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Walter L. Wallace
Georgia State University, wlwallace@gsu.edu

Craig A. Hill
Clayton State University

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Insights into the Strategic Sourcing Decision: Understanding Buyer-Supplier Relationships

Walter L. Wallace
Georgia State University, USA

Craig A. Hill
Clayton State University, USA

Abstract. The wide range of products and services that are being sourced today has made the company's procurement organization an increasingly important function. The complexities of managing sourcing options is greater than ever making the procurement function critical for overcoming an increasingly global, complex and uncertain sourcing environment. This paper discusses an overview of relevant sourcing models and their importance for establishing a strategic sourcing decision, how buyer-supplier relationships play a key role in the strategic sourcing decision and key attributes of the various models for strategic sourcing. We illustrate the diversity of the sourcing choices with four strategic procurement scenarios that motivate the development of solid strategic sourcing decisions. The material is presented as a teaching document from a point of view that is integrative of key sourcing paradigms and is written from a context that is readily understandable.

Keywords: sourcing, procurement, business strategy, supply chain management.

1. Introduction

The wide range of products and services that are being sourced today has made the company's procurement organization an increasingly important function, and the complexities of managing sourcing greater than ever. The objectives of minimizing procurement costs associated with the acquisition of products and services, including transaction costs have received well deserved treatment in the academic literature. The procurement of external resources is an important tenet of both the strategic and tactical management of buyer-supplier relationships for any company.

The objectives of this paper are three fold. The first is to deliver an overview of relevant sourcing models and their importance for establishing a strategic sourcing decision. Secondly, to illustrate how buyer-supplier relationships play a key role in the strategic sourcing decision. The third objective is to discuss key attributes of the various models for strategic

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sourcing. Today's procurement model tends to shift from the traditional "us versus them" mindset to a more collaborative buyer-supplier relationship.

With this in mind, what are our strategic options when considering the demand networks of the supply chain and the criteria for selecting the most appropriate process to ensure we meet our corporate purchasing objectives? All strategies are premised, either explicitly or implicitly on some theory of how competition works, e.g., Porter's Five Forces. Furthermore, few purchasing decisions are made around a single unambiguous factor. Supply chain procurement strategies are becoming increasingly global, complex and vulnerable to many supply chain uncertainties. To illustrate the diversity of our choices, consider the following four strategic procurement scenarios.

#1 Trusting a Single Source

In the first quarter of 2001, Chicago-based FMC Corporation procurement group had an epiphany. Consolidate their buy for industrial metals and put it up for bid. Over the last seven years, they had been primarily single sourced. A consortium of ten of their manufacturing and fabrication facilities, who consumed millions of dollars of industrial metals and materials, put their total buy for these products up for auction. By means of a reverse electronic auction, FMC in the matter of about one hour was able to assess how well their current incumbent had been servicing them based on pricing. The bid package, supplier qualification and platform bid were all handled by Pittsburgh-based FreeMarkets (now Ariba). The procurement team was delighted at the final results. It appeared that the cost saving in newly reduced supplier pricing would more than offset the switching cost associated with moving from the current incumbent to the successful on-line bidder. FMC's procurement team felt that single sourcing was perfectly acceptable considering the costs of individual supplier failures. Furthermore, the successful bidder had been screened during the bid procedure and had met all desired requirements according to the request for quote set forth by FreeMarkets. Based on all bidders being presumed to be highly reliable, FMC still felt that single sourcing was the lowest cost approach under all foreseen conditions (Ruiz-Torres & Mahmoodi, 2007).

#2 An Apple of an Idea

Upon Steve Job's return in 1997, Apple began the arduous task of reworking the procurement of critical goods and services and the manner in which they used their existing supply chain. With an extended supply chain that reached around the world, Apple, like others in their industry, transported products by

sea rather than the more expensive option of air freight. Wanting to ensure that their products would be readily available for the 1998 Christmas season, Jobs prepaid $50 million for all available holiday air freight space (Satariano & Burrows, 2011). This move inhibited rivals that later wanted to book air freight. This same thinking was used in 2001 for the shipment of the iPod from Chinese factories to consumers' doors. This new procurement mentality of spend exorbitantly on the front-end and reap the benefits from greater volume on the supply-side is now part of Apple's supply chain-procurement strategy. A second component of this same strategy was to be close to suppliers and manufacturers, working to engineer the industrial process that delivers prototypes into finished consumer goods. For example, when Apple asks for a price quote for a specific component, it required a detailed accounting of how the quote was arrived at, including labor and material costs, as well as, projected operating profit for that product. A third component requires their key suppliers to maintain two weeks of inventory within a mile of the Apple assembly plants in Asia. Payment terms may extend as long as 90 days after the inventory goes into production. Apple's bargaining prowess tends to put downward pressure on prices, which exemplifies Porter's "Bargaining Power of the Buyer". Bargaining power is relational, situational and potentially mutual. Not the case with Apple and its suppliers. Apple's bargaining tactics lead to lower profits and product margins for their suppliers. Apple's supply chain-procurement strategy is built on efficiency and speed to market.

Not every supplier wants to be a part of Apple's strategic procurement team. After months of negotiations and an offer of $1 billion up front from Apple that required a specific supplier to set aside much of its capacity for the upcoming product cycle, it declined Apple's business (Satariano & Burrows, 2011). It has become apparent that Tim Cook, Apple's CEO, also believes in the power of strategic procurement and a well managed global supply chain.

#3 A Calculated Risk

No one actually knew what caused the fire that destroyed the Aisin Seiki Company's Factory #1 in February 1997, essentially leveling the huge auto-parts plant. The fire incinerated the main source of a crucial brake valve that Toyota Motor Corp. purchased from Aisin and used in 20 auto plants in Japan. Most of the Toyota plants kept only a four-hour supply of the $5 valve (Reitman, 1997). It was felt that Toyota could not recover for weeks, possibly months, and that the Achilles' heel in Toyota's lean corporate physique had been exposed.

By the following Thursday, 36 suppliers, aided by more than 150 other tier 2 and 3 subcontractors, had pieced together nearly 50 separate lines producing small batches of the brake value. In one case, a sewing-machine maker that had

never made car parts refitted a milling machine to make just 40 values a day. The reasons for this success lay in Toyota's close-knit supply network of parts suppliers. "Toyota's quick recovery is attributable to the power of the group, which handled it without thinking about money or business contracts." says Yoshio Yunokawa, general manager of Toyoda Machine Works Ltd., a Toyota-group maker of machine tools (Reitman, 1997). This practice is a quite common arrangement in a Japanese keiretsu (Thorson, 2003). Keiretsu companies would also supply one another, making the alliances vertically integrated to some extent. This allowed Aisin to ship parts to Toyota plants under a just-in-time inventory system. A pure alliance was developed between the two parties where Toyota held 22.6% of Aisin's stock (Nakamoto, 1997). Depending on a single source and holding essentially no inventory was obviously a calculated risk, but it is also what keeps Toyota's production system lean (Reitman, 1997).

All in all, Toyota lost production time amounting to 72,000 vehicles. The production was made up quickly with overtime and extra shifts. The fire and its post mortem left Toyota executives convinced that they have the right balance of "efficiency and risk". "Many people say you might need to scatter production to different suppliers and plants, but you have to think of the costs" of setting up expensive and redundant equipment at multiple sites, Mr. Ikebuchi stated. "We re-learned that our system works" (Reitman, 1997).

#4 Keeping the Complex, Simple!

GCM North American Aerospace fabricates parts for the Boeing commercial airplanes unit of Boeing Company. To make these parts, GCM needs a lot of metal: 1.2 million pounds of aluminum and 10 thousand pounds of titanium in 2007 (Silver, 2008). While GCM has long been a major supplier to Boeing, the purchasing process has not always been smooth. Ten years ago, GCM had to bid for product from some 20 producers and distributors, with significant price variation and unpredictable delivery times. Now, GCM simply places an order with TMX Aerospace, Chicago-based Boeing's sole contracted supplier of aluminum and titanium. GCM doesn't need to bid on the metals, since Boeing already owns the metal TMX supplies and the price is set well before GCM enters an order. This resulted in GCM paying about half the price of what it costs today on the open market. All suppliers pay the same rate, regardless of their revenues or the size of their contract with Boeing (Silver, 2008). Prices are no longer negotiated. A purchase order is placed on TMX in care of Boeing and TMX locates the desired material and quantity in their system of warehouses. GCM knows the price and when the metal will arrive. On those rare occasions when TMX does not have the appropriate material or quantity, GCM has the liberty to buy on the open market and submits the receipt to

Boeing, who reimburses the supplier. Boeing has had this arrangement with its suppliers of aluminum and titanium since 1998, when it teamed with service center Copper and Brass Sales, a division of ThyssenKrupp Materials NA Inc. The name was changed to TMX and they took on a new objective. TMX is now the sole distributor of these materials to Boeing's global network of more than 500 suppliers. Boeing's senior procurement manager, Jeff Hanley, points out, "Aggregating demand with a single distributor has given us visibility for the first time into how much metal is being purchased to support construction of our airplanes. That supports not only getting the right amount of metal at the right time, but our pricing strategy, as well. We place long-term contracts with mills at a stable price (Silver, 2008)." Boeing has placed 12 full-time employees at TMX's four warehouses to support and nurture their relationships with their seven producing mills. Secondarily, they work with the mills to develop forecast and track performance. Boeing has elected to go with a 10-year contract with TMX, valued at an estimated $300 million. TMX is also responsible for handling aluminum and titanium contracts for Boeing's global supplier network, which includes suppliers on every continent.

Boeing's use of a third party materials supply integrator has allowed them to improve the efficiency of the materials flow as it comes in from the contracted mills and out to the fabricator- suppliers. It has also allowed Boeing to pool the risk of dealing with seven mill producers and 500 downstream suppliers. The TMX model, built around the concept of vendor-managed inventory has taken the complex and made it simple.

2. A Fool-Proof Strategic Procurement System

So how do we go about ensuring a fool-proof strategic procurement system between buyer and supplier? Which strategy is uniquely crafted to ensure smooth, free flow of goods and services over the long term? What are the determinants for selecting the appropriate procurement program? Mr. Craig Colyer, Vice President Merchandising for Main Steel, says that the procurement decision is strategic in nature and must be driven by the commercial implications or value propositions that are being offered in the marketplace[1]. The strategic sourcing decision supports and drives competitive advantage. A tailored sourcing strategy applies the principle of alignment to the design of a sourcing strategy that matches the value proposition of the goods or service offerings. It fits the specific prioritization of quality, speed, responsiveness, variety, innovation and costs. It goes well beyond the method many organizations use to approach sourcing strategies. As witnessed in the Boeing/TMX strategic alliance, tailored sourcing specifies for each item or

1. Author's interview with Craig Colyer, VP Merchandising, Main Steel, April, 2011.

service what should be bought, from which supplier, and under what terms. Tailored sourcing recognizes the long term impact and drives continuous improvement in the company-specific value proposition (quality, speed, responsiveness, variety, innovation and costs). This strategy becomes a source of sustainable competitive advantage.

There are several options for structuring appropriate supplier relationships. Given the virtually limitless number of variables at work in the buyer-supplier relationship, the options will be limited to a manageable scope and dimension for discussion. We will review the following strategic sourcing decisions and their buyer-supplier relationship:

1. *Vertical Integration*
2. *Traditional Market-Based Supply*
3. *Traditional Market-Based Supply: Spot Buying*
4. *Take-Or-Pay Contracts*
5. *Reverse Electronic Auction*
6. *Alliance Partnerships*

2.1. Vertical Integration

Vertical integration is the extent to which an organization owns or highly controls the network of which it is a part. Little or nothing is subcontracted to other players in the supply network. Almost by definition, each part of the operation will receive supply from another part, or parts, of the same macro operation. Unless the organization has chosen to perform the same activity in many different parts of its operations, there will be few (probably one) internal supplier. This allows the potential for very close relationships. Kaoru Ishikawa's concept of the importance of the *internal customer* becomes a critical component of building quality products and services in a vertically integrated organization (Russell & Taylor, 2011). At least there is no commercial confidentiality barrier to an open and intimate relationship being developed between internal suppliers and internal customers.

At a strategic level, it involves an organizational assessment of the wisdom of acquiring and owning up-stream suppliers. At the level of individual products or services, it means the operation deciding whether to make a particular component or to perform a particular service itself or buy it from a supplier. An organization's vertical integration strategy can be defined in terms of the following (Hayes & Wheelwright, 1984).

- The *direction* of integration
- The *extent* of the span of integration
- The *balance* among the vertically integrated stages

The strategy of expanding on the supply side of the network, also known as *backward or upstream, vertical integration,* allows an organization to take control of its suppliers in order to either gain cost advantages or to prevent competitors gaining control of important suppliers. This is why backward vertical integration is sometimes considered a strategically *defensive* move. Around the 1950s, vertical integration ceased to be an offensive strategy and became a defensive strategy ensuring a steady source of supply (Chandler, 1990). This defensive move is a function of the rivalry among existing competitors and the potential threat of new entrants into the marketplace.

The *extent* of vertical integration is a significant issue today. Some organizations deliberately choose not to integrate far, if at all, from their original part of the network; focus on their core competency and nothing more. Alternatively, some organizations choose to become very vertically integrated. Take UPS which owns its fleet of delivery vehicles (93,637), as well as, its own airplane fleet (268) (www.ups.com). Currently UPS, through its supply chain solutions group has found it more appropriate to be a non-vessel operating common carrier (NVOCC) for moving intermodal containers between continents, sensing vessel operations is not a core competency. If UPS decides to offer say, "time-definite" shuttle services (single Asian port to single North American port) for trans-Pacific container freight, further vertical integration through ownership or control of the vessel and ancillary services at the ports may be a viable option. On the other hand, many large international oil companies, such as Exxon are involved with exploration and extraction, the refining of the crude oil into gasoline, as well as the distribution and retailing of gasoline.

The final vertical integration decision is not strictly about the ownership of the network; it concerns the capacity and, to some extent, the operating behavior of each stage in the network that is owned by the organization. The *balance* of the part of the network owned by an organization is the amount of the capacity at each stage in the network that is devoted to supplying the next stage. Therefore, a totally balanced network relationship is one where one stage produces only for the next stage in the network, totally satisfying their need. Less than full balance in the stages allows each stage to sell its output to other companies or make appropriate buys to cover shortfalls from outside the organization.

Vertical integration is easier to justify when the total costs incurred by the integrated processes are reduced. At times vertical integration has been

justified by looking at savings in one part of the network only, with the potential of increasing costs downstream in the network. Vertical integration is generally regarded as a high-risk strategy since it means high levels of investment. In deciding to integrate backward because of apparent short-term rewards, management often restricts their ability to strike out in innovative directions in the future. Far more organizations over the past 25 to 40 years have elected to deintegrate rather than integrate. Globalization with the advent of instantaneous communications, massive container ships, high-speed personal computers and the acceptance of outsourcing and contract manufacturing have hastened the pace of deintegration over this period. Generally, vertical integration makes it difficult for a company to access the innovation that becomes available in the supply market. The case for vertical integration is stronger when innovations are systemic, that is, an innovation in one part of the network requires innovation in other parts of the network to exploit its full contribution to competitiveness.

One of the best known explanations of when vertical integration can be valuable is when vertical integration reduces the threat of *opportunism*. Here, the theories of resource dependence and transaction cost economics are in play, as *opportunism* exists when an organization is unfairly exploited in an exchange. One way to reduce the threat of opportunism is to bring an exchange within the boundary of the organization, that is, to vertically integrate this exchange. Research has shown that the threat of opportunism is greater when a party to an exchange has made transaction-specific investments. This *transaction-specific investment* is any investment in an exchange that has significantly more value in the current exchange than it does in alternative exchanges. Transaction-specific investments make parties to an exchange vulnerable to opportunism and vertical integration solves this vulnerability problem by reducing threats from a firm's suppliers. Contractual pricing between the two parties for the length of the contract can minimize the threat of opportunism greatly.

Many practical studies of the performance of companies with different degrees of vertical integration come up with one of two findings. Either they show that profitability declines with increasing vertical integration (a function of high levels of capital investment, company's lack of flexibility and lack of access to innovation that becomes available in the marketplace) or they show that there is a V-shape relationship where companies with medium levels of vertical integration perform worse than those with either high or low levels of vertical integration. This would indicate that a company can do the majority of the R&D, production and processing, and service component and be relatively successful. On the other end of the spectrum, a company can be low on the value added side, essentially an assembler and also be successful. The middle ground is questionable (Buzzell, 1983). In considering vertical integration,

investment intensity, alternatives to ownership, and scale requirements (the capacity of each unit of technology) must be evaluated.

2.2. Traditional Market-Based Supply

At the very opposite extreme from vertical integration is the idea that both customer and supplier relationships are defined by "pure" free-market forces. In fact, in many ways the justifications for market-based supply relationships are the mirror image of those used to justify vertical integration, namely:

- Competition between alternative suppliers promotes best value.
- Suppliers gain natural economies of scale.
- Customers can exploit the inherent flexibility of outsourced supply.
- It enables the exploitation of innovations no matter where they originate.
- It helps businesses to concentrate on their core activities.

It is worth noting that the case in favor of market-based, transactional-driven supplier relationships is usually made on the first of the above points. The free-market, with reliable, highly qualified suppliers vying against each other for a customer's business, is the best long-term guarantee of low costs as expressed in commodity-service pricing (Ruiz-Torres & Mahmoodi, 2007). Certainly, the dynamics of the market relationship can be exploited to keep the costs of outsourced goods and services at a minimum. Since outsourced goods and services account for at least 50 percent of most organizations' total sales, it is profoundly important (www.about.com, 2006). Relatively small reductions in the price paid for outsourced goods and services can have a major effect on profits.

Consider the following simple example:

Total Sales = $10,000,000

Costs of Goods Sold = $7,000,000 (COGS = 70% of Total Sales)

Other Costs = $2,500,000 (Other Costs = 25% of TS)

Resulting operating profit = $500,000 (5% operating margin)

Profits can be *doubled* to $1,000,000 by any of the following:

- Increase sales revenue by 100 percent to $20,000,000
- Decreasing "other costs", such as salaries/ wages by 20 percent
- Decreasing the costs of purchased goods and services by 7.1 percent

Reducing the cost of purchased goods and services by 7.1 percent, although a challenging goal, does appear to be the most practical option of the three. Well managed companies establish strategic initiatives each year based on cost reductions in their purchased goods and services. The higher the proportion of total costs devoted to outsourced goods and services, the more pronounced this effect is.

Although market forces are the most important long-term influence on most business relationships, there are in practice some considerable problems in relying exclusively on market mechanisms. These issues can be grouped into three categories of: coping with buyer-supplier uncertainties, costs of making purchasing decisions (e.g. transaction cost economics), and strategic risks of outsourcing. A discussion of these categories follows.

Buyer-supplier uncertainty

Theoretically, if all companies in the marketplace are offering exactly the same product under exactly the same terms, conditions, performance and quality, the purchase could be made strictly on price. This is enhanced by reducing uncertainty through working with internal designers to reduce any ambiguity around how products and services are specified externally to the potential supplier. However, there are issues of payment terms, long-term source of supply, ability to get other goods and services in a one-stop shop transaction, supplier reputation and financial strength. Single-dimension purchasing decision making is highly unusual. For the majority of purchasing decisions, multiple factors will be taken into account, giving consideration to trade-offs and the need to evaluate its options regarding prospective suppliers.

This is a dynamic process resulting in market uncertainty caused by a lack of perfect information. Organizations reduce this uncertainty by using outside expertise. Consulting firms such as PricewaterhouseCoopers, LLP. (pwc.com) who work on the premise that bottom line results begin with finding the right goods and services, at the right price, at the right time. Additionally, industry associations provide data on their members to prospective purchasers of their services. An example is the Metals Service Center Institute (MSCI) (www.msci.org). MSCI's mission is to promote the profitability and well-

being of the metals industry and its role in the North American manufacturing value chain. Likewise, transaction uncertainty can be reduced by seeking third party endorsements from other customers of potential suppliers.

Costs of Making Purchasing Decisions

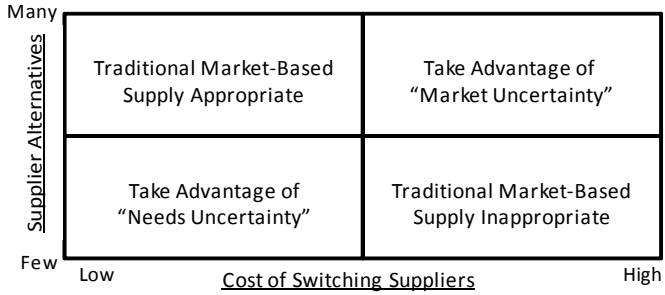
Whenever market mechanisms are employed to reduce buyer-supplier uncertainties, it becomes apparent that considerable effort is involved, making them expensive to manage. Researching information regarding suppliers capabilities is quite time consuming, this is a traditional role of the procurement function and they are routinely faced with the *perfect decision dilemma.* That is, *w*hen using the traditional market-based supplier relationship as a sourcing mechanism, you need a very large purchasing resource to make the best, most efficient decision. In practice, companies will accept something less than a perfect decision in order to limit the resources needed to make the choice. Nevertheless, when making the purchasing decision using traditional market mechanisms, transaction cost economics are an important issue for companies adopting this procurement strategy.

Strategic Risk of Outsourcing

An additional problem, with an over reliance on market mechanisms, is the potential strategic risks of outsourcing. If companies choose to outsource some of their activities to the best suppliers, the market mechanisms that made those suppliers the best could result in the suppliers becoming more profitable and more powerful than the purchasing company. A classic component of Michael E. Porter's "Five Forces", the bargaining power of suppliers is at work, leaving the purchasing company at the mercy of the supplier (bargaining power of the suppliers is greater than the bargaining power of the buyer). If an operation is going to outsource some of its activities to the market, it should be very careful in establishing the appropriate safeguards.

The decision on whether market mechanisms are appropriate can be summarized by considering the number of qualified suppliers in the market and the switching costs to the buyer for changing suppliers. As represented in Figure 1 (Kapoor & Gupta, 1997).

Figure 1: Traditional Market-Based Supply in Buyer-Supplier Relationships



When the switching cost to the buyer of making a change in suppliers is very high and there are few alternative suppliers, it is *unlikely* that the buyer would want to use pure market mechanisms (lower-right). The buyer's hand is relatively weak, whereas the supplier has a relatively high, short-term secure position. Under these conditions, it is likely that some kind of partnership arrangement may be more appropriate. Conversely, when the buyer has many alternative suppliers and the costs of switching between suppliers are low, it could be argued that under these circumstances, leveraging the free market is the best way for a buyer to keep the performance and efficiency of their suppliers competitive (upper-left).

In the other two quadrants of Figure 1, the issues deal with uncertainty in both market and needs. In the bottom-left quadrant, although there are few alternative suppliers it is not difficult to negotiate with them over the trade-offs of the buy arrangement. The suppliers are willing to enter into this type of negotiation, as they are aware the buyer could switch to an alternative supplier relatively easily and cost effectively. Both parties realize, though perhaps unspoken, that the buyer cannot constantly be switching suppliers as the few remaining suppliers would soon know and you would be branded an undesirable customer. Under these circumstances *needs uncertainty* becomes a key issue for the buyer. From the procurement perspective, a realistic question would then be: "Based on the fact that you and other alternative suppliers are quite similar in your offerings, how can your organization differentiate itself in support of my special procurement needs?" The top-right quadrant is quite different. Here there are many alternative suppliers. No buyer can have perfect knowledge of all potential suppliers, resulting in high *market uncertainty*. As a result of many options, one would expect a wide range of alternative deals and supplier performance levels. Although buyers can easily find an alternative supplier, a switch will only occur when the differential between the existing suppliers' performance and the prospective new suppliers' performance is sufficiently high enough, in order to recoup the high

costs of switching. An appropriate buyer's position would be: "I am aware that I can find a higher supplier performance level in the market place, but am willing to work with you, if you can commit to meeting the best performance-costs level available."

2.3. Traditional Market-Based Supply: Spot Buying

When the nature of the supply relationship is impermanent or we're dealing with non-forecasted needs, we may find ourselves involved in spot buys. Traditionally, a budget is available for purchasing certain items over a finite time horizon. A portion of this budget is spent on initial procurements (OEM, MRO, etc.) and then the remainder of the budget is set aside for so called spot buys. A spot buy occurs whenever the initial procurement for each item is exhausted and there remains an unmet demand. As spot buy purchases are usually accompanied by higher unit costs, there is an incentive to minimize these purchases by having sufficient initial procurements. Beyond the unmet demand need for the spot buy, historically it has also been used by the procurement department to take advantage of falling prices in the open market in order to dollar cost average with existing inventory.

The company must mitigate the potential of non-procurement personnel getting into the spot buy market and playing havoc with working capital and inventory carrying cost. A system that identifies off-contract purchasing requests quickly and automates the establishment of new contracts for spot purchases should be created. This reduces the costs and negative purchase-price variance associated with off-contract spot buys and gives the company leverage in case of disputes that may arise regarding the price, quality or material supplied.

2.4. Take-Or-Pay Contracts

When we establish a contractual agreement, whereby the buyer is unconditionally obligated to take any product or service that he is offered (and pay the corresponding purchase price), or to pay a specified amount if he refuses to take the product or service, we have what is commonly known as a *take-or-pay contract*. These contracts are most often used in the utility industry to back bonds to finance new power plants. A take-or-pay contract stipulates that the prospective purchaser of the power will take the power from the bond issuer or, if construction is not completed, will repay bondholders the amount of their investment. Take-or-pay contracts are a common way to protect bondholders. In a precedent-setting case in 1983, however, the Washington State Supreme Court voided take-or-pay contracts that many utilities had

signed to support the building of the Washington Public Power Supply System nuclear plants (Pope, 1990). This action caused Washington Public Power to default on some of its bonds, putting a cloud over the validity of the take-or-pay contract. Because of the nature of the take-or-pay obligation in the contract, the buyer inevitably will seek to contend that it is not able to take delivery of the product or service due to force majeure and that the minimum quantity for which the buyer is obliged to take in the period in question (typically annually) should be reduced. Sellers are highly resistant to the suggestion of any interruption in income flow and will contend that force majeure cannot be claimed for a failure or breakdown in plant or facilities which could have been overcome or avoided by the buyer.

2.5. Reverse E-Auction

In the 1990s reverse e-auctions were projected to be a widely used procurement tool. However, not all buyers saw the economic benefits of reverse e-auctions and the current usage is more limited than earlier expected. Reverse e-auctions are similar to traditional competitive bidding, but suppliers compete online, in real-time. The term 'reverse' emphasizes that the competitive bidding between suppliers drives pricing down, rather than competition among buyers driving prices up as in a forward e-auction, as witnessed on an eBay auction. To-date, e-auctions use has not reached the initial optimistic projections made in the late 1990s. Why this shift in thinking? Some researchers suggest that concerns with ethics and supplier relationships are barriers to e-auction adoption. Others show that while many procurement managers are not philosophically opposed to e-auctions, they cannot economically justify e-auctions costs (Beall, et al., 2003). Evidence in some cases shows that the price reductions obtained were not sustainable once the new relationship and day-to-day requirements had been established. When the incumbent loses the e-auction, the successful bidder must then demonstrate that they can perform all service functions, as well as, or better than the incumbent. Cost savings are often overstated because the quoted pricing cannot be attained or sustained and costs of implementation are not adequately understood by the successful bidder. As price reduction is the primary benefit of e-auctions, it is important to measure cost savings empirically in assessing the profitability of e-auctions. Procurement managers use close-of-auction (COA) price reductions to monitor e-auction performance. COA price reduction is defined as the difference between the historical price paid to the incumbent supplier in prior transactions, and the lowest bid price in a given bid event. This measurement is often called the identified savings, and is most frequently reported in trade press and published e-auction research articles (Hur, et al., 2007).

It is important to note that reported cost savings cannot always be attained (Hur, et al., 2007). Purchase price is just one factor of total acquisition cost leading COA price reductions to overstate total cost saving accrued from e-auctions. GE observed on average a 16% COA price reduction, which in reality resulted in an empirical 8% savings (Hannon, 2001). Eaton Corporation reported a 20-30% COA price reduction, but realized an implementation saving of 15-20% (Anonymous, 2003).

2.6. Alliance Partnerships

The development of alliance partnerships between customers and suppliers in supply networks is sometimes viewed as a *compromise* between vertical integration and traditional market trading. The alliance attempts to achieve some of the intimacy and coordination efficiencies of vertical integration, without the necessity for the customer (buyer) to own the assets. It also attempts to achieve the robustness of service quality and the incentive for continuous improvement, which is often seen as the benefit of traditional market trading without the transactional costs of managing the supply network. Yet alliances are not just a mixture of vertical integration and traditional market trading. Alliances are such that the relationship itself and especially the collaboration, trust and intimacy embedded within it, are effectively substituted for the ownership of assets. Essentially, alliances between customer and supplier can be viewed as strategic partnerships. They have been defined as "relatively enduring interfirm cooperative arrangements, involving flows and linkages that use resources and/or governance structures from autonomous organizations, for the joint accomplishment of individual goals linked to the corporate mission of each sponsoring firm (Parkhe, 1993)." Partners are expected to cooperate, share knowledge and resources to achieve joint benefits beyond those that could be achieved by acting alone, resulting in synergy. Managing alliance relationships involves many factors; most important of which are *collaboration, trust and intimacy*. Discussions of these factors follow.

Collaboration

Shared success through *collaboration* means that both partners recognize that they have more to gain through the success of the other partner than they have individually or by exploiting the other partner. Companies are actively sharing knowledge with suppliers. For example, firms such as Bose, Toyota and Honeywell have adopted particularly close relationships with suppliers, often involving exchange of key staff (Dixon & Porter, 1994). JIT II (a.k.a., "person-

in-the-plant") manufacturing is another way of structuring supplier relationships with the goal of reducing the lead time from design through delivery of new products and services to market. In this JIT II system, a representative from the supplier works full time at the customer's firm while being paid by the supplier. The supplier representative works as a member of the customer's procurement team, focusing on planning and materials needs, and is authorized to purchase materials from his own organization and when necessary, from other suppliers, as well. From the customer's point of view the supplier: is always available, develops a deep understanding of the customer's needs, and has access to all the information needed to reduce lead times, cut costs, and improve the procurement process. Suppliers who offer JIT II usually see an increase in sales to the supported customer. Ryerson, Inc., headquartered in Chicago offered a JIT II program to the Tupelo plant of FMC Corporation, while they were partnered during the late 1990s. This program was predicated on a predetermined base level of sales volume, profitability, and days sales outstanding (DSO).

Trust

In the context of alliances, *trust* means "the willingness of one party to relate with another in the belief that the other's actions will be beneficial rather than detrimental to the first party, even though this cannot be guaranteed (Child & Faulk, 1998)." Closely aligned with the concept of trust is that of the willingness to take risks in relationships. The greater the degree of trust, the greater is the willingness to make oneself vulnerable to the actions of the other. Although most organizations are aware of varying degrees of trust in their relationships with their suppliers, they do not always see trust as an issue to be managed explicitly. There should be a continuous monitoring by the buyer and seller to assess trust and needs fulfillment. The higher the *procedural justice*, the higher the bar will be for both parties to feel treated properly throughout the process of making decisions that affect both parties, regardless of needs fulfillment (promised versus delivered). Procedural justice examines the impact of the *process* used to make a strategic procurement decision. The perceived *fairness* of rules and how decisions are made determines procedural justice. Procedural justice holds that buyers and sellers are going to be more *motivated* to perform at a high level when they perceive as fair the procedural process used to make decisions regarding the distribution of outcomes. It may be that managers do not believe that the concept of trust can be analyzed or indeed managed. Delivery performance can be measured, whereas trust cannot. Despite the dilemma of measurement, trust is at the heart of any understanding of alliance partnership relationships.

It is useful to think of trust in three stages (Lane & Buchmann, 1998). The most basic level, *calculative trust* is the trust that arises because one of the parties calculates that trusting the partner is likely to result in better outcomes than not trusting them. The business relationship mentioned earlier regarding FMC and its incumbent supplier, Ryerson was initially built on calculative trust. Although over time this premise gave way to thinking by FMC that they could do better, through the process of an electronic reverse auction. Underlying calculative trust is often the belief that the benefits from maintaining trust are greater than those from breaking it. Hewlett-Packard, who has a statistically-based analytical mentality, looks at suppliers from this calculative perspective and says to its supply base, "You might be capable of making this product now, but we are thinking two or three products generations forward and asking ourselves, will you have the capability then, and do what we want to invest in the relationship for the future (Slack & Lewis, 2008)?"

Beyond calculative trust is *cognitive trust.* Cognitive trust is trust based on a sharing of each partner's understanding of aspects concerned with the relationship. These aspects include joint success, learning and problem solving, along with information transparency, and possibly, dedicated assets, e.g., consigned inventory or transaction-specific investments. By knowing and understanding how each other see the world, each partner is able to predict how the other will react. *Cooperative norms* are developed when a relationship is forming, providing guidelines and standards of conduct and allowing trade partners to set ground rules for future exchanges. Norms are the expectations about behaviors that are at a minimum are partially shared by the decision makers on each side of the exchange.

Even deeper is the concept of *bonding trust.* This is based on partners holding common values, moral codes and a true sense of what obligations are due the partnership. The partners identify with each other at an emotional level beyond the mere formalities of the partnership. Trust is both cognitive and emotional based. Progression through these states of trust is often associated with time and the accumulation of positive, relationship-building experiences. E-Z-Go, Augusta, Georgia, a Textron Company, has over a period of 40+ years, developed a bonding relationship with Ryerson Inc., its industrial materials supplier of choice. According to Jerald A. Smith, Director Corporate Quality, in 2004, E-Z-Go implemented a lean manufacturing, steel integration program to consolidate all of its metal fabricators throughout its vast global supply chain and set forth initiatives establishing one set of universal quality standards.[2] E-Z-Go turned to Ryerson and asked them to develop the quality criteria and approval process. This meant that suppliers in the U.S., as well as,

2. Author's interview with Jerry A. Smith, Director Corporate Quality, Ryerson Inc., June, 2008.

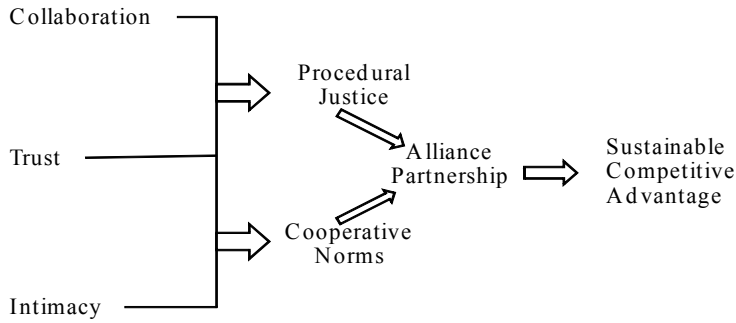
China had to meet one stringent quality standard and be certified by one common supplier standard. This sense of what obligations are due the partnership went well beyond the conventional buyer-supplier relationship, into perhaps the next generation of global supply chain management. Bonding trust has been the key to this growing relationship.

Intimacy

The third dimension of managing alliance relationships involves *intimacy*. Intimacy refers to the degree of closeness, understanding and mutual support that exist between partners in a supply network. It also reflects the degree of *interdependence and transparency* of the partnership alliance. Intimacy relies on each partner's belief in the other's attitude and motivation in maintaining the relationship. In this way, intimacy can be seen as both the objective of, and the result of, the interaction between attitudes toward the alliance partnership.

Collaboration, trust and intimacy, coupled with procedural justice and cooperative norms are the successful manifestations of a well structured and interactive alliance relationship as seen in Figure 2. A balance of collaboration, trust, and intimacy within the supply chain offsets uncertainty and risks associated with the behaviors underlying cultural competitiveness.

Figure 2: Building the Buyer-Supplier Relationship for Sustainable Competitive Advantage



Toyota and its partnership with its parts manufacturer, Aisin Seiki illustrates this point. Toyota's quick recovery after the devastating fire in Aisin Factory No.1 required just such a relationship for its survival. This is common in Japan's keiretsu, where they form horizontally-integrated alliances across many industries (Thorson, 2003). The typical Japanese production network features assembly and component production plants with low levels of vertical

integration and a multi-tiered supplier network in which the first tier comprises a small number of large suppliers, most of which have engineering capability. Second-, third-, and fourth-tier suppliers support the first tier in a very hierarchical system. The first-tier suppliers are called upon to provide relatively large subassemblies. They are provided with long-term guarantees but required to take significant responsibility in return. On the one hand, they would be compensated for underutilized equipment costs in the face of lower than expected demand. On the other hand, they are expected to meet strict and ever more stringent cost and quality targets. These types of alliance relationships between manufacturers and first-tier suppliers in Japan fostered close communications and coordination and often involved sharing personnel and transparency of detailed information on costs and production processes.

3. Managing the Strategic Sourcing Decision: Buyer-Supplier Relationships

Procurement organizations must become more strategic over time. The buy-side strategy brings significant opportunities to keep their businesses favorably positioned in today's intensely competitive global marketplace. The winning procurement organization will transform buyers into business partners, integrate suppliers deeper inside their operations, exploit low-cost sourcing options regardless of where they are found, win the ongoing struggle for talent, and continually focus on *value, solutions and outcomes* rather than price, products, and inputs.

Managing suppliers in today's highly networked environment is a greater challenge than it has been in the past. The trend is for companies to outsource more of their work, making them more reliant on their suppliers, while creating more difficult integration problems. The role of the procurement function in most companies has evolved significantly and as a result, requires far more senior management participation. Leadership at the executive level is critical to managing buyer-supplier relationships. Executive leadership must signal the importance of the procurement function to the organization. They must act as advocates for the function, be involved in establishing the appropriate buyer-supplier structure and proactively participate in the design of the supplier management process to ensure stability, quality and effectiveness for the whole organization's benefit.

Furthermore, supplier management also requires management control in the form of a strong procurement team, information technology support and performance measurement. As companies have reduced the number of suppliers, they have placed greater responsibility on the remaining suppliers. Procurement organizations must be able to think strategically in the assessment of suppliers, develop strong supplier relationships, negotiate

contracts and incentive plans and integrate the supplier base deeper into the company. The active management of the procurement organization, along with the strategic procurement model that best fits the strategy for the chosen market position, will go a long way in developing an understanding of the buyer-supplier relationship.

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