Issues in the choice of supplier alliance partners

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Abstract

Supplier alliances have been widely touted but there are probably a limited number of situations where they are applicable. This paper develops a model of important factors that define which suppliers offer the best choices for pursuing alliance-like relationships. Some factors relate to the technology of the goods or services being sourced; others relate to the ability to develop mutual goodwill trust with the targeted supplier. The model was developed through a combination of extensive literature reviews and a series of interviews with managers in 15 manufacturing and service firms. © 2000 Elsevier Science B.V. All rights reserved.

Keywords: Purchasing; Technology management

1. Introduction

With the trend to outsource more and more of the products’ value-added content, strategic sourcing is growing in its importance in most firms. With the popularity of concentrating on the firm’s core competencies (Prahalad and Hamel, 1990), increasing proportions of sales revenue are likely to continue to be absorbed by purchases of materials and services.

At the same time, the supply management field is seeing the gradual shift toward some different ways of managing the supply base, spurred by the effectiveness of the supply chain management practices in leading Japanese manufacturing industries. Major elements of this approach have been to consolidate the supplier base and develop cooperative (as opposed to adversarial) relationships with suppliers as well as to push firms to develop close alliance relationships with key suppliers.

The normative literature has urged firms to adopt this latter practice, although some academics (e.g., Ramsay, 1996; Cox, 1997) have denied the universal applicability of supplier alliances or partnerships for all firms. Managers may be forgiven if they were to believe that such long-term supplier alliances were held as exemplars for all outsourcing arrangements, since several prominent reports (e.g., Dyer, 1997) point to their effectiveness. Undoubtedly, there is some controversy about the adoption of supplier partnership relationships and, outside of a small number of industries, relatively few western businesses have developed strong, strategic supplier alliances to date.
As part of a long-range research program into technology and supply chain management, we conducted a series of interviews with managers to better understand the problems they faced in the changing environment for strategic sourcing. The interviews pointed to some widely faced issues about moving toward different forms of supplier relationships. For many of the managers, the motivation for adopting non-traditional supplier relationships was not clear; a few had been actively adopting new approaches to managing some of their suppliers but were finding it difficult to determine which suppliers should be targeted for special relationships. Normative advice from the academic and practitioner literature has sometimes been contradictory, with some reports (e.g., Dyer, 1997) strongly recommending them and others (e.g., Ramsay, 1996) questioning their purpose. While the issues surrounding supplier alliances have been discussed in the purchasing and marketing fields, they have been less frequently addressed in the Operations Management (OM) field.

The research was motivated by our uncertainty about where supplier alliances were applicable. A substantial literature focused on successful supplier alliances has yet to develop. The marketing literature has discussed “buyer–seller relationships” and developed a set of constructs (e.g., Wilson, 1995) related to relationship success or failure. The strategy field has embraced the concept of supplier alliances and has focused on the decisions about what should be outsourced (e.g., Quinn and Hilmer, 1994) and with what kind of supplier relationship (Welch and Nayak, 1992). Most of these articles are normative, with advice drawn from the authors’ experience in the field. A limited number of empirical studies have been conducted. Ellram (1995) and Ellram and Hendrick (1995) surveyed managers about self-reported supplier “partnerships”. More recently, Lambert et al. (1996) conducted field studies of supplier alliances. These field studies furnished findings about both what managers saw as the bases for targeting the right supplier alliance partners, as well as factors that appeared to influence their success.

Table 1 shows the disparity in the findings. The first part (Table 1A) lists normative advice about which suppliers should be targeted for supplier alliances or partnerships. The primary point of agreement is that the potential partner should not be one capable of integrating forward to become a competitor. The second part (Table 1B) lists the drivers for targeting particular suppliers for alliances, according to managers. Here, cost efficiencies are the only common ground. The third part (Table 1C) arrays the factors and variables that affect alliance development, according to empirical studies. (The variables listed for Wilson (1995) are those he believed were the most significant in the early stage of alliance development; those listed for Ellram (1995) are the top five factors reported by managers in buyer firms.)

Here, the common element was the importance of buyer–supplier goal mutuality in fostering successful partnerships.

Our field investigation sought to make more sense of this information and to develop a more unified view of the factors that need to be considered in selecting supplier alliance partners. This paper lays out our model of the factors that define the subset of suppliers with which alliance relationships have the most potential. The model was developed by iterating between intensive field interviews of managers in 15 firms and our study of the literature in a variety of disciplines. The interviews and examples we saw in the field helped to clarify for us some of the factors that supported the development of alliance relationships with particular suppliers.

We found that the selection of potential supplier alliance partners was more complicated than it is depicted in many of the schemas in the literature. Our model shows that there are two primary sets of factors. The first set is a combination of the nature of the supplier and of the input it provides (which establishes whether it is an appropriate target). The second set determines the level of trust that exist between the supplier and the firm (which determines whether the alliance relationship would be feasible). Taken individually, each set of factors is necessary but not sufficient to warrant the cost and risks of establishing an alliance. The need to fulfil both conditions means that there may be only a small subset of the supplier base that warrant consideration as supplier alliance partners.

In the next sections, we provide some background about the changing standards within the supply chain management field and the rationale for developing closer inter-firm relations with suppliers. We then describe our methodology for exploring this ques-
Table 1
Prior literature on supplier alliances

(A) Normative advice about suppliers to target for alliances

<table>
<thead>
<tr>
<th>Article</th>
<th>Cost or quality reliability</th>
<th>Provides high value-added to product</th>
<th>Not capable of becoming a competitor</th>
<th>Does not supply a mature technology that may be critical in the future</th>
<th>Does supply a mature technology that may become critical in the future</th>
<th>Different, complementary industry</th>
<th>Ability to influence through power and interdependence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leavy (1996)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lei and Slocum (1992)</td>
<td></td>
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<tr>
<td>Quinn and Hilmer (1994)</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Welch and Nayak (1992)</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

(B) Drivers for targeting suppliers as alliance partners

<table>
<thead>
<tr>
<th>Article</th>
<th>Low cost</th>
<th>Reliability</th>
<th>Ability to influence supplier quality</th>
<th>Ability to influence supplier delivery</th>
<th>Influence or access to supplier’s technology</th>
<th>Improve customer service</th>
<th>Gain marketing advantage</th>
<th>Secure stable or growth market</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ellram (1995)</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td></td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>Lambert et al. (1996)</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td></td>
<td>×</td>
<td>×</td>
</tr>
</tbody>
</table>

(C) Variables affecting alliance development

<table>
<thead>
<tr>
<th>Article</th>
<th>Reputation</th>
<th>Performance satisfaction</th>
<th>Trust</th>
<th>Social bonds across firms</th>
<th>Comparison level of alternatives</th>
<th>Mutual goals</th>
<th>Ability to influence through power or interdependence</th>
<th>Two-way information sharing</th>
<th>Top management support</th>
<th>Early communications to suppliers</th>
<th>Supplier adds distinctive value</th>
<th>Compatibility of corporate values, philosophies and techniques</th>
<th>Symmetry (similar size, power and technological sophistication)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ellram (1995)</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>Lambert et al. (1996)</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
</tr>
</tbody>
</table>
tion. We outline the factors that we postulate have strong impacts on the advisability of selecting potential supplier alliance partners. The fieldwork underscored the importance of inter-firm trust in this area. We discuss the role of trust and, because it is probably an unfamiliar one for many OM researchers, we expand on this topic somewhat. We then discuss what else needs to be done to develop our understanding in this area.

2. Changes in supply chain management thinking

The past two decades has seen a trend toward adopting different approaches to supply chain management. A major part of the newer approach is to shrink the firm’s supplier base and develop longer-term, closer relationships with at least some of the remaining suppliers.

Such closer relationships were initially disdained on some theoretical bases. Williamson, in positing his transaction cost analysis (Williamson, 1979), originally claimed that most inter-firm trades were either market-based or hierarchy-based: firms sought to secure inputs either through market transactions (arm’s length contractual relations) or by hierarchical transactions, securing the input by integrating backwards (that is, capturing it within the firm’s hierarchy). Commodities might be purchased on the market, since buyers could develop standardized specifications for them and purchase them from producers who maintained scale economy advantages, providing a good cost-based rationale for outsourcing. On the other hand, a buyer might be vulnerable if it depended on a supplier that held specific assets (assets dedicated to producing the buyer’s specialized outputs). The basic assumption was that both buyers and sellers act largely through self-interest; such asset specificity puts the buyer at some risk of the supplier’s opportunism. The risks and costs of managing these more specific inputs across firm boundaries would lead the buyer to produce such inputs in-house (Heide and John, 1990).

However, many firms developed supplier linkages that fell somewhere between these two extremes (Argyres, 1996; Sinclair et al., 1996; Achrol, 1997). With the increased popularity of sole-sourcing and supply base reductions came deeper, longer-term relationships with the chosen sources. As well, firms were influenced by the much-publicized success of the multi-tiered supplier partnerships of Japanese automotive manufacturers and the interest in devolving more peripheral capabilities to focus on core competencies (Prahalad and Hamel, 1990). The resulting quasi-hierarchical structures attempt to source non-core inputs from external suppliers while recognizing that some of these inputs cannot be sourced adequately by simply passing the supplier a set of specifications. In many cases, the buyer firm tries to establish a relationship whereby the supplier becomes more like a legally independent extension of the firm. The closer relationships have been variously called supplier partnerships (e.g., Ellram, 1995; Landeros et al., 1995) or supplier alliances (e.g., Heide and John, 1990; Nooteboom et al., 1997).

With supplier alliances, firms seek to develop mutually beneficial, longer-term relationships with the best of their suppliers, working with them much more closely than with traditional contract-based, arm’s length relationships. Longer-term contracts may make the suppliers more willing to invest in skills or technologies specific to the partner firm. Contacts between the buyer and supplier may be broadened, with business and technology information being shared. The suppliers may expand their roles to provide services beyond delivering specified requirements, such as participating in the buyer firm’s design and development work or providing advice, assistance or training from their areas of expertise.

Supplier relationships may not be strictly arm’s length in any case, because inter-firm interactions are usually subject to other goals or pressures. Sako (1992) lists three areas of research that provide some arguments why buyer–supplier transactions need not be considered strictly an arm’s length routine: the concept of relational contracts, which holds that all trading is affected by outside influences, such as dependence and coercive pressures; social network analysis, which expects social relations and social structures to pervade markets and so-called market contracts (Granovetter, 1985; Gulati, 1995; Rowley, 1997); and the development of the idea of networking as a competitive strategy (Grandori and Soda, 1995; Hines and Jessop, 1995; Powell, 1996; Achrol, 1997). Williamson himself had altered his bipolar conception of transaction cost analysis to recognize
the possibility of "intermediate governance structures" (Williamson, 1985).

Supplier alliances have no specific form and they vary with both parties' goals and objectives (Heide, 1994; Morgan and Hunt, 1994). Some may be only moderate extensions of traditional arm's length relationships, with longer-term contracts and expanded buyer-supplier communications. In a few extreme cases, the buyer and supplier develop a degree of mutual dependency, with the buyer relinquishing some control to the supplier and the supplier dedicating resources to serve the buyer exclusively, resources that cannot be easily altered to serve other customers. Sako (1992) encapsulates the three major areas where alliances differ from traditional supplier relationships.

1. Technology transfer and training, especially where the costs or value of providing this to the other party are not tracked nor pre-approved.
2. Increased communication channels (number of different access points across firm boundaries) and intensity (frequency of use) (see also Daft and Lengel, 1986).
3. Risk sharing, especially where the costs of shared risk are settled case-by-case after the fact, using fairness rather than prior negotiations as the means of deciding (see also Ring and Van de Ven, 1994).

These three characteristics truly distinguish relationships that blur the traditional lines between buyer and supplier. They also separate a strong supplier alliance not only from arm's length contractual arrangements but also from what many managers very broadly refer to as supplier partnerships. While many firms may have developed somewhat closer relationships with their key suppliers, relationships with these characteristics are as yet relatively unusual.

If it performs as intended, a strong supplier alliance offers both firms numerous advantages.

1. It can reduce transaction costs — the costs of conducting business (Dyer, 1997; Landry, 1998) — although the relationship development process may cost more in the short term (Sako, 1992; Ramsay, 1996). It may need fewer people to conduct business. Response times and service flexibility may improve as well. Moving away from formal requirements notification and bargaining allows less formal and potentially more useful discussions about the buyer’s needs. Richer media, such as verbal communication (Daft and Lengel, 1986), can be used without fear that the proprietary information will be leaked.
2. The buyer firm may be able to secure better access to technologies that, while not core, are still important to the buyer’s product or service success. Relying on a supplier for a complex, swiftly developing or scarce input may be less risky if there is some bond or working relationship with the chosen supplier (Singh, 1997). The supplier, in turn, gains preferential treatment and more market security.
3. A well-established, close relationship may make the inter-firm boundaries more permeable, allowing technology to be transferred more easily (Heide and John, 1990; Grant and Baden-Fuller, 1995; Sheridan, 1997a,b). This transferred technology might be product and process design capabilities, or process management expertise. Suppliers may contribute more to product development and act as "technological gatekeepers" (Allen, 1977), advising the buyer about the appropriate time to adopt developments within the supplier’s field of expertise. The technology flow from buyer to supplier can assist the supplier’s efforts to prevent quality gaps and develop more competitive products and services. Lado et al. (1997) claim that some economic rents ("syncretic" rents) are only available through co-ordinated inter-firm technological development.

Two elements make this management trend particularly difficult for firms to master. First, only some suppliers might be managed through alliances. The partnership relationship is clearly not appropriate for all of a firm’s supplier dealings (Ganesan, 1994; Nordberg et al., 1996; Ramsay, 1996). While a firm may benefit from establishing alliances with a few key suppliers, it may be better served to maintain arm’s length contractual relationships with its suppliers of lower-importance inputs (Welch and Nayak, 1992). One firm, the UK computer manufacturer ICL, found this out the hard way. Its initial attempts to treat all its suppliers as partners led to excessive relationship development costs. Additionally, many suppliers did not feel that the special relationship was warranted and preferred a less intensive form of communication. Eventually, the firm adopted a more segmented approach called relationships that fit the purpose. Different sourcing requirements should dictate different forms of relationships,
which can be characterized by their different degrees of alliance (Stuart, 1993; Stuart and McCutcheon, 1996).

Second, while the nature of the outsourced material or service may dictate what type of relationship is desirable, the relationship that can be developed is constrained to what might be possible. As the firm moves a relationship away from a traditional contractual basis, it must establish new ways of managing it that reflect the degree of alliance it wishes to establish with each supplier (Ring and Van de Ven, 1992; Sinclair et al., 1996; Stump and Heide, 1996). The firm may substitute or at least increasingly rely on trust in place of the formal controls used to manage traditional contractual relationships (Bradach and Eccles, 1989). Furthermore, to be truly effective, the supplier must also see the value in forming an alliance with the firm and trust the firm sufficiently as a customer.

Complicating this picture is the uncertainty that such efforts will, in fact, provide improved results (Ellram, 1995). Considerable literature has been devoted to the benefits expected from supplier alliance relationships (e.g., Mohr and Spekman, 1994). There is some empirical evidence (e.g., Dyer, 1997) that automotive companies have realized distinct advantages from moving to such formats with their major suppliers. However, that industry, with its highly concentrated buyers and their importance to the suppliers who sell largely to that industry, is unusual and these findings may not generalize beyond its specific circumstances. The push for companies to adopt these innovations has come largely from normative literature (e.g., Lewis, 1992; Grieco, 1995) or through the imitation of successful firms. As well, some suppliers are pressuring customers to extend well-developed relationships into alliances or partnerships.

While the benefits of alliance relationships may be difficult to establish, most managers recognize the real risks they pose. Clearly, there are risks in giving suppliers access to information and in developing dependence on them. Given these risks, where is a firm most likely to derive the benefits? Firms must have sound guidelines for choosing which suppliers are best managed with particular types of relationships. Our investigation was aimed at developing a model that encompassed the disparate findings and providing a more unified picture of the alliance partner selection decision.

3. Building a model

3.1. Research approach

At this stage of our research, our primary question was: Which suppliers represent the best potential targets for supplier alliances? In conjunction with the literature, we sought our answers through field investigations. As the first part of a multi-stage project, we arranged to interview senior managers, primarily within in the purchasing functions, of 15 firms. (Brief descriptions of the firms are provided in Appendix A.) We looked at several portions of one supply chain, interviewing managers in three telecommunications companies, two major telecommunications and electronics suppliers, as well as a silicon wafer manufacturer and a semiconductor process equipment manufacturer. We also interviewed managers outside of this supply chain, ranging from medium-sized to large-scale manufacturing operations, helping to provide maximal difference within our cross-section. At two of the larger firms, we interviewed managers at both corporate headquarters and the operations sites. At four of the sites, we were able to extend our interviews to managers within key suppliers who had long-term relationships with the firms. All but two of the sites provided multiple informants for our interviews, with as many as six managers participating at some sites. Appendix A also provides details of the interview protocol that was used.

The firms were selected on two bases. First, the companies represented a wide range of situations, reflecting different industries and different positions in their value chains. Some were service firms, while most were manufacturers. Companies ranged in size from medium to very large. This range provided greater opportunities to see maximum variety in the situations facing managers. Second, we selected firms that we had determined were active in improving their supplier management efforts. Not all firms had developed
alliances but all were progressive enough to have explored (and, in some cases, rejected) the opportunities of doing so.

We were particularly interested in strategic supplier alliances, which we define as long-term buyer-supplier relationships that offer sustained competitive advantages for both firms through benefit sharing and joint problem solving. Strong alliance relationships are those with Sako’s key characteristics (that is, marked by informal technology transfer, more than one communication channel between the firms and some history of risk sharing, for example, the supplier undertaking to develop a product or service without a written contract). While many of the interviewed firms had moved away from strict arm’s length relationships with some of their suppliers, examples of sustained co-operative risk-sharing interactions were much less common. The interviews pointed out the managers’ loose definition of the terms “partnership” or “alliance”, using them to describe a wide variety of relationships. (This gap between self-reported alliances and true alliance relationships is supported in the literature as well: Dyer et al. 1998 surveyed US automakers and found that, other than the contract length, there was little difference between their partner relationships and their arm’s length contracts. As well, Lambert et al. 1996 report that case investigations of supplier partnerships found relatively few of what managers called partnerships went much beyond longer-term contracts.

The difference between a real alliance and a co-operative partnership may help to explain some of the anomalies we saw in the literature about the rationale for developing a relationship. For example, the study by Ellram (1995) noted that technology access was a low priority for buyers or suppliers to enter a relationship. However, the sample frame involved self-reported relationships that “may include the sharing of risks and rewards in the relationships” — that is, may not be alliances as much as co-operative relationships that dwell primarily on cost reductions or delivery improvements. Table 2 in Appendix A indicates how few strong alliances we saw. Only a few firms we visited had several alliance-like supplier relationships. A number of the firms were still trying to build their first ones, and some saw either little opportunity or reason for developing supplier alliances. Our model reflects supplier alliances that met our definition of such relationships, rather than all the supplier relationships that the managers referred to as partnerships or alliances.

3.2. The model

Our initial interviews were structured by the supplier alliance literature and common sense. As we gathered more information, our model and the interview focus changed. We found that we had to expand our literature base to other areas, such as trust building, as these topics assumed greater importance. Ultimately, we developed the model depicted in Fig. 1. The model shows two primary factors: the determinants of most appropriate supplier targets — what we refer to as the desirability space — and whether such a relationship is possible, which we call the feasibility space. We discuss each of the model factors below, linking them to the relevant literature.

3.3. Desirability space: selecting appropriate targets for supplier alliances

Some authors (e.g., Lamming, 1993) have suggested that there may be few restrictions about which suppliers may be suitable and that information should pass freely through the value chain segments with “transparent boundaries”. However, we observed that managers chose to manage most of their suppliers in conventional ways and targeted only a few key suppliers for alliances.

Although prior studies (such as Ellram, 1995 and Lambert et al., 1996 shown in Table 1B) indicate that cost reductions and quality improvements were drivers for alliance development, we found that these goals tended to lead in most cases to weak alliances or simply more efficient transaction processes. In these cases, cost reductions or quality improvements came about through changes in the systems being used to manage suppliers. For example, costs were reduced by having selected suppliers manage their in-plant inventories; in one case, a firm monitored its key suppliers’ processes via real-time weblinks to help develop mutually beneficial quality targets and programs. Once the changed systems had been estab-
Table 2  Summary of data

<table>
<thead>
<tr>
<th>Firm</th>
<th>Size</th>
<th>Alliances present</th>
<th>Input criticality</th>
<th>Technology dynamism</th>
<th>Likelihood of technological discontinuities</th>
<th>Likelihood of partner becoming a competitor</th>
<th>Historical use of power</th>
<th>Management interest in developing closer relationships</th>
<th>Firm’s efforts to build supplier’s trust</th>
<th>Length of relationship with key suppliers</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>VL</td>
<td>1 strong</td>
<td>high</td>
<td>medium</td>
<td>low</td>
<td>low</td>
<td>medium</td>
<td>low</td>
<td>low</td>
<td>&gt; 50 years</td>
<td>Alliance with major equipment source, a former sister company.</td>
</tr>
<tr>
<td>2</td>
<td>L</td>
<td>none</td>
<td>N/A</td>
<td>N/A</td>
<td>low</td>
<td>low</td>
<td>medium</td>
<td>low</td>
<td>low</td>
<td>several decades</td>
<td>Efforts focused on developing longer-term contracts, cost and delivery improvements.</td>
</tr>
<tr>
<td>3</td>
<td>L</td>
<td>several</td>
<td>medium</td>
<td>medium</td>
<td>low</td>
<td>low</td>
<td>medium</td>
<td>low</td>
<td>low</td>
<td>decades</td>
<td>As with firm 2, strongest relationships are with spin-off companies managed by former employees.</td>
</tr>
<tr>
<td>4</td>
<td>VL</td>
<td>several strong</td>
<td>medium</td>
<td>low</td>
<td>N/A</td>
<td>low</td>
<td>medium</td>
<td>low</td>
<td>low</td>
<td>decades</td>
<td>Best suppliers have little interest: firm represents too little business.</td>
</tr>
<tr>
<td>5</td>
<td>Med.</td>
<td>several weak</td>
<td>low</td>
<td>low</td>
<td>low</td>
<td>low</td>
<td>high</td>
<td>high</td>
<td>high</td>
<td>&gt; 20 years</td>
<td>Firm has devised alternative supplier development systems.</td>
</tr>
<tr>
<td>6</td>
<td>VL</td>
<td>several weak</td>
<td>high</td>
<td>medium</td>
<td>medium low</td>
<td>medium low</td>
<td>medium</td>
<td>low</td>
<td>low</td>
<td>10 years</td>
<td>Medium technical communication with key suppliers but management wishes to avoid dependency on them.</td>
</tr>
<tr>
<td>7</td>
<td>VL</td>
<td>several weak</td>
<td>high</td>
<td>low</td>
<td>low</td>
<td>low</td>
<td>medium</td>
<td>high</td>
<td>low</td>
<td>&gt; 20 years</td>
<td>Seeks to use suppliers’ expertise to improve its processes and reduce costs. Major suppliers have responded to improve its competitiveness.</td>
</tr>
<tr>
<td>8</td>
<td>VL</td>
<td>several strong</td>
<td>high</td>
<td>high</td>
<td>medium low</td>
<td>medium low</td>
<td>medium</td>
<td>high</td>
<td>high</td>
<td>most &gt; 10 years</td>
<td>Strong central purchasing management leadership has pushed to develop strong supplier relationships.</td>
</tr>
<tr>
<td>9</td>
<td>Med.</td>
<td>none</td>
<td>(medium)</td>
<td>(low)</td>
<td>(low)</td>
<td>low</td>
<td>medium</td>
<td>high</td>
<td>medium</td>
<td>(yet to be selected)</td>
<td>Wants to develop one with circuit board supplier (high criticality, medium technological dynamism).</td>
</tr>
<tr>
<td>10</td>
<td>Med.</td>
<td>none</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>high</td>
<td>low</td>
<td>low</td>
<td>5-10 years</td>
<td></td>
<td>Most suppliers are too weak to provide for strong alliances.</td>
</tr>
<tr>
<td>11</td>
<td>VL</td>
<td>several</td>
<td>medium</td>
<td>low</td>
<td>low</td>
<td>low</td>
<td>medium</td>
<td>high</td>
<td>low</td>
<td>10 years</td>
<td>One division actively developing alliances but other divisions maintain traditional (in some cases, adversarial) relationships.</td>
</tr>
<tr>
<td>12</td>
<td>VL</td>
<td>several</td>
<td>high</td>
<td>medium</td>
<td>medium low</td>
<td>medium low</td>
<td>medium</td>
<td>high</td>
<td>10 years</td>
<td></td>
<td>Has developed a range of alliances consistent with material’s complexity and cost. May extend some alliances to equity positions to reduce risks.</td>
</tr>
<tr>
<td>13</td>
<td>Med.</td>
<td>1 strong</td>
<td>high</td>
<td>medium</td>
<td>low</td>
<td>low</td>
<td>low</td>
<td>medium with key suppliers</td>
<td>decades</td>
<td></td>
<td>Technology-based alliance with a key component producer. High-trust relationship built on personal exchange (supplier–firm ex-manager).</td>
</tr>
<tr>
<td>14</td>
<td>L</td>
<td>none</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>medium</td>
<td>medium</td>
<td>high</td>
<td>&gt; 10 years</td>
<td></td>
<td>Despite its interest in developing stronger supplier relationships, the firm has had little success to date.</td>
</tr>
<tr>
<td>15</td>
<td>VL</td>
<td>a few strong</td>
<td>high</td>
<td>low</td>
<td>low</td>
<td>low</td>
<td>low</td>
<td>high with key suppliers</td>
<td>decades</td>
<td></td>
<td>Some technology alliances for new product development. Foundry expert has helped build relationships with key industry suppliers.</td>
</tr>
</tbody>
</table>
lished, there was little further development and interaction.

In contrast, normative advice in the literature listed in Table 1A focuses on selecting alliance partners based on aspects of the technology being sourced. We found that, collectively, the literature provided good advice but that the narrow focus in each case tended to oversimplify the problem of selecting appropriate alliance partners. Our field investigations indicated that the targeting was constrained by several related factors that have to be considered simultaneously. Most of the dimensions determining the best targets relate to the outsourced material or service’s technology. Each is discussed individually below.

3.3.1. Criticality of non-core technology to buyer

The most obvious factor in selecting alliance targets is the nature of the outsourced material or service. First, it only makes sense to target those suppliers that provide significant inputs, those that are more important in ensuring the product’s competitiveness. However, that does not necessarily mean the firm’s highest-volume suppliers but rather those providing inputs that have recognizable value for customers. This factor was cited by Ellram (1995)

Notes to Table 2:
* VL = very large (> $1 billion in sales), L = large ($200 million–$1 billion), Med = medium ($25–$200 million).
** N/A = not applicable in the case of this firm.
and Wilson (1995). The value might come from the supplier’s brand image, especially if identifying the source enhances the end product’s appeal. Current examples would be identifying the microprocessor brand in a personal computer (“Intel Inside”) or the brand of the audio equipment supplier in a luxury car. The supplier’s component might not be a primary determinant of the customers’ purchase intentions, which should be kept as core capabilities. Instead, it may be a component that, if it had any shortcomings, might seriously detract from the product’s competitiveness — in a sense, a qualifier, rather than order-winning component (Hill, 1985). A recognizable brand name may be only one example where the supplier’s impact may be felt. Alternatively, the value might come from the supplier’s process technology expertise. Outsourcing a non-core portion of the firm’s processes frees management to concentrate on core areas and can reduce costs through the supplier’s scale economies. Process technology suppliers may be deemed critical if loss of their services would endanger the firm’s competitiveness.

Some of the literature (e.g., Quinn and Hilmer, 1994) points out that many companies should consider outsourcing a far broader range of their service and materials requirements. However, more outsourcing does not mean many alliances. In the successful examples that we saw, firms restricted their alliances to one or a few of their most critical suppliers.

3.3.2. Dynamism of input technology

The second factor is that there is greater need for cooperation and shared knowledge when the sourced technology’s design is dynamic, rather than mature. With mature technologies, the buying firm’s concern is to secure adequate capacity with dependable delivery and quality standards. The more commodity-like or predictable the input, the more likely it can be best sourced through a long-term contractual relationship. With more swiftly evolving technologies, the firm likely needs more frequent supplier cooperation for product development, process or design updates and joint problem solving. A firm is less likely to be able to foresee and capture supplier requirements through static contract specifications, arguing for more flexible arrangements.

Thus, the sourced technology might be a suitable target if (a) it is critical enough to warrant attention and (b) dynamic enough that technological information is an important element of what the supplier provides. The literature does not provide consistent advice on this point, as indicated in Table 1A. This factor emerged instead from our interviews.

An example of the importance of the technology’s dynamism was seen with a manufacturer of semiconductor processing equipment. Many of its major products have complex, precision-machined aluminum pressure vessels as main components. For these, the company had extensively developed a local precision machining firm as its primary source. The supplier was “in the loop” as the manufacturer developed each of its new product lines based on aluminum vessels. The designers routed engineering change orders directly to the supplier, which also provided design advice within its area of expertise. The manufacturer came to recognize its dependence on the supplier when, at one point, the firm’s designers found that the supplier had the only up-to-date specifications for the major components it provided.

This high-trust relationship’s value paid off when the manufacturer expanded by building new production facilities in another state, then found that there were no suitable precision machining shops in the area. The manufacturer approached its supplier to ask it to establish a second plant close to the new production facility. The supplier might have declined, knowing that the manufacturer would be forced to use the supplier’s existing plant and absorb substantial freight costs. However, it agreed to set up a second facility, despite having no long-term guarantee of the manufacturer’s business at the new site.

The manager of the supplier’s new facility had worked with many of the manufacturing firm’s staff in the old location and brought their high trust with him. He has worked hard to establish the same close links that exist between the home-site operations. However, a similar relationship has yet to develop. A main reason is that the manufacturer’s home site maintains responsibility for new product development, while the new facilities are largely for high-volume production. There is far less design/development interplay between the manufacturer’s staff and the supplier in the new location. Because designs are relatively stable by the time they reach the
production plant, there is not the impetus to have the manufacturer–supplier relationship here match the one established at their home sites. Based on the more mature state of the machining requirement as the new site, a lower degree of alliance is needed with this supplier.

3.3.3. Forecasted technology discontinuities

Another aspect to be considered in selecting the alliance technology targets is that some sourced technologies, while important now, may be superseded in the foreseeable future. While an alliance relationship has advantages when sourcing a quickly evolving technology, the trust developed for an alliance relationship may be betrayed if the supplier must be dropped because it cannot make the leap to the new technology. Backing out of a long-term alliance may be expensive for the firm’s reputation, which may impact its ability to develop alliances with other suppliers. Also, if the firm is investigating alternative technologies, in-house development work and the work with emerging suppliers becomes complicated if there is an easy flow of information to the existing supplier, which may have a vested interest in forestalling the new technology’s adoption.

The literature’s normative advice cautions on the one hand against outsourcing a technology that may one day prove to be key (Leavy, 1996) but, on the other hand, outsourcing and developing suppliers for mature technologies that may one day become important (Welch and Nayak, 1992). What concerned some managers, though, was what to do with those suppliers providing key technologies now that might have their products obsoleted in the foreseeable future.

It may seem paradoxical to select quickly evolving technologies but not those that may undergo the most radical changes. We might use the example of a personal computer manufacturer to illustrate the difference. At this point, microprocessor technology is very dynamic, with new generations coming out in rapid succession. However, the basic technology is not likely to be replaced within the foreseeable future. This technology may be an appropriate one for the computer manufacturer to target for alliance development. On the other hand, the future of various data storage systems is less predictable. The underlying technologies may undergo significant shifts, with dominant suppliers changing with successive generations. It may be risky to invest time, effort and reputation in a relationship that must give way if the supplier cannot cope with the component’s architectural changes.

We saw an example of the distinction with the relationships that one telecommunications service firm had with some of its technology providers. Its most alliance-like relationship was with its primary supplier of switching and other major equipment — important, non-core process technology. It had shared some development projects and, occasionally, engineering staff with this supplier. The firm also was dependent on a number of small, specialized technology suppliers that provided state-of-the-art components for its custom installations. The managers reported that, a decade or more ago, the firm would have secured the technologies by acquiring the suppliers (going, in fact, beyond an alliance relationship to vertical integration). But the company now sees the technological environment as too uncertain. These leading-edge technology suppliers are now developed and given fixed-term “exclusive provider” contracts, since the company is not sure whether the suppliers’ particular technological skills will not be obsolete within a few years.

These above dimensions underscore the need for firms to understand the technological significance (both current and future) of the outsourced products or services. Management must not only be able to distinguish between the core and near-core technologies but also between those that are changing (or likely to change) and those that are mature or stable. In addition, those inputs that might be affected by radical innovations, technological discontinuities or significant architectural shifts could make poor targets for supplier alliance relationships, unless the current suppliers are likely to master the foreseen changes. Especially for firms with rapidly evolving products, technological forecasting needs to be integrated into strategic sourcing decisions.

One high-technology company that we visited had partially integrated technological forecasting into its supply chain management. The firm had switched from fabricating most components in-house to primarily outsourcing. The company’s purchasing department now played a significant internal role; it was better integrated with the company’s other func-
tional areas than purchasing was in comparable firms we visited. For example, when the research and development functional teams developed regular technological forecasts for their areas of expertise, the corporate purchasing department was also involved. Once the teams prepared reports, some material on leading-edge developments was kept proprietary but the remainder was shared through the purchasing department with key suppliers. As well, the purchasing department had advance warning about potential shifts in technology, allowing it more time to search for new sources — and letting it know if some technologies might eventually be phased out. Firms in less technologically dynamic environments commonly manage new technology contacts through special linkages (such as equity positions or joint R&D ventures with new technology developers), while their purchasing departments manage the stable, mature technologies. There may be little communication between the two areas. To varying degrees, the purchasing — R&D connection was stronger in the high technology firms. Similar internal linkages should become more common for firms that develop greater reliance on suppliers and witness increased rates of change in the outsourced technologies.

3.3.4. Potential of supplier as a future competitor

However, the technological dimensions are not the only factors determining a supplier’s appropriateness for alliance development. One other factor is supplier-specific. While a particular supplier may be the source of long-term, critical, dynamic technology, it may be dangerous to pursue an alliance with it if the alliance assists the supplier in integrating forward. The danger of outsourcing a near-core, dynamic technology through a close alliance relationship was a common theme in the normative literature (e.g., Lei and Slocum, 1992; Welch and Nayak, 1992; Leavy, 1996). Our interviews supported this view that such a relationship could allow critical knowledge to leak to a supplier that eventually might emerge as a competitor. Thus, a further qualification needs to be placed on the technologies outsourced via supplier alliances: the supplier should have little capability or desire to operate in the firm’s competitive arena. It is better if the potential alliance partner could not conceivably develop the entire skill set needed to produce the firm’s product. In other words, some separation between the firm’s and the supplier’s product–market expertise is advisable, especially if the supplier has greater technical and financial resources to exploit knowledge acquired through an alliance.

We saw several examples that illustrate this factor. One was a company manufacturing lockbox systems. It had seen its products evolve from key-based mechanical systems to keycard-based computerized ones, creating a requirement for small printed circuit boards. The firm’s saw little advantage in trying to learn and maintain expertise in manufacturing its own printed circuit boards. The boards were being sourced through an arm’s length contract with a supplier located hundreds of miles away. The arrangement was less than satisfactory because the company’s designers wanted input from the circuit board manufacturer when new products were being developed. Also, designs occasionally had to be modified very quickly to respond to security-system design problems that customers reported. Expertise with printed circuit board technology was of some importance to the end product’s performance (especially since small size and ruggedness were key requirements). Design and engineering interactions were required frequently. And there was little chance that sharing information with a circuit board manufacturer would lead to the creation of a rival in the lockbox business. All of these were good reasons for the firm to establish an alliance relationship with a suitable circuit board manufacturer.

A different example illustrates the problem of technological proximity between buyer and supplier. Motorola is an important chip supplier to Nortel, a major telecommunications equipment manufacturer. Nortel’s systems designers had worked closely with Motorola’s engineers throughout the development of customized chips for Nortel. A good working relationship had been established and both companies saw benefits in expanding it to combine Motorola’s capabilities in wireless communications technologies with Nortel’s experience in building and installing telecommunications networks. The buyer–supplier relationship went beyond an alliance to the creation of a formal joint venture. However, the venture was short-lived: Nortel backed away when it realized that
its new partner could use the easy flow of technical information to exploit markets it wished to preserve for itself. The overlaps in skills and competitive arenas were too extensive to allow a comfortable alliance. The two companies continued to do business but did not pursue the tight cooperative arrangement each had initially envisaged.

Overall, then, the criteria we saw firms using to select alliance targets match some of the factors indicated in the literature. In our view, not all of the factors listed in Table 1A and B could be discerned as relevant for the firms we visited. Notably, cost and quality (or reliability) were seen as requirements for any supplier and were not reasons in themselves for special relationships. Managers we talked to were not interested in developing suppliers influencing their cost or quality performance but were more interested in what the supplier could do for them, such as provide special services or simply make procurement easier. The listed criteria have to be considered together, making the selection more restrictive than has usually been depicted.

While these factors can help designate the inputs most suitable for sourcing through alliance relationships, the other important aspect is whether the firm has a suitable alliance partner. In the case of the lockbox manufacturer, an appropriate technology (circuit boards) could be identified; however, the existing supplier did not see particular value in developing a closer relationship, forcing the company to search for a new source. The managers recognized that, even if they could find a competent supplier that was willing to build a closer relationship, it would take time for it to develop — perhaps a number of years (see, e.g., Graham et al., 1994). Intuitively, they recognized that they would have to build sufficient trust in the new supplier, plus gain the supplier’s trust, to have an effective close working relationship. This led to a number of questions: How much trust was enough? How long would it take to develop it? How could it be fostered?

Thus, while the technological dimensions point to which sources make desirable alliance targets, the existing buyer–supplier relationship dictates whether the target is feasible. Any substantive degree of alliance requires a foundation of trust, a psychological state dependent on each party’s intentions and their history of inter-firm interactions. Section 4 discusses the factors that lead to the trust needed to make the alliance feasible.

4. Trust in buyer–supplier relationships

A firm that uses only arm’s length contracts can normally safeguard itself from possible problems (such as non-performance or exposure of trade secrets) by legal means. Trust, while it may be present, rarely plays a significant overt role in such business-to-business dealings. However, forming strategic alliances usually means opening up more informal channels of communication and broadening the range of expectations, many of which cannot be effectively captured in a legal contract. To move beyond a relationship that can be safeguarded by legal contracts alone, the buyer firm must have a means of keeping the risks in check as it develops these more permeable boundaries with its key suppliers. Most of the literature (Lewis, 1992; Ring and Van de Ven, 1992; Husted, 1994; Zaheer and Venkatraman, 1995; Ellis, 1996; Kumar, 1996; Lane and Bachmann, 1996; Doney and Cannon, 1997; Nooteboom et al., 1997; Smeltzer, 1997; Landry, 1998) indicates that firms use trust to reduce the risks associated with establishing this form of relationship. While a firm risks harm from a supplier’s potential opportunistic behavior, trust drives the perception that such opportunism is highly unlikely.

Surging interest about inter-organizational trust has spawned a considerable literature. Much of the work has been definitional (see Hosmer, 1995). There are dozens of different definitions (Rotter, 1971; Bradach and Eccles, 1989; Sako, 1992) but most contain the elements of truthfulness and benevolence. We define trust in another party as the belief that the other party will act in the firm’s best interest in circumstances where that other party could take advantage or act opportunistically to gain at the firm’s expense. Two features of trust are the following:

(1) Willingness to rely on the other party when doing so involves risk. Risk of opportunism must be present to verify whether trust exists (Bradach and Eccles, 1989, p. 104). As Baier (1986) (p. 235) indicates, a firm shows trust when it leaves itself
open to harm but demonstrates confidence that the other party will not inflict it.

(2) Expectation that the other party will not act opportunistically by placing its own short-term gains over the other firm’s welfare.

Many supplier alliance activities — co-development of components, sharing of sensitive information to facilitate production planning, consignment supply arrangements or using performance specifications for the supplier’s role, for examples — need trust. In each case, a firm exposes itself to risks of failure or opportunism for which there may be no legal redress. As the buyer–supplier relationship expands to involve more areas where contracts cannot cover all the interactions, the firm exposes itself to greater risks (Budden et al., 1996; Nooteboom et al., 1997). These risks can only be justified if the expected value of being exploited (the downside cost times its probability) is acceptably small. If a firm wishes to have a supplier operate in a manner that cannot be completely safeguarded by explicit contracts, it must trust the supplier sufficiently to consider the risks of being exploited as minimal.

Trust also plays a significant role in allowing firms to develop dependencies on suppliers. Firms face a number of pressures to increase their dependency on suppliers (Argyres, 1996). First, a firm must rely more on its suppliers’ technological choices if it wants to focus on its core competencies (Prahalad and Hamel, 1990). Second, products in many industries are facing increasing complexity and rapid change, demanding unfamiliar expertise that may be better left to suppliers. In either case, the firm may have to depend on some key suppliers to make significant product or process design decisions on its behalf. Trust is one mechanism that would allow the firm’s managers to justify their reliance on these now-vital external sources.

The trust-based relationship has numerous advantages. It can eliminate many of the monitoring and oversight costs; it opens up inter-firm channels for ideas and improvements; it can reduce product development times by avoiding bureaucratic delays. Trust, however, is a two-way street. Regardless of the buyer’s trust, special benefits may not develop unless the supplier also trusts the buyer. A supplier may voluntarily provide advantages only if it trusts that the buyer will eventually reward it for its efforts.

For example, our interviews of buyer–supplier pairs revealed an instance where the buyer trusted the supplier but had not gained the supplier’s trust and, as a result, the supplier was reticent to share some potentially useful information with the buyer.

However, a supplier may be pushed to perform non-contracted activities not because of trust but because of the buyer’s power over the supplier. The buyer’s power may stem from having “hostages”, such as control of key assets or the ability to affect the supplier’s reputation. The buyer may coerce or, alternatively, use subordinated power (Blake and Mouton, 1970; Kilman and Thomas, 1975, 1977; Kanter, 1979, 1988, 1994) to get suppliers to act in a highly cooperative manner, to make sacrifices and to volunteer help, even if the suppliers have limited trust in them (Schmidt and Kochan, 1977; Kumar, 1996). By exploiting either its hostages or its power, the firm can structure the transaction in such a way that it does not have to rely on trust (Bradach and Eccles, 1989, p. 104).

Although the use of power can achieve some advantages, it may not gain all the benefits that are available when the supplier operates from a basis of trust (Husted, 1994; Kumar, 1996; Lado et al., 1997). Moreover, exploiting hostages or a position of power may limit future options by making it difficult for the firm to establish trust with any of its other suppliers.

Given the purported importance of trust, a firm must have some idea how much trust is needed from a particular supplier. The level of trust needs to match the risk that the buyer foresees in operating in specific ways with the supplier. If, in fact, there is a continuum of possible degrees of alliance for buyer–supplier relationships, then there would potentially be a similar range of trust levels needed for them. However, this range of trust levels can be simplified to a few discrete categories that reflect meaningful differences in the ways that firms might manage their supplier relationships.

4.1. Levels of trust

Sako (1992) provides a particularly useful basis for classifying trust levels for buyer–supplier relationships. The first level is contractual trust, the expectation that the other party will abide by its
written or oral contractual obligations and act according to generally accepted business practices. The next level is *competence trust*, where the other party is entrusted to carry out tasks competently and reliably. This trust can be seen in practices where firms forego incoming inspection of a supplier’s material because of the supplier’s excellent past performance. A third level is *goodwill trust*, where the parties have developed mutual expectations that the other will do more than it is formally (i.e., contractually) committed to doing. At this stage, a firm not only expects that the other party would not act opportunistically but would in fact, altruistically, go out of its way to help. Sako views these levels of trust as a hierarchy, with goodwill trust as the most difficult to reach and offering the maximum value, as we depict in Fig. 2.

We might expect that a firm would avoid using a supplier in which it did not have contractual trust. We might also expect that firms would generally want to have competence trust in any supplier it dealt with. In fact, other researchers (e.g., Mayer et al., 1995; Doney and Cannon, 1997) subsume these levels in their definition of trust, saying that trust is *perceived credibility* (effectiveness and reliability) and *benevolence* (acting in the trustor’s best interest, without opportunism). However, we saw distinctions among these levels that were particularly relevant when examining different forms of supplier relationships. Managers we interviewed sought competence trust in virtually all of their suppliers but had few expectations of goodwill trust in most of them. For many sourcing transactions, establishing competence trust may be all that a firm needs to do. However, the necessary level of trust for more critical relationships is goodwill trust, which operates when both parties believe the other will “go the extra mile” if required.

### 4.2. Developing trust

If trust is a prerequisite for a more effective way of managing key suppliers, how can a firm develop trust? Doney and Cannon (1997) noted that there were only a few avenues by which trust can be developed:

1. a performance history that demonstrates the other party’s reliability and competence, which depends on the length of the relationship’s history (elapsed time);
2. the two parties’ cumulative interactions, providing each the data needed for confident prediction of the other party’s behavior;
3. for goodwill trust, demonstrations by the other party of its good intentions;
4. the “transference process”, whereby trust may be established or augmented if the buyer assumes that the supplier is trustworthy because other firms have done so.

While history, cumulative interactions and transference may build the lower forms of trust, only the “intentionality process” — the process of developing an understanding of the other firm’s motivation — is likely to provide goodwill trust, seen as essential for trust-based relationships (Sako, 1992).

Goodwill trust development is thus a complicated process. A firm must take specific steps to foster the supplier’s trust but these steps may have no results (or even lead to exploitation) unless the supplier is interested in developing trust in the firm. The firm’s current or historical use of its power, either with the supplier or with other firms, will affect the supplier’s interest, as will the supplier’s assessment of the benefits it might derive from a trust-based relationship. As a final step, the supplier must demonstrate its trustworthiness by willingly exposing itself to risks on the firm’s behalf, allowing the firm to develop sufficient goodwill trust in the supplier for an alliance relationship.

### 4.3. Factors in developing the relationship

Referring again to our model, supplier–firm managers cited a number of factors that they saw as
significant for the development of goodwill trust in their alliance customers.

4.3.1. Supplier’s view of potential benefits

Studies drawing on suppliers’ reports of their interests in developing alliances (Ellram, 1995; Lambert et al., 1996) point to a wide variety of features that might make a particular alliance attractive. Each buyer–supplier situation will have unique advantages and disadvantages for that supplier, regardless of the buyer firm’s eagerness to develop a deep relationship with it. A supplier may simply not want to enter into tighter relationships with a particular customer, as with the lockbox manufacturer’s circuit board supplier. It may lack the resources to devote much of them to one customer, or fear negative reactions from other customers. The supplier’s size and resources relative to the buyer’s appears to be a determinant here. While smaller, less advanced suppliers may be eager to develop closer ties with a powerful customer, the larger, more advanced suppliers may see little advantage in them. Relative buyer–supplier power, what Lambert et al. (1996) refer to as symmetry, is difficult to measure but undoubtedly plays a role.

One factor that increased a supplier’s interest in an alliance was the supplier’s hopes of acquiring some of its customer’s skills. The Nortel–Motorola venture was one example. In some circumstances, supplier’s view of potential benefits is influenced by the potential of the supplier as a future competitor. Unfortunately, the suppliers most eager to develop alliances may be among the most dangerous partners to select.

4.3.2. Use of coercive power and hostages

A firm’s history of exploiting a powerful position can make it difficult to gain suppliers’ trust. While prior studies (e.g., Wilson, 1995; Lambert et al., 1996) consider power in the selection of potential partners, they have not dwelt on the potential negative impacts of exploiting power. However, this was a significant factor for a number of the managers that we interviewed. Where firms had used their dominant positions with suppliers to exploit an advantage, the suppliers were caught between their desire to maintain an important customer and their fear of being exploited again. Although trust may take a long time to develop, trust betrayal has immediate effects. Suppliers we interviewed could easily recall incidents where a buyer firm had betrayed their trust, the buyer being confident that its power forced the supplier to comply. As with trust, a firm’s reputation for its use of power can be conveyed to a supplier relationship through a transference process. Thus, its use of coercive power or hostages is not restricted to their use with the particular supplier but may come from its history of using them in other relationships.

4.3.3. History of positive interactions

As pointed out, trust takes time to develop. Competence trust depends on repeated observations of positive performance. Goodwill trust requires not only the absence of exploitation and coercion but also a history of demonstrated good intentions. Other studies, such as Lambert et al. (1996), found that a history of successful interactions was an important facilitator for strong alliance development. In each case where we saw strong alliances, the firms had been dealing with each other for many years — decades, in some cases.

4.3.4. Buyer actions to foster trust

The model includes this factor as a result of our field observations. While prior studies about alliances point out the need for trust, there is little discussion about how trust can be built. Wilson (1995) lists variables such as performance satisfaction and reputation that would help build the supplier’s competence trust. However, goodwill trust requires mutual trust-building. The buyer firm must demonstrate its trustworthiness, taking specific steps to instill trust in targeted suppliers. As well, it must test the supplier’s trustworthiness. A supplier may have few opportunities to demonstrate its trustworthiness unless the firm presents them. The firm might, for example, give the supplier unprecedented responsibilities if the supplier had demonstrated its trustworthiness in other new situations in the past. Thus, the buyer firm must take steps both to build trust in itself as well as to allow the potential alliance partner to show that it can be trusted.

We found numerous examples of actions taken that definitely helped build mutual trust. One was a step taken by a supplier. It seconded a senior manager to a valued customer to help the customer
develop its purchasing management systems. Although there was no contractual arrangement, it was agreed that the manager would remain at the customer’s site until the new systems were ready to be launched. The supplier firm saw the benefits of having a more competitive customer as greatly outweighing the cost of replacing the manager during his 6-month secondment.

However, most examples that we found of trust-building actions were ones initiated by buyer firms. In one case, a company brought in managers from its two lead suppliers as members of the team formed to develop the commodity-pricing model for the material they provided. In another, a firm arranged for a supplier to have complete responsibility for stocking a range of MRO items. The supplier representatives were allowed to write the firm’s purchase orders for these materials. A few firms were gradually moving towards so-called ‘JIT II’ procedures; here, a key supplier would undertake complete responsibility for process steps within the buyer’s plant; responsibilities were expanded as the buyer firm became comfortable with the supplier’s performance. In each case, the buyer firm indicated its trust in the supplier and provided an opportunity for the supplier to demonstrate that such trust was well placed. Both conditions must occur for mutual goodwill trust to develop.

Lambert et al. (1996) found that supplier alliances were facilitated through commonality of buyer and supplier firms, that is, the extent that they shared corporate values, goals, techniques and philosophy. Such conditions undoubtedly aid in trust building and we saw examples where managers were very comfortable dealing with their alliance partners partially because of these factors.

5. Dual requirements

Our model reflects our findings that, even in progressive firms, true long-term strategic supplier alliances are uncommon. The literature points out numerous restrictions that limit the situations where alliances might apply. We found that these restrictions work in concert to narrow the scope of an alliance’s applicability. Managers saw that a supplier alliance needed both the appropriate materials or services and the right supplier. We observed situations where firms needed a close supplier relationship for some key inputs but had not developed a suitable supplier. We also saw instances where firms had established long-standing, high-trust relationships but had no compelling reasons to push the relationship to the level of an alliance. Although alliances might be formed without positive indications from both dimensions, the buyer firm may only derive much benefit if they both are.

There may be points of interaction between the model’s desirability and feasibility spaces, as we indicate between the supplier’s potential to become a future competitor and its positive view of an alliance’s possible benefits. Sourcing a dynamic technology may provide more interaction with a particular supplier, leading to more opportunities for trust development. Undoubtedly, there are also interaction effects among the factors leading to trust development. For example, the supplier’s displays of trust may affect the buyer firm’s actions to build further trust. However, these interactions were not apparent in our field study and we have therefore not included them.

We label the model’s dependent variable as potential for a beneficial alliance. Having the right conditions can allow a firm to develop a true alliance relationship. However, the potential is a necessary but not sufficient condition to assure that an alliance can be developed. It also requires resources and commitment from top management to try different ways of managing key suppliers.

6. Conclusions

Conducting in-depth interviews provides a wealth of information that cannot be gained through broad surveys. Derived from the literature and field observations from a limited number of sites, our model represents a starting point for further investigation. Its value depends on validation through a wider set of observations.

Testing the model is made unusually difficult because we need to get matched pairs of responses from both buyer and supplier firms. Buyer firm representatives must report on the desirability space variables (those concerned with the technology and
the supplier’s ability to become a competitor). The corresponding suppliers must provide information about their views of alliance advantages and assess past buyer behavior that might build or limit goodwill trust development. Both buyer and supplier representatives would have to provide input to assess the level of goodwill trust within their firms. Further complicating model testing is the size of the sample needed, especially considering that the sample frame would include primarily larger firms that are more likely to be pursuing supplier alliances.

We refer to the dependent variable as “potential for beneficial alliance” because, first, as pointed out above, having this set of antecedent conditions does not guarantee that an alliance would be pursued and, second, there are relatively few working alliances to use as a gauge of outcomes. At this stage, we see it as far more practical to explore developing alliances, as well as established ones, as the basis for comparing antecedent conditions. We use the term “beneficial” alliance to distinguish mutually beneficial supplier relationships from those that may be more exploitative, based on one party’s power over the other. The potential for the relationship reflects the buyer representative’s judgment of the gains — in terms of improved quality, cost, development speed, information and support — that are likely to be realized from the relationship, compared to maintaining a conventional relationship. Asking both buyer and supplier respondents about their projections of their relationship’s potential should indicate whether it will continue, diminish or perhaps deepen over time.

Variable measurement will rely on multi-item scales that assess the respondent’s perceptions. This is the most meaningful way to measure them since decisions to pursue alliance relationships will be made largely on managers’ perceptions of the relevant conditions. Most of these scales will have to be developed, since there are no tested scales available. (There are scales already developed for measuring trust (Cummings and Bromley, 1996) but not for assessing trust in long-established inter-firm relationships.) Measuring trust is particularly problematic, since direct questioning may not elicit truthful answers. Trust scales will have to rely on statements that reflect trusting behavior or evidence that the respondent harbors goodwill in the other party.

Trust measurement is also complicated by distinctions between trust at the individual level and trust at the organizational level. Questionnaires can determine whether the firms display trust through specific kinds of trust-building activities. However, questions that tap the respondent’s perceptions may indicate that individual’s unique view of the other party’s trustworthiness. Although a survey would be targeted at senior managers familiar with key suppliers, those individuals’ perceptions may not reflect the views of the critical decision makers. Thus, measures of trust-building activities are likely more valid for gauging trust in predicting relationship development.

In addition to the development of the model, three main findings came to light through this investigation that add to our understanding of supplier alliances.

First, by examining numerous close buyer–supplier relationships, we found that true supplier alliances may be less common than self-report surveys (e.g., Ellram, 1995) indicate. By using Sako’s three characteristics (informal technology transfer, broad communication channels and risk sharing without prior negotiations) as criteria, we found only a few supplier relationships that warranted being called alliances, despite wide use of the term by both supplier and buyer firms. However, we found numerous examples of supplier relationships that were operating well beyond the traditional arm’s length mode, reflecting different degrees of alliance.

Second, we note that firms need to develop a longer-term perspective about their technological requirements if they are going to outsource technology through longer-term supplier relationships. The movement to form longer-term supplier relationships has to be reconciled with the increased speed of obsolescence in many fields. We foresee a growing need for firms to connect technological forecasting with supplier management, as is already the practice in successful high-technology firms.

Third, our field investigation allowed us to synthesize and add to the work from several fields to produce a single model. Past work has tended to look at one or two factors in isolation. We found that several factors might work in concert to greatly restrict the likelihood of strong supplier alliances developing. The model is designed to allow its assumptions to be tested empirically, providing the
essential avenue for theory verification and development. At this time, we are preparing a mail survey that will be distributed to North American firms to gather the information necessary for this next step.

Our study points out a number of areas where further research would be very valuable to managers. Managers should be concerned about gauging (1) how much risk they perceive in a particular level of alliance with a supplier, (2) their level of trust in the supplier and (3) the supplier’s level of trust in the firm. Scales could be developed to help managers judge the first two items; these could be administered to firm members who deal with a particular supplier to gain a sense of their trust level in the target supplier and compare that to levels in Sako’s hierarchy. However, it may be much more difficult to measure how much a supplier trusts the firm. A firm would have difficulty getting reliable responses from supplier representatives if they were asked directly about how much the firm was trusted. The problem may be particularly pronounced if the suppliers did not trust the firm: How likely would it be that the suppliers would answer truthfully if the untrustworthy customer were to ask them to rate its trustworthiness? There are also operational issues of matching measures of relationship intention with levels of buyer and supplier trust. These are just some of the challenges we face in taking the next steps in learning more about strategic supplier alliances.

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Appendix A. Description of firms in the field study

Participating firms are briefly described below. The firms are identified only by numbers, since confidentiality was a concern for many of them. Table 2 arrays some details about each.

Firm 1 is a major telecommunications company providing regional telephone and related services. Historically, it was vertically integrated and used to provide much of its own major equipment. Its closest supplier relationships are with now-independent firms that were once sister companies, including firm 4. Compared to competitors, it is more advanced in its supplier management methods, through the use of supplier qualification systems that regularly involve user departments and engineering staff in supplier selection and assessment.

Firm 2 is another major regional telecommunications provider. Smaller than firm 1, it is also less advanced in its purchasing management methods. Its closest supplier relationships are marked by formal evaluation and feedback channels — in effect, still working at establishing competence trust in them.

Firm 3 is a third regional telecommunications provider. It resembled firm 2 in the state of its purchasing management methods.

Firm 4 is a major telecommunications equipment producer that sells worldwide. We interviewed managers on both the marketing side, to learn about their perspectives on supplying the telecommunications firms, and on the purchasing management side. Its closest supplier relationships were with companies that were formerly internal departments that had been sold off.

Firm 5 is a subsidiary of a multinational manufacturing company that produces electrical equipment. The purchasing management staff is very innovative but hampered by a lack of resources. It has outsourced the management of commodity groups and established innovative supplier improvement programs. However, it does not have strong alliance relationships: sourced materials are mature and the firm is not a major customer for many of its key suppliers.

Firm 6 is a major manufacturer of silicon wafer used in the production of semiconductors. It has fairly advanced supplier management methods, partly as a result of the semiconductor industry’s pressures for quality. Demands for high reliability from the firm’s major customers have led to similar standards and evaluation systems for suppliers. Teams from several departments meet regularly with major suppliers to discuss outstanding issues. Technology forecasts are also provided. There is a relatively high
level of communication. However, the corporate attitude is to maintain some distance from suppliers. Although there is a flow of technical information to and from key suppliers, the firm’s policy is to avoid technological dependence on any one source.

**Firm 7** is a supplier of packaging services, a subsidiary of a major paper products company. Our interviews here focused on its role as a supplier in a close relationship with a major frozen food producer. The key informant was seconded to the customer’s firm for 6 months to assist in developing the customer’s supplier alliance program. Thus, he could speak from both the supplier as well as the purchasing management perspectives in developing close supplier relationships.

**Firm 8** manufactures analytic equipment and computer peripherals. Some of its purchasing management methods are among the most advanced that we saw. Low-value purchases are sourced through consignment purchasing†, managed by the suppliers. Major suppliers were provided with technological forecasts, briefings from R&D staff and regular planning information and are brought into the product design process; value engineering and costing models are developed in conjunction with key suppliers. Supplier evaluation systems concentrate less on reliability matters, since these are not an issue with the established suppliers but more on subjective assessments of service, reflecting the focus on goodwill trust rather than competence trust.

**Firm 9** is a medium-sized producer of lockbox and security systems. Purchasing managers were working on developing better supplier management systems but were hampered by a lack of resources. The company is moving to a focus on design and final assembly/programming functions and outsourcing its fabrication requirements. The purchasing staff recognizes the need to rely on major suppliers not only for materials but for the process expertise that has gradually been lost or outmoded internally. This firm is an example of a company that wants to establish alliance-like relationships with a few key suppliers but has relatively little clout with them.

**Firm 10** is a medium-sized manufacturer of automotive aftermarket systems and OEM components. It has upgraded its supplier management systems considerably in recent years. Most of its product technology is mature and its supplier base is composed mostly of smaller, less sophisticated firms. The supplier base had been consolidated and suppliers were being developed through the firm’s internal training programs. Its comprehensive supplier management systems were aimed mostly at quality monitoring and feedback, which were reported monthly for each supplier. The emphasis was clearly on developing competence trust in the suppliers and there was limited concern about what suppliers might do beyond meeting quality and delivery requirements.

**Firm 11** is a large manufacturer of semiconductor processing equipment. Purchasing management methods vary considerably across its divisions. One division was developing markedly different systems for managing suppliers, particularly for key commodity suppliers. The purchasing manager in this division was establishing close relationships with these suppliers, bringing them into decision-making, providing access to planning information, etc., in an effort to develop alliances. Unfortunately, other divisions maintained more adversarial relationships with some of the same suppliers, so that the suppliers are being treated very differently by different divisions of the same customer company.

**Firm 12** is a very large European computer manufacturer. For 5 years, it developed numerous supplier alliances since it perceived substantial gains from this approach. During the past 2 years, however, it has established a range of different types of relationships. Most suppliers are now dealt with using low-intensity, co-operative relationships. A small proportion of suppliers, where the supplier items involve complex requirements, are considered partners. A select few (less than 3%) are considered strong alliance partners; these are chosen on a business-case basis. Here, the relationships blur organizational boundaries. Equity positions are being actively considered for these suppliers.

**Firm 13** is a manufacturer of autoclaves and boilers. The firm has developed strong supplier relationships with its sources for two critical components (rolled rings and controllers). In the case of the rolled ring supplier, the relationship can be considered a co-operative, sole-sourcing arrangement focused heavily on meeting tight specifications. In contrast, the controller relationship has involved technical assistance and participation in new product development. A key link between the two firms is
that the supplier firm’s managing director was formerly the buyer firm’s technical director.

**Firm 14** produces aircraft landing gear systems. It currently has no alliance relationships with its suppliers, although it provides easy access to its production plans, cost information, process flows and engineering drawings in hopes of fostering future alliances. However, it has worked closely with major aircraft manufacturers as a preferred supplier and has not seen very progressive supplier management activities on their part. The firm’s managers found that their customers typically demanded price reductions but offered no assistance in achieving them.

**Firm 15** is a large European manufacturer of flow-control diaphragm valves. Its core competency is combining the use of special polymers with valve manufacturing expertise to produce specialty application valves. Highly integrated, it continues to make all of its seals internally. However, foundry work is outsourced to 14 foundries, each of which provides castings for a specific product line. Foundries have been actively involved in the developing new valve designs. Strong alliances have evolved, aided by the firm’s technical assistance to the foundries, provided by a former foundry manager. The firm saw the necessity of maintaining this expertise, despite outsourcing all of the foundry work. There are succession plans in place to ensure continuity of these relationships.

### A.1. Interview protocol

Interviews were conducted at the firms and usually included tours of facilities. There was a standard protocol for the questions but the direction of the interviews had to be tailored to the firm’s situation in each case. The questions were all open-ended, allowing the respondents to digress to discuss areas pertinent to their particular firms. Typically, interviews lasted 2–3 h.

Questions covered are the following.

1. General information about the firm, its products or service, its major customer base and its competitive situation.
2. General information about in-house processes.
3. Supplier management practices currently being used. Specifically, questions concerned supplier contract structure, selection procedures, number of suppliers, number of suppliers used for the same items, breakdown of volumes.
4. Information flows to and from key suppliers: channels of communication, frequency of contacts, feedback systems in place and how they were used; technical support provided by the supplier; development help provided to the supplier.
5. Details about a particularly close and important supplier relationship. Questions sought to determine the extent of sustained inter-corporate activities that differed from typical arm’s length contractual relationships.
6. The manager’s views of the firm’s future directions for managing its suppliers.

### References


