the collective energy of their constellations will be the ones that shine most brightly, grow, and prosper.

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