

December 2003

Building Effective Buyer-Supplier Relationships: Choices and Challenges

Bonnie Glassberg
Miami University of Ohio

Mark Bowman
Miami University of Ohio

Follow this and additional works at: <http://aisel.aisnet.org/amcis2003>

Recommended Citation

Glassberg, Bonnie and Bowman, Mark, "Building Effective Buyer-Supplier Relationships: Choices and Challenges" (2003). *AMCIS 2003 Proceedings*. 68.
<http://aisel.aisnet.org/amcis2003/68>

This material is brought to you by the Americas Conference on Information Systems (AMCIS) at AIS Electronic Library (AISeL). It has been accepted for inclusion in AMCIS 2003 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact elibrary@aisnet.org.

BUILDING EFFECTIVE BUYER-SUPPLIER RELATIONSHIPS: CHOICES AND CHALLENGES

Bonnie C. Glassberg
Miami University of Ohio
glassbbc@muohio.edu

Marc D. Bowman
Miami University of Ohio
bowmanmd@muohio.edu

Abstract

The need to reduce uncertainty and maintain flexibility in today's competitive environment is increasing. Firms are looking for exchange partners who can fulfill not only price, volume and delivery requirements, but also meet higher-order needs for quality, responsiveness, and innovation. This paper reviews literature in management, economics and IT to identify the choices and challenges firms face in building effective buyer-supplier relationships. Three types of governance structures are compared and contrasted: electronic hierarchies, electronic markets and cooperative ventures. Issues such as cost, trust and opportunism are explored.

Keywords: Buyer-supplier relationships, electronic hierarchies, electronic markets, joint ventures, corporate governance, transaction cost economics

Introduction

An intense era of competition is underway, between large and small firms as well as industrialized and third-world nations. Empirical evidence indicates that the number and variety of interorganizational linkages are increasing (Anderson, 1990) and the strategic importance of these linkages to the firms' core business, markets and technologies is accelerating. (Harrigan, 1987). In addition, the use of outsourcing, strategic alliances and joint ventures is rising while the reliance on mergers and acquisitions is falling (Gurbaxani and Whang, 1991; Jarvenpaa and Ives, 1994; Kanter, 1994). Dependence on pure market exchanges or vertical integration has lost some of its luster in favor of more cooperative relationships between firms. While some companies are using IT to reduce cost, there are many firms that are developing distinctive competencies based on criteria such as management skill, quality or service. Although IT is an enabler, helping firms to achieve their goals and acting as the pipeline for the rapid exchange of information, it is only one of the forces which should influence governance decisions for managing the supply chain. Other factors such as reliability, reputation, quality or innovation make the decision much more complex than that first envisioned by classical economists. To counter this view, a review of literature in management, economics and IT is presented and factors which influence the decision making process are highlighted. Then, three major choices for governance structures, including, electronic markets, electronic hierarchies and cooperative ventures are described, generically, then in more detail. Finally, the paper concludes with a set of challenges, risks and opportunities managers should consider when making supply chain decisions.

Literature Review

In 1987, Malone, Yates and Benjamin published a seminal article on the use of electronic markets and electronic hierarchies to coordinate economic activity. They predicted that lower coordination cost would lead to an overall shift toward proportionately more use of electronic markets, rather than hierarchies. While many more electronic markets exist today than were evident or even possible years ago, a strong surge, has in many respects, failed to materialize. Although some companies are using IT to reduce cost, there are still many firms that are developing distinctive competencies based on criteria such as management skill, quality or service. IT is an enabler, helping firms to achieve their goals and acting as the pipeline for the rapid exchange of information, but it is only one of the forces which influence governance decisions for managing the supply chain.

There is extensive literature on corporate decision-making which indicates a variety of factors are considered and the processes that are used to make these decisions are not straight forward. Power and politics (Eisenhardt and Bourgeois, 1988) play an important role in the linkage decision-making process. Various constituencies and coalitions both within the firm and in the targeted exchange group, which have a stake in the outcome, vie for control and influence. Organizational culture and organizational memory (Lindblom, 1959; Walsh and Ungson, 1991) pertaining to patterns of behavior and past experience, may be relied upon in planning and dealing with interfirm relationships.

The momentum built up in the relationship, a desire to maintain the status-quo and the cost of switching are factors which favor maintaining existing relationships rather than starting over each time with new partners. Research on organizational change and structural inertia (Boeker, 1989; Kelly and Amburgey, 1991) indicate that the initial strategies firms adopt and the early resource commitments they make set a course of action which may be difficult to change (Brockner and Rubin, 1985). Firms attempt to achieve stability and consistency by remaining committed to decisions they have made.

Classical economists believe that price is determined by supply and demand forces. Buyers are rational actors who have access to perfect information instantaneously (Smith, 1937). Economists assume that buyers are highly motivated by cost. If so, people would always choose markets over hierarchies, where the cost of goods can be obtained at an equilibrium price, the lowest cost the market will bear. Unfortunately for economists, buyers are not always rational. Managers do exercise strategic choice. Indeed, they are influenced by a host of other individuals or groups, past experiences and future desires. Transaction cost and opportunity cost are possible inhibitors to market relationships. Transaction cost, according to Williamson (1981), includes the cost of coordination in addition to expenses related to monitoring and enforcing contracts. Coordination costs are incurred to select suppliers, establish contracts, schedule activities, allocate resources and track financial flows.

Agency theory examines the conflicting interests of parties in an exchange, by highlighting the risks of opportunism and the costs involved in managing these risks (Alchian and Demsetz, 1972). One party, contracts with another to perform some service. Because the objectives of the two parties to the exchange may be different, costs may need to be incurred to monitor the agent's behavior. So, if the exchange partners do not trust one another or have little experience upon which to assess compliance, they must guard against the risk of opportunism, incurring costs for monitoring, bonding and residual loss.

Asset specificity is another major factor that may affect a firm's governance decision. Asset specificity refers to resources which cannot be readily used by another firm or have a limited set of circumstances where they can be used or obtained. Some examples are: a natural resource which can only be moved at great cost, a specialized machine tool designed for a single purpose or a perishable product which will spoil if not used within a short time frame. Malone et al. (1987) point out that transactions involving asset-specific products often involve a long process of development and adjustments for the supplier to meet the needs of the procurer, a process that favors the continuity of relationships found in a hierarchy. If either one goes out of business or changes its need for the product, the other may suffer sizable losses. In sum, the literature identifies many issues that can be taken into consideration when making sourcing decisions. Certainly, there are numerous costs involved, such as transaction cost, coordination cost, production cost and opportunity cost. The extent to which the product or resource itself is asset specific is of major concern. But the theories presented here also hint at the conflicting motivations of the stakeholders, resulting in decisions that may not appear to be rational or based exclusively on cost. In the next section, the choices for governance structures are presented, each having a unique set of characteristics. Understanding what these structures are, what they do best and how they work may help managers sort out the criteria they will use in the selection process.

Choices for Governance Structures

Although there may be many ways relationships can be established, the literature recognizes three major classifications of market structures: markets, hierarchies and cooperative ventures. A visual comparison of the three types of structures is shown in Figure 1. Each type will be briefly discussed in this section and further elaboration on each type follows later. Table 1 is also included to provide a useful comparison of each structure on the following criteria: what compliance is based on, the purpose of the arrangement, the relative distance between exchange partners, the number of exchange partners, the firm's attitude towards risk, the focus of information technology (IT) and the projected winner in the relationship.

In *market exchanges*, there may be many suppliers and at least one buyer. The buyer has the upper hand as he or she can select from a variety of suppliers, comparing price and other features. Compliance is measured by looking at outcomes or results (Dyer and Ouchi, 1993; Eisenhardt, 1989; Ouchi, 1980). Both parties look to avoid risk and maintain an arms-length posture. IT provides the means to search for exchange partners and coordinate the activity. In a *hierarchy*, two entities are strongly tied to one another. One party, either the supplier or the buyer, has the power to dictate the structure and requirements of the exchange. This may be due to superior resources or size. Compliance in this type of relationship is measured by looking at behaviors, or the ability to

monitor ongoing activities. IT is used to create a tightly-coupled relationship where the emphasis is on integration. As the environment becomes more uncertain, the necessity for vertical integration increases. Work by Hill (1990) indicates that hierarchical governance is more efficient when outcomes are highly uncertain or ambiguous. Products which are highly asset specific can be appropriated in this way. In *cooperative ventures*, both parties share the risks. Each adds value to the relationship aimed at creating a mutually beneficial exchange, where the playing field is relatively equal. The need to measure compliance depends on the crystallized goals of the relationship and trust between partners. IT provides the channel for improved communications and transaction flow. More detail on each type of these structures is presented next.

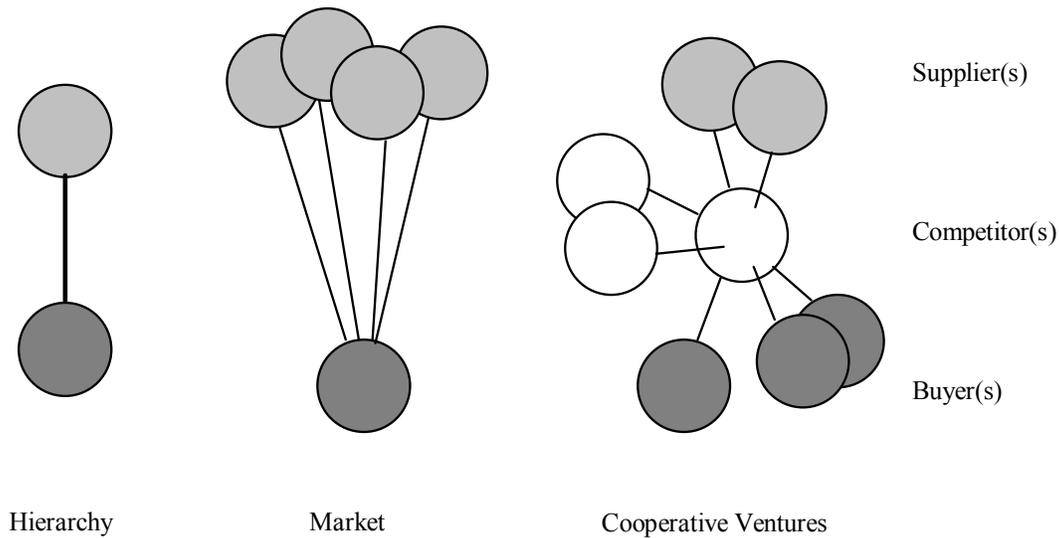


Figure 1. A View of Governance Structures

Electronic Markets

Electronic markets are networks designed as a medium for buyers and sellers to find each other. Buyers will compare features, such as the design, price, quantity and target delivery schedules, from as many sources as possible, then select the one that best meets their requirements. The central role of an electronic market is to facilitate product and information exchange and to support the transaction process from initial contact to settlement. With electronic catalogs, buyers can do one-stop comparison shopping for thousands of suppliers and select the best source in real time (Dai and Kauffman, 2002).

The amount of information needed to specify the attributes of a product in sufficient detail, so that potential buyers can make a decision, is referred to as the complexity of product description. When product descriptions are simple, such as stocks or commodities, buyers are able to compare more alternatives in a market. With the advanced set of multimedia software available today, however, sellers can not only display the product and its specifications, but also they may be able to interact with the product in real time.

Table 1. A Comparison of Market Structures

	Hierarchies	Markets	Cooperative ventures
Compliance is based on:	behavior	outcomes	trust
Purpose of arrangement	make or internalize	buy	add value
Distance	tight coupling	arms-length	flexible
Number of partners	1 : 1	1 : many	many : many
Attitude toward risk	risk-neutral	risk-averse	shared risk
Focus of IT	integration	coordination	communication
Projected winner	Supplier or buyer	buyer	both

A special type of electronic market that has been gaining popularity is the online reverse auction. In a reverse auction, the desired item is offered by a number of sellers, so the buyer controls the market as is the case with a traditional electronic market. The difference here is that sellers *bid* the lowest amount they are willing to sell their goods for in attempting to win a contract with the buyer. The price the seller offers continues to decrease until a theoretical rational market price is achieved. With this governance choice, buyers fare better when items are primarily price based, have a low complexity of product description, and have low asset specificity.

Although it seems that any product could be offered through an electronic market, there are some industries, such as chemicals, where pure market exchanges are not warranted. Commodity chemicals, having a fairly *low* information content, are not offered for sale through market relationships. Rosenthal, Shah and Xiao (1993) discovered that the bulk of purchasing in the chemical industry was done in a hierarchy as suppliers were reluctant to distribute product details to the public at large.

Electronic Hierarchies

Electronic hierarchies are vertical relationships that rely on IT, such as sole-supplier arrangements. Hierarchies coordinate the flow of goods and services through managerial decisions, not the interaction of market forces. In a pure hierarchy, integration of two firms is achieved by acquisition or merger; in other words, by ownership. Buyers, procuring materials for the next step in the value-added chain, will work with a pre-determined supplier, rather than choosing one from a group of potential providers each time a new supply is needed. In cases where the product specifications or delivery requirements cannot be expressly described, the hierarchy provides the mechanism for in-depth negotiations. When items are highly asset specific, it is also advantageous for the buyer to work closely with one or a few preferred suppliers (Bakos and Brynjolfsson, 1993; Lonsdale, 2001).

Regardless of how parties initially find each other, once the search phase is over, they must still negotiate contracts, mesh delivery schedules and work out the details of the exchange. How frequently firms interact can affect their attitudes toward each other, the perceived risk of the exchange and therefore the cost involved. The more frequent the interaction between partners, the better the opportunity to correct misunderstandings and clarify details (Huber, 1990). Timely feedback on inquiries and problems may allow partners to keep the project on track, avoiding costly errors. In a hierarchy, significant time and energy may be invested for this arrangement to be successful. Re-establishing a strong working relationships with a new supplier therefore exacts a heavy switching cost. Over time the trust and cooperation that builds between the two firms may result in positive synergies. Since they both have a standing relationship, each is less likely to shirk responsibility and risk ruining the relationship. As firms begin to trust each other, they are less likely to return to markets to find new exchange partners and there will be less dependence on formal contracts. This gives management more flexibility because there is less need for legal documentation (Friedman, 1991).

Cooperative Ventures

Pockets of skills, resources and new innovations are cropping up and taking root in smaller-sized organizations. Without the cumbersome bureaucracy and static routines of large corporations, they thrive on the ability to be flexible and move quickly into new markets (Kanter, 1994). Smaller firms tend to specialize in a particular product, process or niche and can now compete globally over the Internet. These centers of competence and innovation benefit from forming alliances with other firms where each can add value to the relationship.

Cooperation allows firms to share cost and risk, reduce the learning curve and gain synergies as each contributes its core competency. These links also provide new sources of industry intelligence. Developing a network of relationships increases a firm's information collection efficiency, thus helping it become aware of threats and opportunities more quickly. With cooperative ventures, the focus is on the relationship, rather than the transaction, and the outcome is expected to be a win-win situation. Commitment to these alliances occurs when the firms establish shared goals. Research indicates that mutual goals influence both satisfaction and relationship quality (Wilson, 1995; Parsons, 2002). Information-enabled alliances constitute new forms of interorganizational relationships that have the potential to alter industry landscapes by increasing the bargaining power of firms involved. The alliance itself becomes a powerful force to be reckoned with, creating barriers to entry, blocking access to scarce resources, and leveraging the talents and technologies of its partners.

Challenges, Risks and Opportunitites

Work by Malone et al. (1987), indicates that coordination cost incurred using markets is relatively high compared to that of hierarchies. Conversely, production costs, involving the creation and distribution of goods and services, is lower in markets when

compared to that of hierarchies. A tradeoff exists between coordination and production costs, such that each structure enjoys certain advantages. Markets provide economies of scale (production) and load leveling advantages, where hierarchies enjoy lower coordination costs. Firms will be challenged in the attempt to balance these costs when making sourcing decisions and choosing exchange partners.

A possible drawback of any buyer-supplier relationship is the amount of adaptive behavior that a company undergoes. Adaptive behavior is the evolutionary process that takes place as firms learn how best to do business with each other (Brennan and Turnbull, 1999). Investments in resources and time may be formal or informal, minor or significant, and can even occur without a conscious effort by either party. Firms making incremental changes over time may become substantially adapted to the other firm, limiting their choice in developing future relationships (Han, Wilson and Dant, 1993). In buyer-supplier relationships where the power balance is not equal, the firm with the greater relative power can exploit this imbalance to force adaptive behavior on its weaker trading partner (Cox, 2001).

Uncertainties and risks inherent in the use of markets and hierarchies to coordinate economic activity, combined with advances in IT, may foster a “move to the middle”, as suggested by Clemons, Reddi and Row (1993). IT can be used to overcome the need for vertical integration as it allows explicit coordination without ownership. Companies that in the past would have set up hierarchies to control the exchange, can now choose cooperative ventures and still gain access to both tangible and intangible resources. Benetton, one of world’s largest garment producers, outsources a majority of its assembly work to over 350 small sub-contractors. The partners in Benetton’s network recognize that trust and cooperation facilitate relationships, stability and long-term association. This longevity reduces the risk of opportunism in the outsourced activities in Benetton’s business system (D’Cruz and Rugman, 1993, p.66). IKEA is another firm that has embraced this concept. They have developed a global network of low-cost, high-quality suppliers linked together through information technology. In return for their cooperation, suppliers can receive technical and engineering support, financial assistance and management training (D’Cruz and Rugman, 1993).

Trust is considered an essential component of relationship quality (Ba and Pavlou, 2002). Trust is believed to alleviate risk and to increase cooperation in exchange relationships (Parsons 2002). In order for a buyer and supplier to develop a long-term relationship, they must trust that each other will fulfill the obligations of the contract. In an electronic market, since the buyer and supplier know little or nothing about each other there is the potential for one or both of the parties to attempt to take advantage of the other opportunistically. On the other hand, firms may decide to use markets initially to find new partners. The preliminary demands on the exchange partner can be purposefully well-defined and contractible in order to establish a basis for monitoring. When compliance on the first set of transactional exchanges has been demonstrated, the relationship can evolve to one based on trust. Once trust is established, the relationship not only will be less dependent on formal contracts, but also it provides opportunities for further dialog and cooperation on other higher-order requirements, such as quality, service or innovativeness.

Are reverse auctions a good idea? According to Smeltzer and Carr (2002) and Jap (2000), reduced purchase prices, decreased administrative costs, and lower inventory levels are the primary benefits enticing buyers to use reverse auctions. Initial surveys results indicate that online reverse auctions produce an average of 18% in financial savings (Jap, 2000). Also, they are cheaper and easier for buyers and auction providers to organize than manual auctions. This makes it possible for buyers to find suppliers quickly, with the potential to reduce the purchasing cycle time by up to 50% (Smeltzer et al., 2002). There are risks associated with reverse auctions, however. A buyer may simply be using the reverse auction as a way to pressure current suppliers to lower their prices. In such instances, the seller may see no benefit to the online reverse auction, and be reluctant to participate. Alternatively, the buyer may be looking to add new suppliers or to choose a supplier based on some criteria other than price. If this is the case, the lowest bidder may not necessarily be awarded the contract. Another disadvantage associated with using this method of sourcing, is that online reverse auctions (and electronic markets) handle transactions in arms-length negotiations. As the purchase decision is based on primarily price, no relationship develops between the buyer and seller. Thus, the buyer develops no loyalty to the seller, and no future business can be anticipated (Smeltzer et al., 2002).

Electronic hierarchies and cooperative ventures provide new opportunities for closer integration between firms. These structures are best suited for products that are complex or have high asset specificity. The communication-intensive relationship that forms reduces the risk of opportunism, but can result in significant adaptive behavior for either or both parties. The cost of switching to a different partner is also greater than in a market relationship. On the other hand, maintaining a web of interorganizational relationships through cooperative ventures can increase the firm’s external information gathering capacity, allowing it to identify opportunities and threats more quickly.

In sum, building an effective buyer-supplier relationship requires a thorough understanding of the choices and challenges that each governance structure offers. This paper has endeavored to present a broad view of the benefits, risks and issues associated with electronic markets, electronic hierarchies and cooperative ventures, from a managerial point of view. Companies today face

significant challenges in meeting the needs of the business and satisfying customers. Electronic markets and online reverse auctions provide the means to locate suppliers quickly for commodity items. These transaction-based structures are effective when price is the primary determinant for evaluation. Indeed, this may be the only way to go when the need for procuring goods and services *first* arises and the buyer has had no prior dealings with potential suppliers.

References

- Alchain, A. A. and Demetz, H., "Production, Information Costs, and Economic Organization", American Economic Review, 1972, Vol. 62, pp. 777-795.
- Anderson, E., "Two firms, One Frontier: On Assessing Joint Venture Performance", Sloan Management Review, 1990, Vol. 31, no. 2, pp. 19-30.
- Ba, Sulin, and Paul Pavlou, "Evidence of the Effect of Trust Building Technology in Electronic Markets: Price Premiums and Buyer Behavior" MIS Quarterly, 2002, Vol. 26, pp. 243-268.
- Baiman, Stanley and Rajan, Madhav, "The Role of Information and Opportunism in the Choice of Buyer-Supplier Relationships", Journal of Accounting Research, May 2002, Vol. 40, no. 2, pp. 247-278.
- Bakos, J. Yannis and Brynjolfsson, Eric, "Incentives and the Optimal # of Suppliers", Journal of Management Information Systems, Fall 1993, Vol. 10, no. 2, pp.37-53.
- Boeker, Warren, "Strategic Change: The Effects of Founding and History", Academy of Management Review, 1989, Vol. 32, no. 3, pp. 489-515.
- Brennan, Ross and Turnbull, Peter, "Adaptive Behavior in Buyer-Supplier Relationships", Industrial Marketing Management, 1999, Vol. 28, pp. 481-495.
- Brockner, J. and Rubin J., Entrapment in Escalating Conflicts, 1985, Springer-Verlag, New York.
- Clemons, Eric K. and Row, Michael C., "Information Technology and Industry Cooperation: The Changing Economics of Coordination and Ownership", Journal of Management Information Systems, Fall 1992, Vol. 9, no. 2, pp. 9-28.
- Cox, Andrew, "Understanding Buyer and Supplier Power: A Framework for Procurement and Supply Competence", The Journal of Supply Chain Management, Spring 2001, pp. 8-15.
- Dai, Qizhi, and Kauffman, Robert, "Business Models for Internet -Based B2B Electronic Markets", International Journal of Electronic Commerce, Summer 2002, Vol. 6, pp. 41-72.
- Dyer, Jeffrey H. and Ouchi, William G., "Japanese-Style Partnerships: Giving Companies a Competitive Edge", Sloan Management Review, Fall 1993, pp. 55-63.
- Eisenhardt, K. M., "Agency Theory: An Assessment & Review. Academy of Management Review, 1989, Vol.14, pp. 57-74.
- Eisenhardt, K. M. and Bourgeois, L. J. III, "Politics of Strategic Decision Making Processes in High-Velocity Environments: Towards a Midrange Theory", Academy of Management Journal, 1988, Vol. 31, no. 4, pp. 737-770
- Friedman, R. A., "Trust, Understanding, and Control: Factors Affecting Support for Mutual Gains Bargaining in Labor Negotiations", 1991, Paper presented at the annual meeting of the Academy of Management, Miami, FL.
- Gurbaxani, Vijay and Whang, Seungjin, "The Impact of Information Systems on Organizations and Markets", Communications of the ACM, 1991, Vol. 34, no. 1, pp.59-73.
- Han, S. L., Wilson, D. T. and Dant, S. P., "Buyer-Supplier Relationships Today", Industrial Marketing Management, 1992, Vol. 22, pp.331-338.
- Hrigan, K. R., "Formulating Vertical Integration Strategies" Academy of Management Review, 1984, Vol. 9, pp. 638-52.
- Hill, Charles W. L., "Cooperation, Opportunism, and the Invisible Hand: Implications for Transaction Cost Theory", Academy of Management Review, 1990, Vol. 15, no. 3, pp. 500-513.
- Huber, G. P., "A Theory of the Effects of Advanced Information Technologies on Organizational Design, Intelligence, and Decision making", Academy of Management Review, 1990, Vol.15, pp. 47-71.
- Jap, Sandy, "Online Reverse Auctions: Issues, Themes, and Prospects for the Future", Journal of the Academy of Marketing Science, 2000, Vol. 30, pp. 506-525.
- Jarvenpaa, Sirkka L. and Ives, Blake, "The Global Network Organization of the Future: Information Management Opportunities and Challenges", Journal of Management Information Systems, Spring 1994, Vol. 10, no. 4, pp. 25-27.
- Kanter, Rosabeth Moss, "Collaborative Advantage: The Art of Alliances", Harvard Business Review, July-August, 1994, pp. 96-108.
- Kelly, D. and Amburgey, T. L., "Organizational Inertia and Momentum: A Dynamic Model of Strategic Change", Academy of Management Journal, 1991, Vol. 34, pp. 591-612.
- Lindblom, C. E., "The Science of Muddling Through", Public Administrative Review, 1959, Vol. 19, pp. 79-88.
- Lonsdale, Chris, "Locked-In to Supplier Dominance: On the Dangers of Asset Specificity for the Outsourcing Decision", The Journal of Supply Chain Management, Spring 2001, pp. 22-27.

- Malone, T. W., Yates, J., and Benjamin, R. I., "Electronic Markets and Electronic Hierarchies." Communications of the ACM, June 1987, Vol. 30, no. 6, pp. 484-497.
- Ouchi, William G., "Markets, Bureaucracies, and Clans", Administrative Science Quarterly, 1980, pp. 124-141.
- Parsons, Amy L., "What determines Buyer-Seller Relationship Quality? An Investigation from the Buyer's Perspective", The Journal of Supply Chain Management, Spring 2002, pp. 4-12.
- Rosenthal, David, Shah, Sashi K. and Xiao, Baichun, "The Impact of Purchasing Policy on Electronic Markets and Electronic Hierarchies", Information and Management, 1993, Vol. 25, pp. 105-117.
- Smeltzer, Larry, and Carr, Amelia, "Reverse Auctions in industrial marketing and buying", Business Horizons, March/April 2002, pp. 47-52.
- Smith, Adam, The Wealth of Nations, 1937, Cannan edition, Modern Library, NY.
- Walsh, James, P. and Ungson, Gerardo R., "Organizational Memory", Academy of Management Review, 1991, Vol. 16, no. 1, pp. 57-91.
- Williamson, Oliver E., "The Economics of Organizations: The Transaction Cost Approach", American Journal of Sociology, November 1981, Vol. 87, no. 3, pp. 548-577.