# BACK *to* BASICS

Presented by

University of Tennessee

SUPPLY CHAIN MANAGEMENT REVIEW

# Introduction

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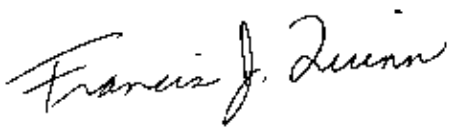
## The Basics of Supply Chain Management

This special report from *Supply Chain Management Review* is for everyone. It's valuable for persons new to the profession or for those who have entered the supply chain space from another business discipline such as marketing or finance. And for people who have been in the field for a while, it's an easy way to revisit the fundamentals to make sure that their tactics and strategies are sound.

Each installment of this seven-part series is written by an expert from the University of Tennessee, one of the foremost institutions for logistics and supply chain learning anywhere.

The series of articles in this compilation originally appeared on the *SCMR* website (www.scmr.com). They cover all of the core competencies of supply chain management: transportation, warehousing, sourcing/procurement, returns management, service, and supply chain collaboration. And importantly, the articles show how each of these functions needs to work cohesively in an integrated supply chain operation.

We hope you find this report to be a valuable resource as you work on the basics to improve overall supply chain operations. Bottom line: excellence in the core logistics and supply chain activities leads to business success.



# BACK to BASICS

## Managing the Basic Supply Chain Functions

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PART I

# Managing The Basic Supply Chain Functions

*By Dr. J. Paul Dittmann, Director of Corporate Partnerships, University of Tennessee*

What are the "basics" for supply chain managers today? Ten years ago, the supply chain leader in most companies held a title such as vice president of logistics. It was a largely functional role that relied on technical proficiency in discrete areas: knowledge of shipping routes, familiarity with warehousing equipment and DC locations, and a solid grasp of freight rates and fuel costs. He or she reported to the chief operating officer or chief financial officer, had few prospects of advancing further, and had no exposure to the executive committee.

The way companies need to think of the modern supply chain executive has changed dramatically. The leaders today recognize that the need goes well beyond functional expertise.

Supply chain executives still need to be experts at managing supply chain functions such as transportation, warehousing, inventory management, and reverse logistics.

That process today extends end-to end and even outside the firm, including the relationships with suppliers and customers on a global basis. Leading firms now see the supply chain functional leader as the executive to coordinate the end-to end supply chain process - even though this individual does not control it all. Because of that added dimension of cross-functional, cross-company coordination, senior supply chain executives must possess a number of unique characteristics and skill sets that go beyond the traditional basics.

The supply chain isn't just trucks, pallets, and warehouses. But being trapped in a traditional view is one of the primary reasons that few companies are taking advantage of the shareholder value opportunity presented by supply chain excellence. Some may be skeptical that investing in this new, expansive vision of a supply chain is worth it. But there is an undeniable link between supply chain excellence and shareholder value.

**The Supply Chain Drives Shareholder Value**

In an increasing, but still small number of firms, the CEO and the board of directors understand the value of the supply chain to their firm. But many other top executives, battered by an immense range of priorities competing for their attention, do not see this link clearly. Yet the link is there. In most firms, the supply chain controls most of the inventory; manages 60-70 percent of the cost; helps generate revenue by providing outstanding product availability; and manages many of the firm's physical assets.

The "Great Recession of 2008-2010" will increase the focus on a supply chain's impact on the financial health of the firm. In an era of tighter credit, supply chain levers can be used to free cash reserves from balance sheets rather than depend on restricted credit markets. The opportunity to increase shareholder value in the future, even more than in the past, will come through supply chain excellence as it manifests itself on both the income statement and balance sheet.

**Supply Chain as Part of Executive Team**

A growing but still small number of firms make sure that their supply chain chiefs don't just have access to the executive team—they're a part of it. That role requires them to bring value in terms of educating the CEO and the board, giving them the vocabulary to talk about the supply chain and its critical role in creating economic profit, and finding and driving opportunities to increase economic profit. The supply chain job in those progressive firms is no longer mostly a functional one. Instead, it is a key strategic role that can influence 60 to 70 percent of a company's total costs, all of its inventory, and most aspects of customer service.

The supply chain leader in these progressive firms has global responsibility for coordinating processes across functional silos that include sales, R&D, finance, and manufacturing as well as functional responsibility for activities such as procurement, logistics, production planning, and customer service. The leader pays as much attention to the demand side of the supply chain as to production and materials planning. He or she knows what it takes to reliably deliver products to customers and to listen to what customers have to say. In some firms, the role of the senior supply chain executive expands so much that the individual essentially becomes the COO, especially in those companies where the COO does not traditionally have responsibility for sales, marketing, or merchandising.

**Does the CEO Get It?**

In this transformed world, even CEOs who previously had little contact with the supply chain leader, must now demonstrate supply chain expertise. Indeed, supply chain chiefs have even become viable candidates for CEO succession. Wal-Mart's past CEO Lee Scott, who previously headed transportation, distribution and then logistics for the retailer, is just one example. Mike Duke, the successor to Lee Scott, also has a big dose of supply chain experience in his background. It's up to the company's supply chain professionals to find ways to educate the CEO. For example, one supply chain leader told us that after much badgering, he talked his boss, the EVP of Operations, into scheduling a monthly supply chain update with the CEO. Now, after eight months of those reviews, he says that the CEO clearly understands supply chain issues at a much deeper level. In fact, the CEO now mentions supply chain advances in most of his public comments.

The majority of firms, however, fall far short of this ideal. Many don't have a complete end-to-end process view of their supply chain—and these firms face a big problem if their competitors get it before they do. But, "getting it" isn't enough. They also have to win the battle for supply chain talent that possesses a skill set beyond the traditional basics.

**The Basics Have Expanded**

The recently released book *The New Supply Chain Agenda*, written by Reuben Slone, Paul Dittmann, and Tom Mentzer, identifies five pillars of excellence that form the foundation of the new supply chain agenda. These pillars are not new on the one hand. But they are undergoing a rebirth and renewal as they resonate increasingly in the executive suite and in the boardrooms as critical drivers of supply chain excellence.


1. Talent is the first of the five pillars driving supply chain excellence. If you don't have the right people in place, you can't build an appropriate strategy - and you certainly can't execute it. Finding talent for supply chain positions has unique challenges due in large part to the cross-functional and cross-company pressures supply chain executives face today.

2. Technology is always critical, but the real key is making sure you choose the right supply chain technology and successfully implement it. Improperly understood or implemented technology can cause severe damage rather than improvement. You must be careful in how you select and apply the latest supply chain technologies, especially given the extremely complex nature of today's global supply chains.

3. Internal collaboration means that each function in your firm plays a critical role in building a successful supply chain. Effective internal collaboration will help you develop a clear vision for how all the functions can work together to achieve supply chain excellence. The New Supply Chain Agenda includes a self-assessment worksheet you can complete to honestly evaluate your process for aligning the demand and supply sides of the firm.

4. External collaboration focuses on how your company can achieve breakthrough results by collaborating externally with both your suppliers and your customers. Best practices for collaboration exist and are being applied by more and more firms.

5. Managing supply chain change is the last but equally critical pillar of a supply chain excellence strategy. If you don't execute change successfully, everything else is for naught. You need to learn how to increase your chances of success on the path to supply chain excellence. Because of their cross-functional, cross-company nature, supply chain projects are more difficult to implement than those in other functional areas.

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PART 2

# Transportation Decision-Making in an Integrated Supply Chain

*By Dr. Theodore P. Stank, Associate Dean for Executive Education and Dove Professor of Logistics, University of Tennessee*

Economic uncertainty, fluctuating fuel prices, increased safety and social regulation, escalating customer expectations, globalization, improved technologies, labor and equipment shortages, a changing transportation service industry…today's managers are faced with an array of challenges and opportunities that contrast dramatically with those of a decade ago.

It is not surprising, then, that many managers have failed to fully adapt to the changing environment, resulting in performance shortcomings and lost opportunities. Prominent among the list of lost opportunities is fully leveraging the transportation function as a critical strategic element within the supply chain.

Transportation plays a central role in seamless supply chain operations, moving inbound materials from supply sites to manufacturing facilities, repositioning inventory among different plants and distribution centers, and delivering finished products to customers. Benefits that should result from world-class operations at the points of supply, production, and customer locations will never be realized without the accompaniment of excellent transportation planning and execution. Having inventory positioned and available for delivery is not enough if it cannot be cost effectively delivered when and where needed.

This article addresses the key decision levels that need to be addressed for transportation to make its greatest impact in the integrated supply chain. These levels address long-term decisions, lane operations, choice of mode or carrier, and dock level operations.

**Long-Term Decisions**

At the highest strategic decision level, transportation managers must fully understand total supply chain freight flows and have input into network design. At this level, long-term decisions related to the appropriateness and availability of transportation modes for freight movement are be made. Managers need to decide, for example, which primary mode of transportation is appropriate for each general flow (i.e., inbound, interfacility, outbound) by product and/or location, paying careful attention to consolidation opportunities where feasible.

Plans should indicate the general nature of product flows, including volume, frequency, seasonality, physical characteristics, and special handling requirements. Strategic mode and carrier-sourcing decisions should be considered part of a long-term network design, identifying core carriers in each relevant mode to enhance service quality commitments and increase bargaining power. Additionally, managers need to make decisions regarding the level of outsourcing desired for each major product flow—ranging from providing the transporta-

tion through the company's own assets (e.g., private fleets) to latch-key turnover of transportation operations to third-party providers.

Network and lane design decisions at the strategic level should examine tradeoffs with other operational cost areas such as inventory and distribution center costs. In conducting this analysis, companies should keep in mind that networks need not be fixed or constant. Rather, substantial service improvements and cost reductions can be achieved by critically examining existing networks and associated flows. For instance, it may become apparent that stock locations can be centralized by using contract transportation providers to move volume freight to regional cross-dock facilities for sorting, packaging, and brokering small loads to individual customers.

**Lane Operation Decisions**

The second level of decision-making regards lane operation decisions. Where network design decisions are concerned with long-term planning, these decisions focus on daily operational freight transactions. At this level, transportation managers armed with real-time information on product needs at various system nodes must coordinate product movements along inbound, interfacility, and outbound shipping lanes to meet service requirements at lowest total costs. Decision-makers who are adept at managing information can take advantage of consolidation opportunities, while ensuring that products arrive where they are needed in the quantities they are needed just in time to facilitate other value-added activities. At the same time, they are realizing transportation cost savings.

If managers have access to inbound and outbound freight movement plans, they can identify opportunities to combine freight to build volume shipments.

The primary opportunities associated with lane operation decisions include inbound/outbound consolidation, temporal consolidation, vehicle consolidation, and carrier consolidation. If managers have access to inbound and outbound freight movement plans, they can identify opportunities to combine freight to build volume shipments. An inbound shipment may arrive from a supplier located in Philadelphia, for example, on the same day that a production order destined for a customer in Wilmington, Del., becomes available for movement. If this information is known to transportation planners far enough in advance, arrangements could be made for the inbound carrier to haul the outbound load back to Wilmington.

In many cases the inbound carrier would be willing to negotiate lower roundtrip rates to avoid deadhead miles on the backhaul. This is particularly true if the carrier and/or driver are headquartered in the Philadelphia area. If this happens to be a heavy traffic lane, the firm may consider strategically sourcing a core carrier in this geographic region to capitalize on this opportunity.

Similarly, less-than-volume-load (LVL) shipments moving to the same geographic region on consecutive days may be detained until sufficient volumes exists to justify a full load on one carrier with multiple stops (temporal consolidation). By avoiding the LVL terminal system, the detained freight often arrives at the same time or earlier than the original LVL shipment—and at a lower cost. Multiple, small shipments inbound from suppliers or outbound to customers in the same geographic region scheduled for delivery on the same day may also be combined on one vehicle at full-volume rates, paying stop-off charges but saving on multiple LVL rates (vehicle consolidation).

Another consolidation opportunity springs from the core carrier concept. Assigning greater shipping volumes to fewer carriers should result in lower per-unit transportation costs and higher priority assigned to the shipper's increased freight. In addition to consolidating the carrier base, the shipper can identify reliable carriers in need of backhaul miles.

For instance, a plastics distributor identifies carriers that operate a high percentage of deadhead miles in lanes over which the firm regularly moves freight. The firm negotiates advantageous rates with these carriers in exchange for guaranteed backhaul revenue miles. If the plastics firm plans to move significant amounts of product from Texas to Florida, the transportation manager will find a Florida carrier that moves a large volume of product from Florida to Texas. Given sufficient planning information, the transportation manager can use guaranteed volumes on the backhaul to negotiate attractive rates.

**Choice of Mode and Carrier**

A third level of transportation decision-making involves the choice of mode and carrier for a particular freight transaction. Due to the blurring of service capabilities among traditional transportation modes, options that in the past would not be considered feasible may now emerge as the preferred choice. For example, rail container service may offer a cost-effective alternative to longhaul motor transport while yielding equivalent service. Similarly, package delivery carriers are competing with tra-

ditional LTL operators. Truckload carriers, on the other hand, are increasingly bidding for low-volume shipments as well as for overnight freight movements. For the shipper seeking 24-hour delivery, truckload carriers may offer an alternative to air carriers at significantly lower rates—and, quite possibly, higher reliability.

In an integrated mode/carrier decision-making scenario, each shipment would be evaluated based upon the service criteria that must be met, (for example, delivery date/time or special handling requirements) as well as the movement's cost constraints. All core carriers, regardless of mode, that could possibly meet the service and cost criteria would be pulled from the database. Managers would then choose the carrier from this multi-modal set based on availability and existing rates.

**Dock Level Operations**

The final set of transportation decisions involves dock level operations, such as load planning, routing, and scheduling. These activities encompass the operational execution of the higher-level planning decisions. While the fundamental purpose of shipping docks may not have changed much over the years, the manner in which work is done certainly has. One obvious change is the common usage of advanced IT and decision support systems. These tools help the dock personnel to make better use of the transportation vehicle space; to identify the most efficient routes; and to better schedule equipment, facilities and drivers on a given day.

Transportation departments that avail themselves of better and more timely information can derive significant benefits from more efficient and effective load planning, routing, and scheduling. For example, if a vehicle is being loaded with multiple customer orders, dock-level managers must ensure that the driver is informed of the most efficient route and that loads are placed in the order of the planned stops. Transportation managers, even at the dock level, must develop expertise in using the information tools available to aid in these decisions.

Successful managers today require a broad view of transportation management's role and responsibilities in an integrated supply chain. Managers will continue to encounter significant challenges as their firms proceed down the road toward supply chain integration, particularly as external environmental characteristics such as fuel costs and the overall economy wax and wane.

Regardless of external conditions, however, managers must encourage their firms to avoid the temptation of making transportation decisions with an eye toward short-term gain. Rather, they need to view the total cost and total value provided by the function not only in relation to operating expenses but also in terms of the impact on customer service and inventory reduction. The influence on total economic value added is significant.

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PART3

# Warehousing Efficiency and Effectiveness in the Supply Chain Process

*By David K. Ecklund, Director - The Global Supply Chain Executive MBA, University of Tennessee*

Warehousing facilities play a vital role in the overall supply chain process. This article will address "back to the basics" that are fundamental for warehouses to achieve both efficiency and effectiveness in supply chains, and provide some perspective on current challenges and the future.

It is evident that continuing globalization and changes/challenges occurring in such areas as reverse logistics, environmental sustainability, information technology, and overall supply chain integration are further evolving the strategies, roles, and responsibilities for warehouses.

In fact the term "distribution center (DC)" may be much more appropriate in representing the broad range of activities that now occur in modern warehouses that go beyond filling customer orders to provide an ever expanding array of value added services.

**Back to the Basics**

There are a number of situations where DC's simply would add cost (and little or no value) to the supply chain. DC's add little or no value for products bought in bulk (e.g. raw materials, manufactured items) with little or no time sensitivity associated with their use. Products insensitive to transportation costs (i.e. transportation cost is a small percentage of product value) also typically move directly to customers.

For other products, however, DC's provide a dual value-added role making supply chains more efficient and more effective. DC's add efficiency by consolidating products for shipment to customers, reducing transportation costs, and performing a broad range of value added services (e.g. branding, labeling, assembly, packaging, kitting, reverse logistics). DC's also make the supply chain more effective. The strategic placement of DC's allows the positioning of products and services close to major markets and customers (the economic principle of place utility).

Optimization strategies are utilized to position product availability and delivery as a competitive advantage while also optimizing the cost trade-offs associated with transportation, facilities, equipment, workforce, and other critical cost variables. DC's also facilitate time utility by storing product until it is demanded.

Product type often determines the need for and specific role of DC's in the supply chain. *Characteristics to be considered include:*

- SEASONALITY in either PRODUCTION or CONSUMPTION
- DEMAND VARIABILITY
- MANUFACTURING ECONOMICS
- MARKETING and PROMOTIONAL INITIATIVES
- TRANSPORTATION ECONOMICS
- SERVICE REQUIREMENTS
- CUSTOMIZABILITY and VARIANTS of PRODUCT

Products that have extremely high service requirements from a time perspective present unique challenges since they often effect the efficiency, performance, and cost of customers' operations. As an example companies that distribute parts for technology products (e.g. computers) and capital goods (e.g. airplanes, construction machinery) must be capable of distributing those parts within hours. Similarly many automotive manufacturers have "inbound" DC's located in close proximity to manufacturing plants so that subassemblies and other components can be assembled and "profiled to line" for the production process.

## Company capabilities to determine DC requirements are essential for achieving successful networks and operations.

Postponement is also becoming a critical issue and value added service for DC's. When demand is unpredictable it often makes sense to "assemble and ship to order". Inventories remain "generic" providing more flexibility and reducing costs (e.g. inventory, transportation, surplus, obsolescence). Postponement is particularly effective in supporting customer product configuration and branding requirements.

Company capabilities to determine DC requirements are essential for achieving successful networks and operations. DC requirements include location, design and operations, determining the information and technology requirements, and measuring performance.

**Location**

In addition to transportation costs DC location is determined based on the the location of major markets and customers, the location of supply points, the volume of product moving to or from supply points and customers, transportation rates, the level of service required, and the product characteristics. Local conditions including access to and cost of labor, land and buildings, IT/communications infrastructure, transportation infrastructure, and government policies (e.g. environment, incentives, taxes) also play a significant role in determining location.

**Design & Operations**

The product, how it is received, the nature of customer orders, service levels, and transportation mode are the primary determinants of distribution center design and operations. Product characteristics include weight and dimensions, packaging, shelf life, temperature and lot control requirements, and hazardous material requirements. How the product is received is critical to both inbound operations efficiency (dock to stock cycle time) and space utilization/storage efficiency.

To optimize efficiency in inbound operations it is ideal to receive material in an immediately storable conveyance (e.g. pallet, case, box). The types and volumes of orders that are processed and the number of stock-keeping units (SKU's) in the DC are important considerations in determining layout, equipment selection, and business process requirements. Storage equipment selection should be matched to product characteristics, volume, and any additional unique requirements (e.g. security, temperature control, lot control).

A word of caution if you are considering automation—automation to reduce transit time in the distribution center almost always represents an opportunity for improved efficiency. Automation of other processes (e.g. receiving, locating/storage, order filling) may become a critical constraint particularly if there is a significant variation in demand (e.g. seasonality), change in product characteristics, or change in product mix.

**Information and Technology Requirements**

Information is the critical driver for successful DC operations. Short term forecasts provide information to determine labor and space requirements over a short term planning horizon. Longer term forecasts are used for capacity planning (e.g. DC size, workforce and equipment requirements.). Information technology is critical in achieving DC performance. Warehouse Management Systems (WMS) direct where products should be stored and provide the necessary functionality for the completion and optimization of receiving, storing, and shipping operations. Additional functionality may permit the use of hand held devices and bar coding to optimize efficiency and reduce errors. Most

**Wide gaps in performance exist for several metrics:**

| Metric | Lower 20% of responses | Top 20% of responses | Difference in Performance | Performance Gap |
|---|---|---|---|---|
| Lost sales (% of SKU's stocked out) | Greater than 5.6% | Less than 0.01% | 5.59 | 99.8% |
| Inventory shrinkage as a % of total inv. | Greater than 1.5% | Less than 0.01% | 1.49 | 99.3% |
| Material handling damage | Greater than 1% | Less than 0.007% | 0.993 | 99.3% |
| % of Unsaleables (damaged product) | Greater than 0.5% | Less than 0.06% | 4.94 | 98.8% |
| Backorders as a % of total lines | Greater than 7.6% | Less than 0.18% | 7.42 | 97.6% |
| Backorders as a % of total orders | Greater than 5.4% | Less than 0.2% | 5.2 | 96.3% |
| Annual workforce turnover | Greater than 17% | Less than 0.8% | 16.2 | 95.3% |
| Backorders as a % of total dollars/units | Greater than 5.6% | Less than 0.5% | 5.1 | 91.1% |
| Suppliers orders received/hour | Greater than 0.9/hour | Less than 10.26/hour | 9.4 | 91.0% |
| Dock to stock cycle time in hours | Greater than 24 hours | Less than 2.3 hours | 21.7 | 90.4% |

The complete report is available in the Resource Center at www.werc.org.

**10 most popular measures used by respondents in 2010**

| Metric | %Using |
|---|---|
| 1 On time shipment - Customer | 85.8% |
| 2 Order filling accuracy - Quality | 73.2% |
| 3 Average warehouse capacity used - Capacity | 70.4% |
| 4 Annual workforce turnover - Employee | 60.2% |
| 5 On time ready to ship - Outbound Operations | 58.8% |
| 6 Peak warehouse capacity used - Capacity | 58.7% |
| 7 Fill rate-line - Outbound Operations | 57.7% |
| 8 Dock to stock cycle time in hours - Inbound Operations | 56.2% |
| 9 Inventory count accuracy by location - Quality | 53.0% |
| 10 Order fill rate - Outbound Operations | 50.7% |

WMS systems also include inventory management functionality that permits the DC to have real time information on the inventory status of all items in the DC.

**Measuring Performance**

The primary objectives of DC's include providing the right product, at the right place, right time, and damage free – at a competitive cost. Fundamental to achieving and sustaining these objectives is measuring performance. The most common DC performance measures include handling productivity, space utilization, accuracy, damage, service, cost, and inventory. Handling productivity is often measured in "units or lines" picked per hour or total handling cost per "unit". Space utilization is evaluated based on the percentage of total space available for storage, percentage of useable storage space actually used for storage, and storage cost per unit of product.

Accuracy includes measures of location and record accuracy, the percentage of items picked correctly, and the percentage of orders picked correctly. Damage measurements include the percentage of items picked that are undamaged when received by the customer and the percentage of orders picked without damaged merchandise. Service measures include fill rate which is based on the number of orders that were filled completely.

Cycle time is also a critical measure to determine service and efficiency. Dock to stock cycle time is a critical measure of how long it takes to make material available following receipt. Order cycle time measures the elapsed time from order receipt until order shipment. Order cycle time may also include transportation to measure the total elapsed time until the customer receives the product. Cost and inventory performance measurements include total distribution center cost per unit handled, distribution center cost as a percentage of sales, and inventory turnover.

**Where Are We Now?**

Understanding DC performance measurements is critical to achieving successful outcomes. A recent study (January 2010) conducted among DC Velocity's readers and members of the Warehousing Education and Research Council (WERC) by Georgia Southern University (Dr. Karl Manrodt) and consultancy Supply Chain Visions (Kate Vitasek and Joseph Tillman) is their seventh annual survey of key distribution center and warehousing

metrics. Although the survey indicates slow but steady improvement in operational performance it highlights significant opportunities for improvement.

**What's Next?**

The gap analysis in this survey should challenge each of us to reassess our DC performance measurements. What do we measure? How often do we measure? What are the results? How do we compare? The gaps represent significant opportunities for improvement in bottom line results. The bottom line results will not be achievable without refocusing DC organizations on the fundamentals of cost, quality, and operational performance.

Benchmarking assessments also consistently indicate that business process competence and workforce buy-in are important contributors to success. Business process competence is underpinned by statistical discipline (e.g. Lean, Six Sigma). Workforce buy-in is not only critical but the workforce can become an outstanding source for continual process improvement. If you don't benchmark please let me encourage you to do so both within and outside your principal industries and markets.

As we view the future, the role and responsibilities of DC's will continue to be shaped by the globalization of business and the integration of supply chains. As supply chains extend and become more complex and costly to operate, information technology will be critical to achieve efficiency and performance. Supply chain differentiation will continue to be achieved through value added services that reduce cost, improve service, and enhance overall product value and the customer experience.

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PART 4

# A Primer on Sourcing and Procurement in an Integrated Supply Chain

*By Wendy L. Tate, Assistant Professor of Logistics, Department of Marketing and Logistics, University of Tennessee*

Globalization, increased competition, fluctuating availability of raw materials and pricing conditions have increased the need for better management of the suppliers who provide goods and services to the organization. According to the U.S. Census Bureau, the cost of purchased materials is approximately 54% of the value of shipments for manufacturers. Also, the cost of services that organizations purchase is continuing to increase as firms try to focus on what they do best.

More emphasis is being placed on spend management and on those that are responsible for locating and managing the suppliers that provide the materials and services needed to meet customer expectations. Sourcing and procurement are generally responsible for this task. A focus on spend management is not new to the purchasing area. But the increasing magnitude of requested reductions is driving purchasing departments to think creatively about ways to more strategically manage the supply base and continue to drive unnecessary costs from everyday purchases.

The task of sourcing and procurement professionals is to find an effective means to balance the demands of both internal and external customers with economic considerations while taking into account the potential for supply disruption and technological change.

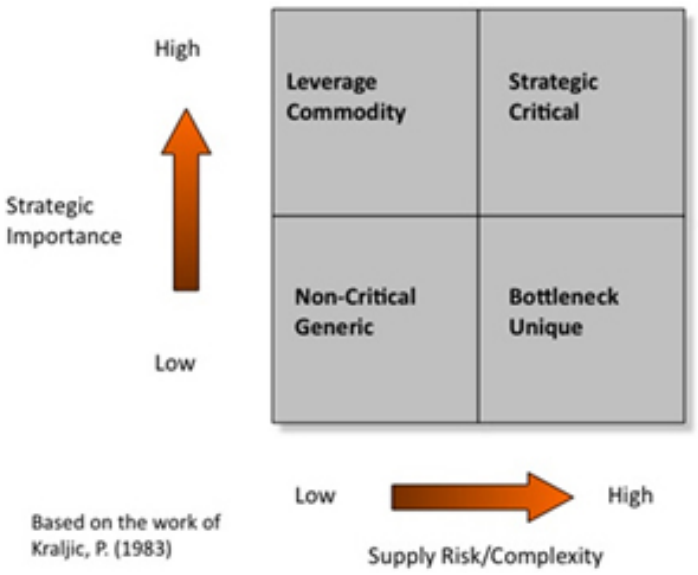
The challenge is to establish both the philosophy and practice of an integrated supply system as part of the firm's strategic positioning.

Strategic purchasing involves finding ways to use supplier capabilities to drive sales, leverage the purchasing spend to achieve and/or maintain competitive advantage, and use the supply market to strengthen the company's strategic position.

Historically, purchasing has been overlooked as a strategic contributor and instead viewed as more of a tactical function with a largely internal focus. The tendency of even the most seasoned buyers has been to react to problems rather than proactively incorporate the strategic focus needed to support the current operating environment. The primary focus of procurement is to support the firm's operational requirements by ensuring uninterrupted flow of the appropriate quality materials, products, and services. However, purchasers must do so in the most efficient and effective manner, in light of limited resources. The key for sourcing managers is to minimize risk to the organization.

To minimize vulnerabilities in supply and make the most of the organization's buying power, purchasers should assess and segment purchased materials, services, and components in terms of importance to the organization and difficulty in

**Figure 1: Procurement Portfolio Matrix**




accessing the materials. This segmentation process allows purchasers to take a more strategic perspective on the management of the supplies and the supply base while applying more appropriate cost management tools and negotiation strategies.

Using the segmentation system developed by Kraljic (1983) as a foundation, four major categories emerge (see Figure 1 on next page). Noncritical (low importance, low supply risk), leverage (high importance, low supply risk), strategic (high importance, high supply risk), and bottleneck (low importance, high supply risk). Each of the categories requires a distinctive and strategic purchasing approach. Each of these classifications will be described in the paragraphs below.

In the case of non-critical, or generic purchases, the focus is on finding the lowest possible purchase price from a field of many suppliers. For these types of items, there are low switching costs allowing for easy "supplier hopping". Typical procurement approaches to these types of purchases include the use of purchasing cards (p-cards) and short-term contracts. Relationships with the suppliers of these types of products are often arms-length and transactional. Office supplies and paper purchases typically fall into this category. Buyers use competitive bidding, price indices, price lists and catalogs to facilitate the buying process. The suppliers of these types of materials and services understand that low price and ease of purchase are key to retaining buyers. Staples, for example, introduced the "Easy Button". Buyers that are in the market for office supplies can download software directly to their computer, shop from on-line catalogs, and use their p-cards to streamline the purchases of these generic items.

Many suppliers are capable of providing the products and services that fall into the leverage category; these are the more "commodity-type" items. These types of products and services have a great importance to the organization in terms of volume purchased, percentage of total purchase cost, or impact on product quality or business growth. The purchasing decision for these items is generally based on consolidation, leveraging volumes is key to success. Some approaches used to leverage volume include supply base reduction and reverse auctions. The idea is to combine the requirements of different operating units and capitalize on supplier fixed cost allocation and improved productivity. The following example makes the point.

A technology company had multiple business units all with individuals responsible for the purchase of customer contact center services. Through informal discussions about the performance of the suppliers of these services, the heads of the business units discovered that some were using the same suppliers, but being charged different rates and there were multiple suppliers providing almost identical services across the organization. The purchasing area was called in to help better manage the purchase of these services.

They followed a typical sourcing process (see Figure 2) and put these services out for bid to both existing and new suppliers. The final pool of suppliers included fewer suppliers, volumes were leveraged, the price that was being paid ultimately fell, and the relationship with the suppliers improved. The company instituted a single point of contact for the suppliers and an end-to-end procure to pay management process (Ellram and Tate, 2004).

The strategic items have more complexity and risk involved in the purchase often because of limited availability or fewer

**Figure 2: Supplier Selection & Management Process**

suppliers with the technical capabilities to provide the goods or services. These are the items that are the most critical for the organization to obtain to ensure success and meet the demand for products. There is much more collaboration and integration between the buying and supplying firm with a focus on continuous improvement. Buying firms often enter into long term, cost-based contracts with the suppliers of these items and may in fact engage the suppliers early in the process of new product development. Buyers look to these suppliers for innovation and cost reduction ideas. Ford and Mobil for example entered into a broad based strategic alliance to speed the development and integration of break-through fuel and vehicle technologies (Dieselnet, 1998). The intent of these strategic alliances is to help strengthen collaboration, and develop a sustainable business model.

Bottleneck items, or items that are more project oriented or unique, have a high level of supply market complexity. These types of purchases often consume a disproportionate amount of time, relative to the item's value. The focus for purchasing is to simplify the procurement of these items, or if possible get it out of this quadrant and into the leverage or strategic quadrants. Companies buying products or services that fall in the category could participate in buying consortiums to better leverage the spend and minimize the associated risk. For example, a utility company was paying a significant amount of money to audit their suppliers. A number of their competitors were using the same suppliers and spending the same money for the audits.

These companies agreed to hire a third party to perform the audits, thus consolidating the spend and simplifying the purchase. Another company was procuring project-based environmental services. Each project required the buyer to closely manage the supplier to ensure that each step in the process was completed in a timely and accurate fashion and that payments were made as promised. There were many of these projects occurring simultaneously with different suppliers. One supplier became an "expert" in this area allowing the buying firm to assign the supplier more projects, thus increasing the level of importance and moving it to the strategic category.

Successful managers today require a broad view of the procurement and sourcing areas and the strategic role that this function can play in an integrated supply chain. Organizations need to take a long-term perspective, avoiding the low price sourcing temptation without considering the total cost and the total value provided by the function and its relationship to the supply base. Purchasing needs to strategically manage its supplies and its supply base. The first step in doing this is to understand what is being purchased, the importance of the purchase to the organization, and the complexity of the supply market. The goal is to ensure that the supplies that are purchased add value to the customer's that ultimately buy our goods and services.

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# Reverse Logistics–Effective Returns Management in an Integrated Supply Chain

*By Diane A. Mollenkopf, McCormick Associate Professor of Logistics, The University of Tennessee*

In the current economic climate, it's hard enough to manage the forward flow of products to customers, let alone having to think about the reverse flow. But not thinking about the reverse flow of products could mean missing important opportunities for guiding your company through tough times. Effective returns management can provide additional means of positively impacting your firm's financial performance as well as building stronger relationships with key customers.

It's important to understand the total impact of return products. Financially, returns represent a negative adjustment to sales. But it's much more than just a top-line impact. Most firms don't understand the operational cost of returns because these costs often get buried in the financial line items of facility operations. But every return product incurs transportation to the customer, then back to the company. If replacement product is being sent, a third transportation charge is incurred.

When the returned product is re-entered into the inventory ledger, it starts incurring inventory carrying costs, and takes up warehouse space. Each of these logistical activities is expensive and must be considered part of the total cost of returns—beyond the negative adjustment to sales.

Perhaps even more important, however, is the impact of returns on customer relationships. Every return represents a failed service encounter. For some reason the customer was not happy with the sale, and this can turn result in dissatisfaction with the company itself. If returns become a hassle for the customer, the longevity or quality of the customer relationship may be impacted. Companies that handle returns effectively—by working with customers to resolve service issues—can actually improve a customer's loyalty to their firm.

**Know the Source and Reasons for Returns**

Two key inter-related aspects of returns include the source of the returns and reasons for the returns. In a supply chain context, a manufacturer's products may be returned from intermediaries (e.g., distributors or retailers) or they may be consumer (or end-customer) returns from the person or firm that is actually using the products. Returns from intermediaries are very different from end-customer returns. Understanding why returns occur helps identify opportunities for improving supply chain processes and decision-making.

At the consumer or end-customer level, *defective* product comes back after purchase and some level of use. Such returns could indicate quality problems that need to be resolved in manufacturing or distribution. It is important to get a handle on these returns as quickly as possible. But many times firms find no defects upon inspection of

returned products. These no fault found returns may be indicative of customers not understanding how to use the product appropriately, not being able to properly install the product, or simply finding that the product was not what they were expecting. These returns signal the need to re-engineer the product or communicate more effectively to customers about what to expect and how to use/install the product. Understanding the reasons for *defective* returns and *no fault found* returns requires the involvement of a cross-functional team that might include product design, engineering, packaging, manufacturing, distribution and marketing. The goal is to identify why these types of returns are happening and work to reduce their volume.

First, think strategically about returns management within your broader supply chain strategy. Appropriate returns policies can strengthen relationships with key customers.

At the retail or intermediary level, returns often come back due to slow-moving stock, end-of-season inventory adjustments, or as a means to release capital so customers can buy more from your firm. As retailer power in the channel continues to grow, manufacturers are being asked to bear an increased responsibility for taking back unwanted retail-level inventory. This is not necessarily a bad thing, as "fresh" product can command a higher margin than old product, and can be more competitive in the battle for consumer dollars. On the other hand, manufacturers get stuck with old inventory. Such product may have diminished market value, thus making profitable sales to other customers increasingly doubtful. The key to managing these returns is to try to avoid them. That doesn't mean playing hardball with customers by simply refusing returns; rather, it means better matching demand and supply in the first place.

One consumer electronics company had always employed a traditional approach of selling as much product into the retailers as possible at the beginning of each season, often offering deals for larger orders. The sales people bore no responsibility for returns that might result from their over-zealous sales efforts. But the operations and logistics people sure felt the burden and the cost of receiving high volumes of returns each season! The solution came about when the logistics, finance, technical support, marketing and sales managers developed a "sell right, not more" planning approach. This approach also involved the retail customers in early sales-term negotiations to determine initial product volumes to be delivered to them each season. Although gross margin was reduced up front, the bottom line impact of avoiding all the costly end-of-season retail returns actually improved the company's bottom line. The company has also used this approach to strengthen relationships with key customers. Determining the right amount of product to sell, developing responsive logistics capabilities to supplement product volumes when needed, and avoiding end-of-season markdowns and returns has helped this firm create value for its major customers.

**Four Basics of Effective Returns Management**

Based on the discussion so far, there are four fundamentals to effective returns management. ***First***, think strategically about returns management within your broader supply chain strategy. Appropriate returns policies can strengthen relationships with key customers. Such policies can also enhance your firm's profitability by keeping fresh product in the marketplace and by efficiently managing the operational logistics of handling returns. As part of your strategic focus, remember that returns management is a cross-functional process. Get the right people involved from the start—from marketing and sales, operations, logistics, customer service, accounting, and finance. Firms that recognize the cross-functional nature of returns also are able to more effectively integrate forward and reverse supply chain flows for maximum effectiveness.

***Second***, develop appropriate gatekeeping, disposition, and avoidance policies. Gatekeeping refers to the screening procedures employed to identify how, and which, products enter the return stream. Effective gatekeeping recognizes that not every product should enter the return flow. When the cost of transporting and processing the return product is greater than the value of the product itself, it's more cost effective to credit the customer but not require that the product be returned. Of course, this requires a solid understanding of the cost of a return, relative to the value of each product. Ultimately, avoiding returns can resolve many of the gatekeeping and disposition issues, while dramatically controlling costs. Companies struggling with sku proliferation issues will find that returns can be avoided by simplifying product lines. Developing more responsive logistics systems can also enable companies to develop their "sell-right, not more"

approaches and avoid the production and distribution of too much inventory. Quality control initiatives in the manufacturing and distribution processes can also help avoid returns. The cost and customer dissatisfaction associated with returning product damaged in transit, for example, is totally avoidable—but not always recognized.

***Third***, operational policies and procedures must be developed to handle returns. Returns authorization policies help ensure that effective gatekeeping occurs, that customers are credited promptly, and that inventory visibility is created as early as possible. Inventory visibility also helps to operationally plan staffing and disposition opportunities in a timely manner. Determining disposition as early as possible is important for recapturing as much value in the product as possible. Product that can be resold needs to be re-inserted into the forward supply chain as quickly as possible. And product that requires refurbishment or remanufacturing needs to be identified so as to maximize value recapture as quickly as possible.

***Fourth***, metrics and performance expectations for returns management must be aligned across functional areas and with overall supply chain strategy. For example, if marketing/sales people bear no responsibility or accountability for returns, there is no incentive to manage profitable sales. Returned inventory will continue to be a problem. Likewise, if operational people have no value goals or efficiency goals, processing effort will be wasted. Goals regarding processing returns need to be aligned with objectives relating to timing, volume, or value of returns as these goals should drive operational priorities and activity for maximum efficiencies. Ultimately, firms can employ the "sell right, not more" approach to identify goals across the organization that will more appropriately align demand and supply so as to minimize the need for returns.

In summary, returns management should no longer be the ugly step-child of the supply chain. Rather, effective returns management can improve a firm's profitability, enhance customer relationships, and be an essential part of an integrated supply chain management strategy.

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BACK to BASICS
PART 6

# The Service Side of Supply Chain Management

*By Daniel J. Flint, The Proffitt's, Inc. Associate Professor of Marketing, University of Tennessee*

Service traditionally has been viewed as part of the market offering. However, by thinking of supply chain management services in this way, we are focusing on service as a noun. I want you to think of service as a verb.

How does supply chain management "service"? Notice I did not use the phrase "provide services," which reflect the noun form of the word. The verb "to service" means basically to help or to assist. Products and services assist. Consumers purchase products because they assist them in solving problems. These problems may be to repair a deck (so he buys hammers, saws, wood), to enjoy a night on the town (so she buys a dress), to ease the suffering of a sick child (so she buys cough medicine), or to entertain others (so they buy fresh groceries and wild salmon). Obviously, that notion of assisting or helping holds true for "services" (the noun form) when we think about haircuts, banking or printing services. And it holds true to business buying from ball bearings, to semiconductors, to transportation and financial services.

All of this is obvious, you say. What's not so obvious to many managers is that every product and service (noun form) that is "purchased" is servicing a customer. In helping to solve a consumer problem, even a manufactured product is servicing that consumer. In fact, in the act of consuming or using that product, the consumer is taking part in the servicing aspect of the product. That's how the value is derived from the product or service. Thus, every product and service (nouns) should always be seen as servicing value creation for the customer or consumer. This concept is part of what has become known as a ***service dominant logic***.

In thinking about service dominant logic, consider that supply chain managers design processes for and manage the operations of resource flows—the movement of products, people, information, and finances. And in so doing, they facilitate the integration of various resources across multiple organizations. Every one of these "things"—products, people, information and finances—is a resource that gets integrated with other resources as firms build and sell their offerings. In connecting all of these resources, SCM is always about servicing resource integration by managing flows on both the demand and supply side.

So why should supply chain managers care about service dominant logic? Because thinking this way may fundamentally change the way in which you perform the supply chain job and, in fact, conduct your business. Begin by asking some important questions. In what ways do we service our customers—both immediate and downstream? In what ways do we service our suppliers?

Well let's see. With regard to customers, getting the right product, in the right condition, to the right place, at the right time, at the right price seems to be a well entrenched principle of SCM professionals. One of our core competencies is providing time and place utility of goods we move through supply chains. Customers evaluate how well logistics opera-

tions deliver these services. Research on logistics service quality indicates that customers care about things like product availability and condition; timeliness; and quality of order-related information, interpersonal communication, and the discrepancy-handling process. Customers (whether a retailer or end-user consumer) care about these things because having the right products available when needed not only satisfies their own needs but also is a pre-condition to servicing their customers further downstream.

In managing flows up and down supply chains, supply chain managers become involved in far more than just the movement of products. They are immersed in relationship management, IT, finance, operational processes, forecasting, and activities very close to customers such as front line customer service, packaging (primary, secondary and tertiary), and on-shelf presentation/assortment. Here is where I want to focus for a minute.

**Focusing on the Front Line**

The retailer environment for consumer goods is changing dramatically and in ways that today's supply chain managers don't even realize.

One reality of today's environment stands out: servicing retailer locations is getting exponentially more complex as a result of more customized programs being designed within collaborative vendor and retailer partnerships. This requires stores to be serviced very differently even if they are right across the street and especially (this is the hard part) if they are the same type of retailer. Let me emphasize that. The more alike competing retailers are and the closer they are geographically, the greater will be the differences in servicing requirements. The reason: retailers are in an all-out war to differentiate their brands—as unique store identities—from their competitors and they are demanding help from specific vendors.

This means that in helping customers resolve problems in servicing them, we must understand that retailers' problem is brand differentiation now. Not differentiation of their private label brands (although that may part of the problem), but differentiating their store as a *brand*—a shopper destination if you will. Doing so is their path to higher returns on net assets.

But the retailers can't do it alone. This means that supply chains will look different in a few years as leaders focus on creating highly agile partnerships across many firms and find ways to service accounts with more (not fewer) SKUs but at a lower cost than before. Partner organizations will collectively create many shorter term, in-store, solution centers, unique to each major retailer. They will develop unique packaging to better engage and satisfy consumers. And they will create unique assortments and bundling combinations for specific retail locations. But all of this must be done at a cost savings to today. This is a strategic and daunting task.

We are no longer simply tracking store-level data. We also are tracking shopping basket-specific data for each and every trip for each and every shopper over time. We are analyzing correlations between in-store initiatives and specific shopping baskets, which enables retailers like Kroger to customize promotions by shopper. We are driving traffic through digital and mobile media to specific stores and are able to change demand quickly to take advantage of opportunities.

The implication is that if you thought servicing customers already requires agility and visibility, it's only going to get far more complex as we move forward. For one thing, as more and more consumers and firms become concerned with sustainability and social responsibility, more attention will need to be pain to servicing returns and/or redistribution as well as alternative product and energy consumption. Much of this will ripple to other non-retailing sectors.

**Next Stage: Anticipation**

We have long known that transportation is a service and vendor managed inventory is a service—as in nouns. Think about how many different ways can you service (a verb) your immediate and downstream customers in ways that uniquely help your key customers and your customers' customers solve any of the problems they have? This is not about efficiency. This is about effectiveness. We always balance the two in supply chain management. But in today's world, the bar for effectiveness is rising more rapidly than ever before. The standard is now driven by consumers and shoppers who are incredibly fragmented and have nearly perfect access to price, availability, and service performance information—globally.

If you can get a handle on this reality, the next big opportunity is to anticipate changes in what individual business customers—and ideally shoppers—will want. The goal: To retain their loyalty even as what they value changes. Serving customers at the highest level of effectiveness means far more than being responsive, it means being anticipatory. This is called proactive customer orientation, a topic for another conversation!

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BACK to BASICS

PART 7

# The Many Benefits of Supply Chain Collaboration

*By Matthew B. Myers, the Nestlé Professor and head of the Department of Marketing and Logistics at the University of Tennessee-Knoxville*

Since 2008, a number of analysts have forecasted the demise of long-term supply chain relationships because of increased competition within the supply chains for thinner slices of the margin pie.

Their premise: As markets become tighter, energy and raw materials prices increase, and as working capital becomes harder to procure, supply chain collaboration will suffer in a Darwinian struggle for profitability scraps. Yet two reassuring developments are undermining that premise.

First, most supply chains are finding enormous amounts of waste, which they are c trimming away to keep working margins. Second, supply chain partners are finding innovative ways to make collaboration work for mutual benefit in previously unexplored ways. As a result, while a number of supply chain partnerships have deteriorated over the past eight business quarters or so, most have survived. In fact, many companies credit their own survival largely to their working relationships with buyers and suppliers.

Why is this the case? Because successful supply chain relationships mean much more than cost efficiencies and economic conveniences. As we discuss below, they bring with them other important advantages that are not always apparent to the folks in the organization with the "sharp pencils."

The reality is that close relationships can often make the difference between long-term sustainability of the business and short-run dissolution.

At the University of Tennessee, our research shows that world class supply chains benefit in many ways from collaboration - even in times of severe economic stress. These benefits extend beyond improved efficiency and effectiveness to include helping all the supply chain members meet customer demands, grow markets, and increase competitive market share.

These advantages are achieved in a number of innovative ways over the life of the collaborative relationship—for example, by increasing sales volume from downstream buyers, lowering operational costs within the relationship, word-of-mouth referrals, and new product and process innovations borne from the working relationship between trusting partners.

**Collaboration Increases Share of Wallet**

In a tight economy, new accounts can be increasingly difficult to secure, even in emerging markets. As a result, suppliers are increasingly targeting their sales efforts to existing customers and can only succeed if they add value above and beyond their competitors. While price is important, competing on price alone often leads to fickle customers who, a year after of doing business with you, will leave to find cheaper pastures.

The best supply chains have buyer-supplier relationships that are based on value and consistent delivery of this value. That value can be based on services, quality, on-time deliveries, returns management, or some combination of

these. It's what makes buyers increase their percentage of purchases from individual suppliers for the long run. This provides a double-edged benefit for suppliers: when a buyer increases its purchase of a needed material from 45 percent to 60 percent, this not only enhances the chosen supplier's bottom line, but also negatively impacts the competition. Further, this increased collaboration between supply chain buyer and seller leads to another valuable outcome: increased efficiencies.

Like new product development, new process development can be extraordinarily expensive… and risky.

**The Longer the Collaboration, the Lower the Costs**

One of the greatest benefits from long-term supply chain collaboration (and one that consistently delights operationally oriented managers) are the cost savings that result from routinized procedures over the life of the relationship. When buyers and suppliers begin a relationship, there interactions often are fraught with inefficiencies and expensive organizational idiosyncrasies, adding to the cost of doing business in year one. In year two, however, procedures typically become more streamlined, kinks in IT are worked through, and interpersonal relationships between organizations become more efficient.

The longer the relationship, the more indirect costs—operational and otherwise— are reduced. These cost savings are shared by both buyers and sellers, increasing the benefits to both. They can also be passed on to customers in the form of lower prices, thereby increasing the supply chain's position in the competitive landscape.

**The Power of Word of Mouth**

Much has been written recently about the "Post-Crisis Consumer" and her propensity to rely on referrals from other buyers rather than trust promotions directly from the company. There are a variety of reasons for this change in perspective. But many point to the average consumer's increasing lack of trust in advertising as well as the incessant "noise" coming from the traditional promotional outlets.

In supply chains, we are seeing a similar move toward referrals, albeit for different reasons. Largely, these word of mouth referrals come from supply chain members who stand to benefit from partner firms buying—or supplying—other organizations in their extended network. This is becoming especially prevalent as the number of joint venture arrangements increases worldwide. So a buyer that purchases wiring from a supplier in the U.S. will refer the supplier to its joint venture partner in Mumbai in order to meet market demands there.

Furthermore, horizontal buying networks across multiple markets (often in the form of multiple joint ventures or strategic alliances) often are consolidating suppliers in order to service all points of operation from a single source. This means that the longer the relationship a company has with one supply chain partner, the better the chance of picking up that partner's joint venture collaborators. This form of "global account management" is often one of the major benefits for members of expanding global supply chains and offers an excellent way to enter otherwise very difficult marketplaces.

**Innovation through Long-Term Collaboration**

It is common knowledge that reduced product life cycles increase the pressure on firms to develop new products, which often creates considerable stress on the organization's R&D function and its budgetary constraints. Similarly, increasingly competitive global supply chains place enormous pressures on supply chain managers to develop new processes that enhance both cost efficiencies and customer services. Like new product development, new process development can be extraordinarily expensive…and risky. Yet time and time again, we see long-term collaborative partnerships as the most innovative way to develop processes that both reduce costs and add value for the partners.

In their book *The New Supply Chain Agenda*, Rueben Slone, Paul Dittmann, and Tom Mentzer give numerous examples of how long-term supply chain relationships create an environment for developing innovative solutions to problems and challenges. These innovations aren't necessarily the big breakthroughs of highly advanced new processes; more often they are innovative combinations of existing tactics that are well suited for volatile markets. This is consistent with the premise that most successful innovations don't come from the lab, they come from customers and suppliers. A corollary is that firms experiencing significant turnover in their customer or supplier bases rarely benefit from such practical innovation as their competitors with long-term collaborative relationships.

**Absolute vs. Relative Gains**

As supply chain relationships extend in time, it is critical to remember that, while both partners' share of the benefit pie will grow, each share will not necessarily grow at the same rate. Too often, a lack of understanding around this point, has caused acrimony between the supply chain partners. And because of the unrealistic expectations of both parties, otherwise profitable relationships have deteriorated.

We call this the problem of absolute vs. relative gains, with too many firms focusing on the latter. In reality, supply chain partners should concentrate on the relationship's absolute benefits to their firm—and whether those benefits would be realized if the partnership did not exist. These benefits may not accrue in equal portions to the participants. But as long as the partnership is mutually beneficial and strengthens the competitive position of the supply chain at large, all parties should gain significantly in absolute terms. The longer the collaborative relationship, the more firms from raw material providers to retailers will see benefits— not just in traditional cost-saving terms but also through increased share of wallet, word of mouth referrals, and enhanced innovation capabilities.

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