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A CONVERGENCE OF GOALS: “PARTNERING” BETWEEN U.S. MANUFACTURERS AND SUPPLIERS

Walter L. Brown III

Introduction

In 1980, Xerox experienced a defect rate of 10,000 parts per million within its copier division. By 1989, Xerox had managed to reduce this defect rate to 300 parts per million. What was responsible for this dramatic change? Behind this improvement was a change in procurement strategy whereby Xerox became closer to its suppliers. This innovation, which is standard business practice in Japan, was instituted under the direction and leadership of Xerox’s “revolutionary” vice president, James Sierk. (Tiersten, p. 22)

Recently, changes similar to those described above have been occurring within manufacturer-supplier relationships in the United States. These changes are relevant and important since they possess ramifications for future competitive strategy. This trend towards closer, longer-term relationships with suppliers has been variously called “partnering,” a “win-win scenario,” and “co-makership” (a term invented by the Philips Group). (Lascelles and Dale, p. 10) Regardless of which term is used to describe the increasing cooperation between buyer and supplier, the phenomenon is a positive development for American business and one which will make it more competitive in terms of both quality and cost.

This trend should not come as a surprise since criticisms have long been levied concerning the adversarial nature of U.S. buyer-supplier relationships. In 1985 the CEO of Xebec, Jim Toreson, commented that “one of the biggest problems facing American companies is the poor quality of vendor relationships.” (Kotkin, p. 123) One way to solve this problem is through the increasing adoption of strategic long-term agreements between manufacturers and suppliers.

The purpose of this article is to examine this trend within the manufacturing sector in the United States with respect to the relevant past influences and the likely future consequences. The examination includes an assessment of the characteristics and qualities of relationships between manufacturers and sup-
pliers. From this assessment, I offer conclusions regarding the importance of partnership agreements and their likely future relevance to American manufacturing firms.

The Traditional U.S. Manufacturer-Supplier Relationship

In 1975 the U.S. automobile industry was typical of many American industries in terms of the relationship between buyers and suppliers. The opinion held by most manufacturers at the time was that suppliers were to be dealt with so as to minimize their bargaining power while at the same time ensuring high performance standards. Contracts with suppliers tended to be negotiated on an annual basis, and pricing was determined in a way which did not leave any room for error on the part of the suppliers. In fact, some suppliers failed to win contracts as a result of their bids being a mere $.01 more than those of competitors. (Porter, p. 275)

Besides exhibiting caution with respect to the length of contracts and pricing, the automobile manufacturers also took great care to allocate portions of their business to several suppliers. In this fashion, they made sure that they could not be crippled by the actions of one supplier. However, the question of whether this approach was the most efficient was not seriously considered by the automobile companies since they were entrenched in the adversarial approach to supplier relations. Cooperation and collaboration were words which did not enter into the minds of most manufacturing executives at this time when they thought about their suppliers.

Globalization and the Resultant Transition

As foreign firms have solidified their competitive position in the U.S., American industry has begun to feel the related economic effects through the introduction of lower priced products produced by the new entrants. In addition, these foreign products have become even more competitive vis-a-vis U.S. products as a result of constant innovation. James Sierk, the Vice President of Xerox, aptly describes this occurrence when he observes that “competition forces organizations to be innovative.” (Tiersten, p. 24)

It should come as no surprise that Mr. Sierk is so perceptive with respect to the link between competition and innovation. While at Xerox, he has overseen a number of innovations undertaken in response to increased competition. Perhaps one of the most important changes was the reduction in Xerox’s supplier base from 5000 to 500 in the space of only four years. (Tiersten, p. 24) The change is significant because it is one of the first steps companies have taken toward improving their relationships with suppliers to reach the ultimate goal of enhanced performance. This development makes sense because it is more feasible for a manufacturer desiring closer ties to its suppliers to advance with as few suppliers as possible. In this fashion, the manufacturer can more effectively improve what is important in the relationship, e.g., quality, efficiency, and reliability. Yet, each of these goals requires a focused expenditure of energy, and reducing the supplier base helps facilitate the focusing of energies towards these ends.

Hewlett-Packard (HP) and Motorola are two other U.S. manufacturers which have “felt the heat” caused by the Asian intrusion into their markets. As Thomas Cunningham, a corporate procurement manager for HP, notes, “Japanese defect levels were sometimes hundreds of times lower than ours.” (Tiersten, p. 25) Motorola also struggled with the increase in competition due to globalization which caused a 6–10 percent annual decrease in the price of a paging unit during the 1980s. By 1989, Motorola was the sole American survivor in the market for pagers out of an original group which included RCA, GE, and Bell and Howell. (Schlie, p. 4)

Like Xerox, Hewlett-Packard and Motorola also reduced their supplier bases when they undertook transition programs to improve their performance in response to Asian competition. Thus, HP pared its list of suppliers from 480 in 1980 to only 250 today. (Tiersten, p. 25) Motorola involved itself in the same procedure as part of its “Operation Bandit” program to innovate its production of pagers. (Schlie, p. 49) As ex-
plained by Michael Ray, an engineering manager in the Paging Division, these changes were implemented because “in searching for ways to make drastic improvements in our operations, we discovered that we needed to develop better working relationships with our suppliers.” (Schlie, p. 48) More specifically, Ray points out that Motorola discovered that it “had too many suppliers — hundreds too many.” (Schlie, p. 48)

Aiding in the process of paring down suppliers are quality standards which the manufacturers set in order to selectively determine which suppliers are capable of meeting their demands in an effective and efficient manner. The process by which Motorola improved its relationship with its suppliers is illustrative of how this type of change can be achieved. Expounding upon the underlying philosophy and how it was applied, Ray explains:

Our objective from the beginning, of course, was to use only the very best suppliers for Bandit. Early on in the project we started with a list of around 300 eligible suppliers and whittled that down to 60. We visited all 60 of them, did a survey and obtained data on them, and selected the best 22 to be Bandit vendors after a lot of iterative negotiating. (Schlie, p. 49)

Similarly, Hewlett-Packard also used quality standards as a tool with which to choose its new, smaller, more productive supplier base. These standards relate to such areas of concern as those spelled out by Tiersten: technology, quality, responsiveness, dependability, and cost. (Tiersten, p. 25) By communicating these expectations from the outset, Hewlett-Packard helps to ensure that its suppliers will perform satisfactorily.

Once a supplier meets the initial quality standards, the supplier's obligation to the manufacturer does not end. In fact, the level of cooperation increases with time. However, as is evident from a closer examination of the programs initiated by these companies, it is easier to proclaim a desire than it is to actually take the necessary steps to realize its fulfillment. Thus, a company should not expect to experience tremendous gains in productivity simply from a reduction in the supplier base. The successful partnering relationship requires much more effort and responsibility on the part of both manufacturer and supplier. Concurrent with the reduction in suppliers, a manufacturer must be willing to evaluate in an objective fashion its relationship with its suppliers and to identify and correct weaknesses regardless of where they lie. Once selected, a supplier still must meet performance standards and, if found lacking in an area, must then implement the necessary change(s) or risk being “fired.” These adjustments are in line with an environment which demands, as Douglas K. Macbeth notes, “continuous modifications of performance in a relationship which is also evolving.” (Macbeth, p. 57)

**Just-in-Time and Its Related Effects**

Driving the move to closer, more cooperative arrangements involving manufacturers and suppliers has been the implementation of the just-in-time manufacturing system. Manufacturers have been utilizing this system in order to reduce their purchasing costs and improve product quality. (Hay, p. 117) As Edward Hay points out, “A company cannot become a world-class manufacturer until it has developed a true partnership with its suppliers [and] just-in-time purchasing offers the framework for that partnership.” (Hay, p. 118)

Along with the introduction of a just-in-time (JIT) inventory system comes a higher inventory turnover rate and an increased need for coordination and communication between the manufacturer and the supplier. One aspect to the new relationship is the necessity for investment by both parties. A result of the added responsibility and commitment is the increase in “switching costs,” or those costs involved in the relationship being terminated whether at the initiative of the manufacturer or the supplier. (O’Neal, “JIT Procurement . . .” p. 58) This characteristic of a JIT relationship tends to increase the likelihood that such a relationship will endure over time — at least as long as the perceived switching costs are higher than the cost of continuing the relationship. In fact, a survey conducted by O’Neal confirms that JIT tends to increase the length of the
supply agreement. The results of the survey indicate that 65 percent of the suppliers who responded report that JIT has increased the length of their supply agreements. (O'Neal, p. 58)

One step which is frequently taken by the manufacturer to guard against being "trapped" in such a relationship is to put a great deal of thought and energy into the supplier selection process. (O'Neal, p. 58) By establishing criteria which the prospective suppliers must meet in order to be selected, manufacturers can weed out potential problems from the outset. Hay lists five critical criteria which a manufacturer should use when evaluating suppliers: quality, willingness to work together, technical competence, geography, and price. (Hay, p.126)

Whatever criteria are used, the manufacturer usually ranks each supplier within each category before assigning an overall ranking. By using such a rating chart, the manufacturer can systematically reduce its list of potential suppliers to a manageable number from which a selection can be made. An example of such a rating system is given in Table I. However, the selection criteria can vary depending upon the competitive conditions of a given market. Indeed, Macbeth points out that one reason why the Japanese manufacturers have succeeded over time is that they have altered the "order winning criteria" in accordance with what successful competition requires. (Macbeth, p. 53)

The just-in-time manufacturing system is a relatively recent development in American business and should gain in popularity as more companies realize the potential economic benefits. Thus, it is likely that many more manufacturers will adopt such a system in the not-so-distant future in order to improve their competitive position relative to foreign firms. According to Winston Chen (CEO of Solectron), American firms are deficient relative to foreign firms in product design and innovation. Furthermore, Chen points out that "we lack manufacturing capability" relative to such Asian countries as Japan. (Tiersten, p. 24)

Part of this "manufacturing capability" is the quality of the manufacturer-supplier relationship; and the capability will obviously be adversely affected if the relationship is ineffective or inefficient. Additionally, the quality of the manufacturer-supplier relationship can affect the level of innovation and product design. If a cooperative atmosphere exists within the relationship, suppliers can be a source of ideas for improvement which the manufacturer can utilize. In order for American manufacturers to

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construct and maintain such a relationship, though, they must be able to successfully interact with their suppliers through effective communication.

The Importance of Communication

Vital to the improvement in quality of the products is an increase in both the quantity and quality of communication taking place between buyer and supplier. JIT in particular demands that constant and clear communication exist between the two. In order to ensure the efficient and timely use of resources, suppliers have to know the expectations of the manufacturer. Whether the expectations relate to delivery times or quality, a lapse in communication between supplier and manufacturer can undermine a successful manufacturing operation.

The dearth of meaningful communication between buyer and supplier is one important sign that quality problems probably exist. For example, during a recent conference of steel industry purchasers and suppliers (service centers), a purchasing manager from Besteel Industries commented that quality was the one area which had not improved during her purchasing career. However, she was also at a loss to explain exactly why the suppliers were unable to meet Besteel's specifications. (Purchasing World, August 1989, p. 33)

Adding further weight to the idea that communication is vital for efficient and effective manufacturing operations are the results of a recent study conducted in England. Lascelles and Dale found that not only were there deficiencies in communication and feedback in the supply chain, but that many buyers and suppliers were unaware of the problems. In fact, according to the authors the prevalent opinion of suppliers was one of "no news is good news." (Lascelles and Dale, p. 11)

As a result of the low level of communication taking place between British buyers and suppliers, suppliers were frequently not completely informed by manufacturers of the specification requirements. For example, one quality engineer revealed that he believed the area most in need of improvement was the process by which his firm communicated specifications to the suppliers. As noted by Lascelles and Dale, “Some purchasing managers and quality engineers seem to think that the quality performance of their suppliers can be achieved almost by remote control.” (Lascelles and Dale, p. 12) The effect of this communications deficiency shows up in the form of a high defect rate, which lowers product quality while it increases costs. In fact, one calculation by Philip Crosby indicates that one-half of all the problems in quality experienced by a firm are due to unacceptable material inputs.

In the past, communication between buyer and supplier was more difficult and expensive than it is today. For instance, manufacturers and suppliers often would attempt to save time via the telephone only to discover that face-to-face meetings were needed in order to ensure supplier compliance and understanding. However, today electronic data interchange (EDI) has simplified and speeded up ordering, and in the process has provided savings in time and frustration to buyer and supplier alike. For example, in the steel industry EDI has resulted in "rapid payment" and "no more hassles" according to a purchasing manager from Freightliner. (Purchasing World, August 1989, p. 35) Such technology makes it easier for manufacturers to establish closer relations with their suppliers since valuable, relevant information is easier to transfer. Thus, communication, which is vital to the establishment of partnering, is facilitated by electronic data interchange.

One good example of the success of JIT is the change in the relationship between Ford Motor Co. and Penn Fibre, a firm which is a major supplier to the automobile industry. (Purchasing World, March 1989, p. 36) At the urging of Ford, Penn Fibre began the transition to JIT by instituting quality control measures and statistical process control procedures. These changes could not simply be enacted unilaterally; rather, all the other suppliers/buyers in the supply chain also converted to achieve the goal of improving productivity. Indeed, the majority of Penn Fibre's suppliers have switched to JIT. (Purchasing World, August 1989, p. 39)

Another emerging technological timesaver within EDI which has greatly aided pur-
chasing is the facsimile (fax) machine. Penn Fibre uses the fax for communicating between its corporate office and sales service center, as well as for communicating with its buyers and suppliers. In fact, it even has plans to utilize a number of fax machines which will be accessed via an 800 number. By doing this, Penn Fibre is working to keep relations in good working order between its suppliers and buyers. (Purchasing World, August 1989, p. 39)

Reduction of Costs

The effective communication described above takes place within the framework of a “partnering agreement” which spells out the general guidelines by which each party must abide in the relationship. This agreement usually includes a systems contract which provides such specifications as the duration of the contract, the level of support services, and payment terms. This agreement aids the buyer and seller in accomplishing such goals as decreasing the amount of paperwork, obtaining optimum inventory levels, using the inputs (materials) more efficiently, and determining an acceptable price. (Purchasing, April 1989, p. 13) This type of agreement is of particular value in the supplying of MRO (maintenance, repair, and operating) “support goods.” Among the benefits enjoyed by the manufacturer is the saving of valuable time and money by avoiding potential difficulties with service or quality.

One common misperception is the thinking that a partnering agreement is the same thing as a blanket contract. A partnering agreement entails much more on the part of the manufacturer and the supplier. Whereas a blanket contract only specifies that a given quantity of goods be supplied over a given time period, a partnering agreement spells out obligations and contingencies applying to both manufacturer and supplier. (Purchasing, April 1989, p. 15) In such a way, there is a reduced potential for confusion or disagreement.

A good example of the successful use of a partnering agreement is the one being used by Boeing and the changes which such an agreement has made in the way Boeing builds its airplanes. According to The Economist:

Just like America’s carmakers, Boeing has to forge close alliances with component suppliers which can be trusted not only to manufacture parts and sub-assemblies, but also to do the R&D needed to ensure that their components get better and cheaper. (p. 79)

It should be noted that these changes instituted by Boeing were adopted because of increasing Japanese competition, which has forced Boeing “to rethink its business.” (The Economist, p. 79) Here again, the effect of foreign competition can clearly be seen as leading manufacturers and suppliers towards closer cooperation.

Contained within the typical agreement, however, are a number of other items in addition to specifications regarding technology development and application. Having obtained a copy of a partnering agreement between a major U.S. original-equipment-maker and one of its component suppliers, I can provide a general description of its contents. At the beginning of the agreement, the parties specify the purpose of the agreement. Following that initial statement is a section which defines and describes the various systems and/or services which the supplier agrees to provide. Additionally, the section specifies the financial and capacity allocation obligations of each partner and the related time period during which the obligations are in existence.

The second section of the agreement covers quality expectations and the related penalties for not meeting the pre-determined standards. This section appears to be the most important part of the agreement since omissions can be quite costly to the manufacturer. Thus, specifications are detailed so that the supplier cannot claim ignorance as to the expectations of its partner. Similarly, the contingent penalties are also clearly defined so as to make the supplier aware of the costs of inadequate performance.

Contained within the third section of the agreement are the details relating to the costs to be incurred pursuant to the agreement. Additional details spell out exactly the sources from which the cost reductions will emanate.
and the manner in which they will be tracked. Following the clarification of costs, the fourth section provides a description of the method of purchasing and payment, along with a general outline of the performance requirements of the manufacturer. Finally, the agreement concludes with an explanation of the reasons allowing for the termination of the agreement along with details concerning the ensuring of each partner's ownership rights (e.g., patents, copyrights, etc.).

Although the partnering agreement described above includes the major areas of concern for the manufacturer and supplier, it does not attempt to specify every last detail and circumstance. This makes sense since the typical partnering agreement extends over several years, making flexibility all the more important. Therefore its lack of specificity in some areas is not a reason for concern.

Even though most of the benefits of the partnering agreement seem to accrue to the manufacturers, suppliers enjoy several advantages as well. Unlike the "old" system, partnering, with its concomitant closeness, facilitates the continued association of manufacturers with their suppliers. Thus, once a supplier is entrenched in a relationship with a particular manufacturer, it is less likely that the supplier will be "dropped." This does not mean, however, that a supplier is free to take advantage of the manufacturer. It only means that due to increased switching costs, a supplier does not have to worry about suddenly being dropped because of a small, possibly short-term price difference. (Purchasing, April 1989, p. 17)

In addition, suppliers may learn enough through a close working relationship with a producer to possibly enter the industry which they are supplying as competitors. This is a potential disadvantage of the "partnering" arrangement from the perspective of the manufacturer. In the aircraft industry, Boeing is being forced to fend off a possible intrusion into its market by Japanese suppliers and subcontractors. Yet at the same time, Boeing also realizes that it needs its Japanese suppliers in order to compete effectively on a global basis. The danger of a Japanese "invasion" is very real, though, since it was "with computers and cars (that) Japanese manufacturers got a foot in the global market by first building a strong component industry at home." (The Economist, p. 82)

The potential negative aspects of a partnership should not be overlooked, as is clear from the situation faced by Boeing. Arriving at the proper mix of communication, commitment, and competence necessary for the agreement that is "right" for both manufacturer and supplier is a difficult undertaking fraught with potential pitfalls. However, as with any relationship involving greater intimacy, vulnerability is an accompanying feature. Yet, this vulnerability can and should be managed so that the valuable and enduring benefits of the relationship can be enjoyed.

**Conclusion**

Although the partnering development which is assessed in this article is considered revolutionary with respect to the U.S. industrial environment, it is by no means a new idea. The Japanese supplier relationships provide a historical contrast to those of the U.S. since there the manufacturer and the supplier often work in concert in a partnership to produce the product. As one expert on Japanese manufacturing, Kiyoshi Suzaki, has remarked, "In cultural terms, the Japanese supplier relationships are more trust- and long-term oriented." (Kotkin, p. 120) However, the U.S. companies initiating closer ties with their suppliers usually reside somewhere in the middle of the traditional "arms-length" relationship and the family-type relationship of the Japanese. (Purchasing, April 1988, p. 3)

Resistant to such change are those who hold that the notion of cooperation between buyers and suppliers is "a utopian concept" for a culture where competition is so highly valued as in the United States. (Newman, p. 23) However, the idea of cooperation between U.S. buyers and suppliers should be seen as a step to be taken so as to increase competitiveness on a global scale. It is with such a perspective that one can easily see and understand the value of
cooperation and commitment between buyers and suppliers who voluntarily enter into a mutually beneficial relationship.

Understanding this relationship is necessary if American firms are to regain their primary and pre-eminent position as world leaders. In order to compete on a global scale against Japanese competitors who stress teamwork, American companies cannot afford to waste time and energy bickering with their suppliers. Instead, a collaborative approach is called for in which American manufacturers and suppliers work together to achieve excellence.

REFERENCES