UNDERSTANDING QUASI-INTEGRATION

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Abstract

Cooperative strategies and interorganizational linkages, or quasi-integration, in vertical relationships are important concerns to strategy researchers and practitioners. In this paper, we present a model that integrates insights from transaction cost theory (an economic construct), environmental uncertainty (an organization theory construct), and resource-based theory (a strategic management construct) to explain the determinants of quasi-integration. This extends prior work which relied exclusively on transaction cost economics and organization theory to explain and predict optimal organizational form.

Introduction

One of the most compelling areas of research in strategic management deals with cooperative strategies and the resulting inter-organizational linkages through which such strategies are implemented. Cooperative strategies enable the participating firms to pool or exchange resources for their mutual benefit, diminish competitive attacks, and collectively manage the environment facing the firms (Astley 1984; Bresser and Harl 1986; Gupta and Lad 1983; Harrigan 1985; Nielsen 1988). The literature on cooperative strategy stands in stark contrast to the notion of the firm as an autonomous profit maximizer waging a solitary struggle for survival within the limits of a hostile, deterministic environment (Astley 1984).

Recent work by Mahoney (1991) and Contractor (1990) suggests that inter-firm cooperative arrangements may, under certain conditions, be employed as viable substitutes for vertical integration. Following Blois (1972), we refer to these cooperative arrangements as quasi-integration. Much of the traditional management research on vertical integration followed the transaction cost tradition and frequently employed the "make or buy" analogy (c.f. Balakrishnan and Wernerfelt 1986; Harrigan 1985; Walker and Weber 1984). Cooperative quasi-integration alternatives, however, involve neither a pure "make" nor a pure "buy" arrange-

ment, therefore the motives for choosing them have remained less clear. Organization theory has shed some light on the issue by providing valuable insights into the factors that determine organizational form in vertical relationships (Emery and Trist 1965; Thompson 1967; Williamson 1975). The transaction costs approach, as articulated by Williamson (1975) focuses on the importance of behavioral uncertainty in choosing an organizational form. Work by Emery and Trist (Emery and Trist 1965) and Thompson (1967) recognizes the role of environmental uncertainty in the choice of organizational form. Taken together, the concepts of transaction costs and environmental uncertainty have expanded our understanding of quasi-integration choices.

These two approaches, however, suffer from a common fundamental shortcoming. Both models assume (either explicitly or implicitly) homogeneity of firms in a given industry. That is, they assume that the firms have similar resources and technologies. If we assume that the firms in an industry are homogeneous and that their decision makers behave rationally, we would expect individual firms in an industry to choose identical or very similar organizational forms. In the 'real' world, however, we observe very *different* organizational forms for firms in the *same* industry. These observations may best be explained by developing a model that integrates the insights from transaction cost economics, organization theory, and the emerging resource-based view from strategic management (Barney 1991). The resource-based view has much to offer in explaining quasi-integration, because it is based on the assumption that firms are heterogeneous. Therefore, firms in the same industry would not be expected to have the same organizational form. The purpose of this paper is to extend our understanding of quasi-integration by developing an integrative model of the choice of organizational form in vertical relationships.

The remainder of the paper is organized as follows. First, a brief account is given of the different options for vertical combinations. This discussion is followed by a review of the transaction cost and organization theory explanations of the determinants of these combinations. Next, insights from the resource based view are introduced and an integrative model is presented.   In conclusion, we discuss implications of our integrative model for researchers and practitioners.

Alternative Vertical Strategies

The organizational choices aimed at managing vertical relationships may be conceptualized as falling over a range between pure market exchange and full internalization (i.e., merger). This is depicted in Figure 1. Moving from pure market exchange to internalization, one finds intermediate arrangements such as relational contracting, strategic alliances, and equity joint ventures. A short discussion of each of these alternative arrangements follows.

Relational contracting involves jointly managed relationships based on trust and goal congruence (Jarillo 1988). Located conceptually near a pure market arrangement, relational contracting typically does not involve joint ownership.

Figure 1

Flexibility	↑	Pure Market Exchange
		Relational Contracting
		Strategic Alliance
		Equity Joint Venture
Control	↓	Full Internalization
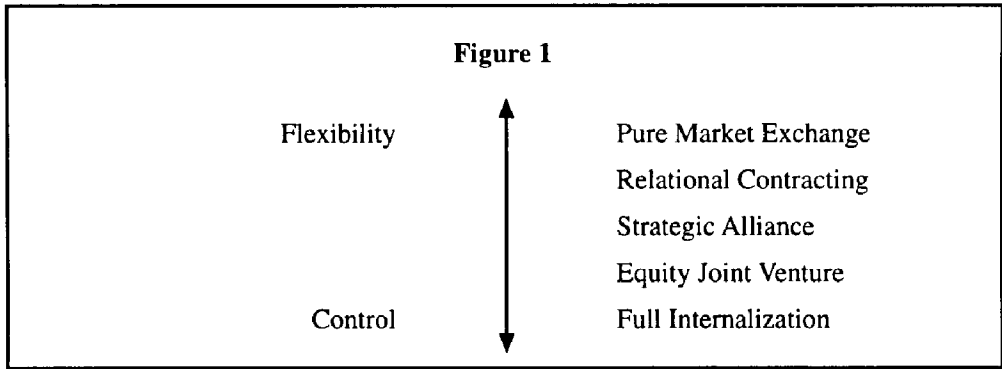
A contemporary example can be found in just-in-time inventory supply agreements in which a high degree of coordination and cooperation between firms is a critical success factor. An example of a just-in-time inventory arrangement is the materials as needed (MAN) system employed by Harley-Davidson. This program virtually eliminated inventories by requiring vendors to deliver inputs (from raw materials to finished components) on the same day as needed in the assembly process. This system was initially resisted by the vendors, because it required a high degree of reorganization within the vendors' operations and coordination with Harley-Davidson's operations. However, it has proved to be highly successful.

Strategic alliance, as used in this paper, is defined as a cooperative arrangement engaged in by two or more firms that does not involve the creation of a separate organization, but which may or may not involve a minority investment by one or more of the participating firms. The strategic alliance lies conceptually between relational contracting and integration. This form of organizational arrangement differs from relational contracting in that it mutually benefits the downstream and upstream firms and may involve a minority equity stake by one or both firms in the other. An example of this type of arrangement is the recently announced alliance between IBM and Geographic Systems Corporation in which IBM became a minority owner in Geographic Systems. This allowed IBM to enter the geographic information systems market and gave Geographic Systems access to IBM marketing and financial resources.

Equity joint ventures are arrangements in which two or more firms pool resources to establish a separate legal entity which is jointly owned by the sponsoring firms (Kogut 1988; Pfeffer and Nowak 1976). Activity is organized between firms but is hierarchically controlled within the joint venture itself. Although equity joint ventures may be employed for a wide range of strategic purposes (Harrigan 1985), this paper will consider only joint ventures which involve a vertical relationship with one or more of the parent firms. An example of this type of arrangement is the Ponderay Newsprint Company, a joint venture designed to produce and supply the newsprint needs of five newspaper publishers (Wall Street Journal 1987).

The number of alternative strategies for implementing quasi-integration is indicative of the complexity of the problems firms face in vertical relation-

ships. Pure market exchange, or arms length bargaining, affords a firm maximum *flexibility* because the firm is tied to a supplier or buyer for one transaction only. Vertical integration affords a firm maximum *control*. Once vertically integrated, the firm can control (and monitor) all aspects of its supplier or buyer relationship. Pure market exchange and vertical integration represent the familiar make or buy options. They also represent the extremes of arms length dealing versus internalization and flexibility versus control.

Intermediate arrangements, or quasi-integration, could reflect the necessity, in a world of uncertainty, to make trade-offs between flexibility and control. We postulate that there is an optimal degree of quasi-integration that corresponds to the control/flexibility trade-off where the degree of quasi-integration refers to the number of, and degree to which, activities are internalized in an exchange relationship. This extends the transaction cost explanation of vertical integration by allowing for options that are intermediate between make or buy decisions.

Transaction Cost Approach To Vertical Relationships

Coase (1937) developed a theory of the firm based on transaction costs. Transaction costs are the costs associated with using the market to exchange goods and services and include such costs as negotiating, writing, and enforcing contracts, as well as costs associated with gathering information about relevant prices (Coase 1937). According to Coase's theory, the number of activities that a firm engages in (the level of vertical integration) is determined by the relative costs of using the market or employing resources within the firm. When it costs less to internalize a transaction, the transaction will be internalized. When it costs less to use the market, the market will be used.

The primary insight from Coase was that the choice between market exchanges and internalization turns on the existence of transaction costs that can be eliminated by internalization. Building on this insight, transaction cost theory has been used to explain the strategy/structure choice (Jones and Hill 1988), the multiproduct firm (Teece 1982), and vertical integration (Mahoney 1991).

Further, Williamson (1975) extended Coase's transaction cost theory by examining the relationship between behavioral uncertainty and transaction costs. Simply put, Williamson demonstrated that uncertainty about the behavior of a trading partner increases transaction costs because it makes the writing and enforcing of contracts much more costly. Therefore, the level of transaction costs will be positively related to the level of uncertainty in an exchange relationship. Because of the positive relationship between behavioral uncertainty and transaction costs, transaction cost theory postulates that integration is more likely when there is high uncertainty about the behavior of a trading partner.

Williamson's (1975) extension of Coase's theory identified opportunism as an important factor that increases behavioral uncertainty, and hence transaction costs. Opportunism refers to either the buyer or the seller attempting to change the terms of a contract after the fact. Behavioral uncertainty increases

the cost of enforcing contracts and, therefore, increases the cost of writing contracts because care must be taken to lessen the threat of opportunism. Opportunism may be possible because of asymmetric bargaining power due to a small numbers bargaining problem or because of asset specificity.

Opportunism can arise if the number of suppliers (or buyers) is small, resulting in what Williamson (1975) refers to as a "small numbers bargaining" problem. The small numbers bargaining problem is conceptually similar to Porter's (1980) "bargaining power of customers" and "bargaining power of suppliers." As an example, suppose a firm has only one supplier. If demand for the final product increases suddenly, the supplier may act opportunistically, that is, try to extract a side payment from the buyer because the buyer can not produce more of the final good without the supplier's input. The supplier can exert asymmetric power because the buying firm has no alternative source of supply in the short run.

An example of this occurred between General Motors and Fisher Body Company in the early 1920s. Fisher Body was originally an autonomous company that supplied car bodies to GM under a contractual agreement signed in 1919. When the demand for GM cars exceeded predicted levels, the absence of additional suppliers gave Fisher Body asymmetric power in re-negotiating which allowed it to charge GM considerably higher prices. In reaction to this, GM began acquiring Fisher stock and eventually acquired the entire firm.

A buyer can also act opportunistically. Suppose the supplier has only one buyer for an input and demand suddenly decreases for the final product. The buyer may then try to renege on the terms of the contract and the supplier has no alternative outlet for the input. Opportunistic behavior on the part of buyers led to the creation of the Ocean Spray Cranberry company in the 1930s. Prior to the formation of Ocean Spray, national food distribution companies often encouraged cranberry growers to extend their crops by forecasting high demand and high market prices. Once the cranberries were ready to harvest, the food distributors offered much lower prices. Because the growers had no alternative outlets, they were forced to accept the lower prices. Frustrated by such treatment, the growers formed Ocean Spray Cranberry, Inc. to represent the growers and, thereby, reduce the asymmetry in bargaining power (Nielsen 1988).

Full integration, such as that between GM and Fisher Body, provides one mechanism for dealing with opportunism arising from small numbers bargaining, but there are other solutions. In fact, the extent of the problem that arises from small number bargaining may be conceptualized as a variable which depends upon the relative distribution of bargaining power in a vertical relationship. In other words, there are varying levels of transaction costs which correspond to variations in customer and supplier concentration. In the case of upstream vertical relationships, the level of transaction costs will be negatively related to the number of potential suppliers. In the case of downstream vertical relationships, the level of transaction costs will be negatively related to the number of potential buyers.

Williamson (1975) also linked opportunism to asset specificity, which is just a special case of the small numbers bargaining problem. Asset specificity refers to a situation in which a physical or human resource becomes specific to the transaction and thus has a lower value in its alternative uses. Asset specificity lowers the number of potential users of the resource and therefore will increase the possibility of opportunism. This results in higher transaction costs (Williamson 1975). One way in which asset specificity can arise is if a vertical arrangement requires the building of new industrial capacity. Since the new capacity is built specifically to service the supply needs of the buying firm, the buying firm might try to appropriate some of the profits of the supplying firm after the capacity is on line if the exchange is organized by means of a pure market relationship (Klein, Crawford, and Alchian 1978). Equity ownership by participating firms may be used to partially offset the risks of such opportunistic behavior.

An example of this is oil wells built to serve a pipeline. The wells represent a substantial fixed cost that is incurred solely to service the pipeline. Once the wells are built, the pipeline company might try to extract the profits of the wells. To alleviate this problem, well owners might acquire an equity stake in the pipeline (Klein, Crawford, and Alchian 1978).

In line with the argument of opportunism arising from small number bargaining above, the relative amount of assets specific to an exchange relationship is a variable rather than an either-or condition. Therefore, because it increases the probability of opportunistic behavior, the level of transaction costs will be positively related to the value of new industrial capacity added in a vertical exchange relationship.

The degree of opportunism will also be affected by the sensitivity of the downstream firm to the cost of the input it buys from the upstream firm. If the input cost from the upstream firm is a large percentage of the cost of the final product, the downstream firm will be more vulnerable to opportunistic behavior (Layard and Walters 1978). Hence, the downstream firm will desire more control over the behavior of the upstream firm to lessen the threat of opportunism. Therefore, in the case of upstream vertical relationships, the level of transaction costs will be positively related to the ratio of the input cost to the final product cost.

Opportunism is also affected by demand uncertainty, an element of environmental uncertainty discussed later in this paper. Demand uncertainty may provide the impetus for firms to act opportunistically. Sudden, unpredicted increases in demand for the final product may lead to opportunistic behavior on the part of the upstream supplier, while sudden, unpredicted decreases in demand may lead to opportunistic behavior on the part of the downstream buyer. When demand is uncertain, the downstream firm runs a risk of inadequate supplies during periods of peak demand and the upstream firm runs a risk of overproduction and the resulting inventory costs during periods of low demand. These risks can be lowered by integration (Carlton 1979; Mahoney 1991) or by quasi-integration. Therefore, because it increases the probability of opportunistic behav-

ior, the level of demand uncertainty facing the downstream firm will be positively related to the level of transaction costs.

Alternatively, it should be recognized that cooperative arrangements may be used by one or both parties to increase the possibility of opportunistic behavior. According to Harrigan (1985), joint ventures may be used to gain access to proprietary information of another firm, with pernicious intent. While this motivation should be taken into account, it may be less likely in a joint venture that involves vertically, as opposed to horizontally, related firms, because the firms are less likely to be able to benefit from the gained information.

From the arguments above, it is clear that behavioral uncertainty increases the level of transaction costs. Therefore, behavioral uncertainty indirectly affects the choice of interorganizational form through its effects on transaction costs, that is, behavioral uncertainty is positively, but indirectly, related to the degree of quasi-integration.

It has already been established that there is a wide range of alternative organizational forms that also solve the transaction costs and behavioral uncertainty dilemmas, but which do not involve the full internalization of the focal activity. Examples of this are relational contracting (Jarillo 1988), licensing (Hill and Kim 1988), joint ventures (Hennart 1988; Kogut 1988), joint R&D (Teece 1983), and strategic networks (Jarillo 1988). Because integration is postulated to be positively related to the level of transaction costs (Coase 1937) and there are intermediate forms of organization that solve the same transaction cost problem, it is reasonable to postulate that quasi-integration is also positively related to the level of transaction costs. Further, because there are many alternative organizational forms that facilitate economic exchange by minimizing transaction costs, transaction costs alone can not explain all of the variance in the choice of organizational form. In fact, according to Contractor (1990), "...transaction cost minimization alone cannot describe completely the optimum mode of inter-organizational linkage."
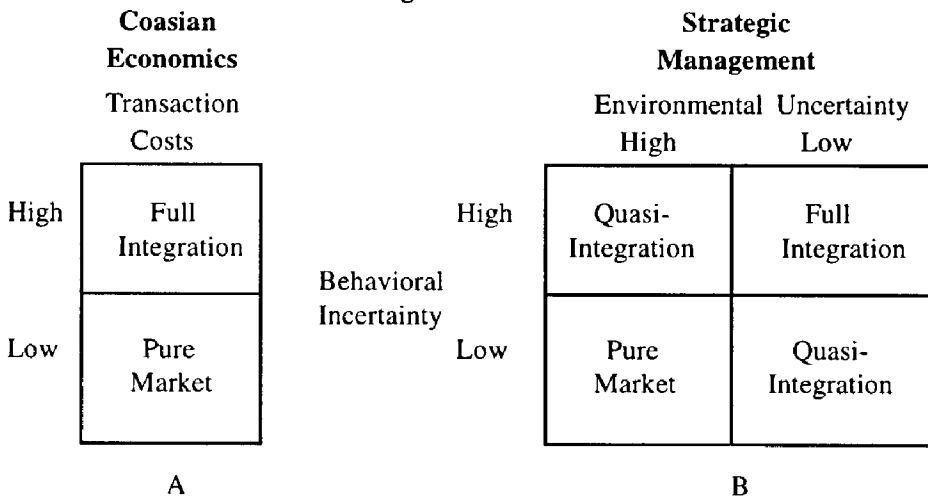
Therefore, although the insights from transaction cost theory have expanded our understanding of vertical relationships, it is important to keep in mind that there are other determinants of the degree of quasi-integration. Coase predicted only a make or buy decision when, in fact, there are many forms of quasi-integration that lie between these two extremes. Therefore it is reasonable not only to view transaction costs as a continuum along which firms make different choices, but also to examine the determinants of the level of transactions costs and other determinants of the degree of quasi-integration. In the following section we examine how environmental uncertainty affects the form of vertical interorganizational arrangements both directly and also indirectly through its effect on transaction costs.

Environmental Uncertainty

Coase's transaction cost theory, like much of traditional industrial organization economics, is limited in its explanatory power because it is based on

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static analysis (McWilliams and Smart 1993). Industry structure, demand, and technology are assumed to be known and constant. Therefore, there is little uncertainty about aspects of the firm or its environment other than behavioral uncertainty inherent in interorganizational exchanges. The transaction costs theory of vertical integration can be represented by a two-by-one matrix (Figure 2, panel A), where high transaction costs would result in full integration and low transaction costs would result in market exchange. Uncertainty is viewed only in terms of behavioral uncertainty on the part of trading partners (Williamson 1975) and effects only the level of transaction costs.

Figure 2

	Coasian Economics Transaction Costs			Strategic Management Environmental Uncertainty	
				High	Low
High	Full Integration		High	Quasi-Integration	Full Integration
		Behavioral Incertainty			
Low	Pure Market		Low	Pure Market	Quasi-Integration
	A			B	

Uncertainty can also come from the environment. The organization theory literature has long recognized the importance of environmental uncertainty in shaping the strategy and structure of firms (Dess and Beard 1984; Emery and Trist 1965; Milliken 1987). Thompson (1967), for example, identified uncertainty as the fundamental problem facing executives within an organization. Examples of environmental uncertainty are changes in technology, demand, legal liability, and government regulation.

The probability of technological obsolescence has been recognized as an element of environmental uncertainty (Balakrishnan and Wernerfelt 1986). If technology is changing rapidly, the rational manager will want to externalize transactions involving the use of such technology to reduce the risk of incurring sunk costs in obsolete plant and equipment that could put the firm at a disadvantage with respect to competitors. High levels of quasi-integration (and of course full integration) could effectively lock in a firm's commitment to yesterday's technology (Hayes and Abernathy 1980). Therefore the degree of quasi-integration will be negatively related to the rate of technological change in the upstream industry.

Demand uncertainty was identified earlier as a variable which affects behavioral uncertainty in vertical exchanges. Demand uncertainty is also an el-

ement of environmental uncertainty and has implications beyond its influence upon transaction costs. Sudden changes in demand can also saddle a firm with obsolete plant and equipment if it is highly integrated. Therefore, uncertain demand has an impact similar to rapidly changing technology. This implies that the degree of quasi-integration will be negatively related to the instability of demand.

Changes in government regulation and legal liability are also an element of environmental uncertainty. Where changes in regulation may increase the cost of production or increase the liability of the firm at one level of the production/ distribution channel, there is an incentive to separate that stage from the rest of the firm, so as to limit the liability of the larger organization (Barney, Edwards and Ringleb 1992). This implies that the degree of quasi-integration will be negatively related to the amount of legislative and judicial activity related to the firm's product.

Environmental uncertainty differs fundamentally from behavioral uncertainty. Behavioral uncertainty can be eliminated or mitigated by changing the number of activities controlled by the firm. Therefore, where behavioral uncertainty is high, firms choose more control in their vertical relationships. Contrarily, environmental uncertainty cannot be eliminated or mitigated by the firm changing the number of activities it controls, because the uncertainty is external to the exchange. Therefore, controlling more vertically-related activities will not improve the position of the firm. Under conditions where uncertainty cannot be eliminated, flexibility in reacting to the uncertainty becomes a viable option. The higher the uncertainty, the more important is flexibility. Therefore, where environmental uncertainty is high, firms choose organizational forms that provide more flexibility. That is, environmental uncertainty is negatively and directly related to the degree of quasi-integration.

Behavioral uncertainty, as discussed in the preceding section, refers to uncertainty involving the actions of the parties of an exchange relationship, while environmental uncertainty refers to uncertainty that is external to the exchange relationship, such as demand uncertainty and technology innovation. As we developed above, these two types of uncertainty have very different implications for the choice of organizational form. We believe that the choice of inter-organizational form is more accurately represented by the two-by-two matrix in Figure 2 (B), than by the two-by-one matrix of Figure 2 (A), as implied by transaction costs.

Panel (B) shows that where behavioral uncertainty is high and environmental uncertainty is low, full integration would be the optimal inter-organizational form (Coase 1937; Williamson 1975). Where environmental uncertainty is high and behavioral uncertainty is low, pure market exchange would be optimal. But, where there are appreciable levels of both types of uncertainty, quasi-integration would be used to balance the trade-off between control and flexibility.

The twin concepts of transaction costs and environmental uncertainty have provided valuable insights for understanding quasi-integration. These two approaches, however, do not adequately explain why firms within a given industry

choose different degrees of vertical integration. We believe this shortcoming may be due to an inadequate attention to the resource endowments of the individual firms. Traditional economic theory explicitly assumes homogeneity of firms in an industry. Organization theory's treatment of environmental uncertainty implicitly makes the same assumption. These approaches, therefore, allow us to understand the determinants of quasi-integration at the *industry* level, but not at the *firm* level. In the next section, we turn out attention to the additional insights that arise when the assumption of homogeneity of firm resources is relaxed.

Firm Resources

The resource-based view of the firm (Barney 1991; Conner 1991; Wernerfelt 1984) argues that a firm gains a sustainable competitive advantage as a result of its strategic exploitation of unique resources internal to the firm. This theory makes it clear that sustained competitive advantage depends on the resources controlled by the firm (Barney 1991).

In much the same manner that transaction costs and environmental uncertainty are important external determinants of optimal organizational form, the resource endowments of firms are important internal determinants. Strategists making organizational form decisions must consider both the availability and nature of resources within their own firm and within the trading partner firm when assessing the opportunities for enhancing performance through cooperative strategies. Strategists must also take into consideration the presence or absence of resources essential to implement alternative strategies.

In this sense, firm resources may represent both strengths and weaknesses of the firm. As an example, consider a small high technology firm that has the resources to develop and produce new products, but lacks the resources to effectively market and distribute the products. One alternative open to the firm is to vertically integrate, that is, to acquire a firm that has skills in marketing and distribution. But, what if the high technology firm lacks the financial resources to acquire another firm, or the organizational skills to integrate another firm? The managers of such a firm may find an attractive alternative in a strategic alliance, joint venture, or relational contract.

A quasi-integration arrangement will be particularly attractive if the firms entering the arrangement have *both* a resource strength and a resource weakness. For example, one firm may have a strength in R&D, but weaknesses in marketing and distribution as well as in financial resources. The other firm may have a strength in marketing and distribution, but weaknesses in R&D and in financial resources. By circumventing the acquisitions market, the firms can overcome their mutual lack of financial resources, but still take advantage of each other's strengths through the quasi-integration relationship.

An optimal arrangement would exploit the complementarity between the firms (Harrison, Hitt, Hoskison, and Ireland 1991). It would, therefore, likely involve a situation in which participating firms have quite different resource bases. For example, a firm which has a distinctive competency in R&D might benefit

from a cooperative arrangement with a firm which has skills in marketing, and vice versa. Therefore, the degree of quasi-integration will be positively related to a measure of the differences in the internal resources (strengths) of the participating firms.

A contemporary example is the quasi-integration relationship between Johnson & Johnson and Merck, formed to enable both firms to enter the non-prescription drug market. According to a Merck executive, "We have the products and the development know-how . . . but lack the marketing and distribution capabilities to tap the highly competitive over-the-counter market" (Brady 1989). Johnson & Johnson, by contrast, had excellent marketing capabilities but a weak portfolio of drugs for this market. By combining forces in a cooperative alliance, both companies were able to simultaneously exploit their strengths and overcome their weaknesses.

As alluded to above, a firm's financial resources may represent a major obstacle to the implementation of its market strategies. Vertical quasi-integration, as developed in this paper, represents a way to overcome problems that result from a lack of capital by allowing a firm to pursue value-increasing strategies that otherwise would be beyond its reach. However, firms with limited financial resources may find an arrangement closer to pure market exchange is their only viable option. Therefore, all else equal, the degree of quasi-integration will be positively related to the firm's financial resources. For example, in the case of GM and Fisher Body mentioned earlier, GM had the requisite financial resources to fully integrate Fisher Body. Two small firms who faced the same situation might not be able to carry out a full integration because of the lack of financial resources and would, therefore, have to choose a form of quasi-integration. In this context, a firm's resources may act as constraints that favor quasi-integration over full integration even when the latter course of action affords lower transaction costs.

There is an even more compelling reason for believing that firm resources enter heavily into a vertical integration or quasi-integration decision. Porter (1980) developed the concept of the value chain as a tool to analyze both cost and differentiation advantages. Under this approach, the individual components in a value chain are analyzed in isolation and as a complete system to gauge an activity's influence upon the firm's competitive advantage. In order to understand the contribution of value chain analysis to strategic decisions involving vertical integration, it is helpful to draw upon Barney's (1991) framework for analyzing the sustainability of competitive advantage.

Barney suggests that a firm's resources and strategies can be conceptualized in terms of their value, rarity, imitability, and substitutability. Valuable resources and strategies enable the firm to increase revenues or lower costs compared to their rivals. Rarity implies that the resource is not diffused across firms in the industry. Valuable and rare resources or strategies provide a competitive advantage to the firm. Furthermore, competitive advantage is sustainable over time if, and only if, the resources in question are inimitable (by the firm's ri-

vals) and rivals do not possess resources that, while different from the resources of the focal firm, provide a substitute effect in the marketplace. Resources that can be cloned or worked around (through substitutability) by rivals can only provide a temporary competitive advantage. Once imitation (or substitution) occurs, the resource can no longer be considered a source of competitive advantage.

By using the value chain analysis in tandem with Barney's framework, it becomes obvious that some vertical integration or quasi-integration decisions are *independent* of both transaction costs and environmental uncertainty considerations. Activities that represent a source of competitive advantage to the firm will never be externalized even in the presence of high environmental uncertainty or low transaction costs. There are two reasons why this must hold. First, if the activity can be outsourced to another firm, it must be imitable. The implication, following Barney's logic, is that it was never a source of sustainable competitive advantage to the firm in the first place. Second, even if this problem can be resolved (perhaps by spinning off a division), the firm would be surrendering its value added as well as its competitive advantage over its rivals. Competitive advantage is the coin of the realm in the resource-based view and would not be willingly compromised via outsourcing.

While these arguments hold for most resources, there are different implications associated with human resources. Economic rent (profit) is a return to resources over and above costs, including the cost of capital. Economic rent accrues to the owner of the resource. But, because, human resources are not owned by the firm, an individuals' separable and unique contributions (i.e., the contributions of the person rather than the contributions attributable to teamwork) to the firm provide a source of competitive advantage and economic rent to the individual rather than the firm (Grant 1992). That is, the firm can not capture the economic rents generated by an individual to the extent that the individual's contribution can be identified. The insights from the resource-based view, when applied to human resources, may explain why many contemporary corporations are eager to seek the services of external consultants and specialist firms. Externalizing activities that rely on individual human resources, either through a pure market exchange or one of the quasi-integration surrogates, can provide benefits to the firm that could not represent a source of competitive advantage to the firm. Because the firm could not capture the benefits from the human resource by integration, it is reasonable to use market exchange or quasi-integration to obtain the resources.

Finally, the resource-based view of the firm helps us understand why quasi-integration is many times preferred to full integration when the firm is attempting to overcome a resource weakness. Again we will draw upon the experience of the Merck and Johnson & Johnson alliance discussed earlier. Merck and Johnson & Johnson are both giants in the pharmaceutical industry. Since Merck desperately sought marketing expertise, why didn't Merck simply acquire Johnson & Johnson? Financial resources, as discussed earlier, may of course play

a role. However, even if we assume that financing is adequate, a strategy of full internalization may still be problematic. We identify two reasons why this may be true.

First, even though Merck is well managed and possesses a resource base that yields a competitive advantage, there is no reason to believe that the firm possesses the resources necessary to make the merger successful. The cultures of merged firms are likely to be quite different (Grant 1992), leading to tremendous assimilation problems. Organizational routines (Grant 1992) are highly specialized by organization and would likely be disrupted as the merged firms adjust to one another. These management issues make the successful combination of two large and unique firms unlikely.

Second, resources that can lead to a sustained competitive advantage cannot be purchased in efficient resource markets (Barney 1991). This is true because the price paid for a resource traded in a factor market will reflect the value of the resource to the acquiring firm, leaving no excess returns. Any future financial advantages of the acquired expertise will be capitalized in the purchase price and hence be dissipated at the time of the merger. This insight from the resource-based view helps explain the large premiums historically paid by acquiring firms. In the Merck-Johnson & Johnson example, this implies that, had Merck purchased Johnson & Johnson, it would have paid as much as Johnson & Johnson was worth in future benefits, leaving no margin for excess profit. Therefore, there would have been no additional gain to integration over and above what Merck gained through the strategic alliance.

From the above arguments, it is clear that, while transaction costs and uncertainty act as stimuli for quasi-integration, firm resources provide additional incentives which influence the extent of integration. In addition, firm resources affect the ability of the firm to engage in the optimal degree of quasi-integration, independent of transaction costs and environmental uncertainty considerations. Taken together, these insights inform us that internal firm resources can act as both incentives and constraints. As such, firm resources directly affect the degree of quasi-integration independent of transaction costs and environmental uncertainty considerations.

Summary And Conclusions

One of the most important and challenging areas of research in strategic management deals with cooperative strategies and interorganizational linkages. Properly chosen and implemented these strategies enable the participating firms to engage in value increasing strategies by pooling or exchanging resources with other firms in order to maximize their response to behavioral and environmental uncertainty. In this paper we examined cooperative strategies between vertically related firms. The organizational choices available for managing vertical relationships were conceptualized as falling between pure market exchange and full internalization and include arrangements such as relational contracting, strategic alliances, and equity joint ventures.

Figure 3

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┌──────────────┐              ┌────────────────────┐
│  Behavioral  │              │                    │
│ Uncertainty  │              │      Form of       │
└──────────────┘              │                    │
       │                      │     Vertical       │
       ▼                      │                    │
┌──────────────┐              │   Organization     │
│ Transaction  │─────────────▶│                    │
│    Costs     │              │    (Degree of      │
└──────────────┘              │  Quasi-Integration)│
       ▲                      │                    │
┌──────────────┐              │                    │
│Environmental │─────────────▶│                    │
│ Uncertainty  │              │                    │
└──────────────┘              │                    │
┌──────────────┐              │                    │
│    Firm      │─────────────▶│                    │
│  Resources   │              │                    │
└──────────────┘              └────────────────────┘
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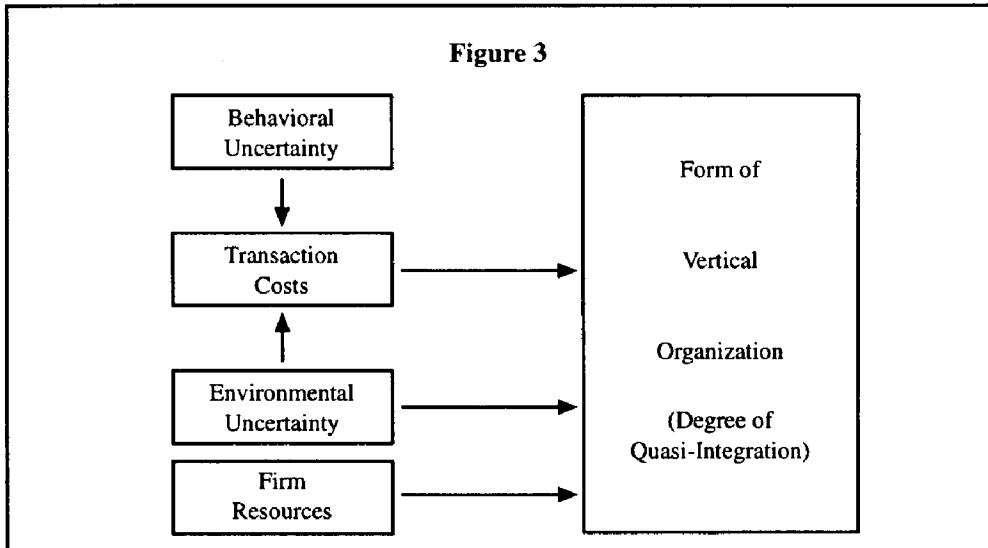
Figure 3 presents an integrated model of the choice of organizational form which includes insights from the emerging resource-based view. The model holds that the organizational arrangements chosen to facilitate inter-firm cooperative strategies between vertically related firms are contingent upon the level of transaction cost, the level and type of uncertainty faced by the firms, and the firms' resource endowments, that is:

degree of integration = f (transaction costs, behavioral uncertainty, environmental uncertainty, firm resources)

The model presented in this paper and displayed graphically in Figure 3 allows us to extend earlier research which relies exclusively on transaction cost economics and organizational theory to explain and predict optimal organizational forms. This is important because, while traditional explanations of organizational form provide valuable insights, they cannot account for the wide variety of alternative organizational arrangements that are observed across firms in the same industry. Careful attention to the resource bases of the individual firms represent the beginning of a more productive approach. The present research extends our understanding of the determinants of the optimal level of quasi-integration by drawing upon the insights of the resource-based view of the firm. This is an important step toward developing more comprehensive prescriptions concerning optimal interorganizational form.

Some important implications for researchers follow from the present research. First, midrange theories are inherently limited in their ability to explain complex organizational phenomena. The present research has integrated the concepts from three such midrange theories, each from a different research tradition — transaction costs theory from economics, environmental uncertainty from or-

ganization theory, and the resource-based view from strategic management. Future advances in business policy and strategy will be enhanced by such integrative efforts. Second, we believe that tremendous opportunities exist in further developments and applications of the resource-based view. Still in its infancy, this perspective may represent an embryonic form of a unifying theory of strategic management. That is, it may provide the mechanism for understanding the firm in a holistic, rather than a reductionist, sense through its emphasis on the uniqueness of individual organizations.

There are also some relevant suggestions for practitioners implied by this research. A firm's primary long-term strategic thrust should be to build unique resources and capabilities that can provide the basis of future competitive advantage. Acquiring these resources in a marketplace is less likely to produce the desired results than the careful attention to the organization's internal development. On the other hand, resources that do not represent the firm's source of competitive advantage can be efficiently acquired through the use of cooperative arrangements, or quasi-integration, with other firms. Thus, an analysis of the firm's resources and competencies should be conducted prior to the implementation of a vertical integration or quasi-integration strategy.

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