Resources, Transactions and Rents: Managing Value Through Interfirm Collaborative Relationships

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Abstract

This paper offers a theoretical explanation for why interfirm collaborations form yet fail, and further suggests how firms might manage them for a more positive outcome. Based on a perspective of value, we explain how a more inclusive and integrative perspective, one which combines elements from transaction costs and resource-based theory, provides more robust insight into collaboration formation, management, and instability. In doing so, we differentiate rent-yielding firm-specific assets at the core of the resource-based view from the transaction-specific assets at the core of transaction cost theory.

The paper makes a crucial distinction between the potential value attainable through collaborations and its actual realization. The crux of our argument is that firms enter into collaborative relationships because these are expected to yield superior value relative to alternate organizational forms in certain situations, offering potentially synergistic combinations of complementary resources and capabilities, yet such relationships are frequently prone to failure because the partner firms tend not to recognize ex ante the nature and extent of transaction-specific investment that is required in the collaborative relationship to attain these synergies. In our argument, critically, the relationship between organizations is seen not simply as a governance structure of a hybrid nature but, more importantly, as a productive resource for value creation and realization. In this light, transaction-specific investment in what we term relational specificity becomes imperative.

In the search for value, we explain why the transaction costs incurred in the exchange of resources are not independent of the nature of resources to be transacted and, similarly, why the returns realized from these resources are not independent of the relationship- and transaction-specific expenditures incurred in effectively combining them and maintaining the combination. The interdependence between the two, mediated by the quality of the relationship, has direct implications for the earning of rents through collaborations. These relationship-specific expenditures can be of an internally generated nature, endogenous to the alliance form itself, and need not exceed alternative forms, while the associated benefits have the capacity to potentially exceed the alternatives. This translates into potentially superior value.

The paper contributes in three key related ways: (a) the explicit recognition of the relationship as a value-bearing asset embedded in a larger and endogenous institutional context, namely a system of resource relationships—both intra-organizational and inter-organizational—among partner firms and the collaboration, (b) the recognition of the evolving relationship between production and exchange which, at the level of the collaboration, is directly dependent on the nature, evolution, and dynamics of the relationship among the parties to the transaction, and (c) the provision of a nontrust explanation for why firms might knowingly forego opportunities to take advantage of their partners. Drawing from this, the paper occasions (a) a shift in focus from the form to the process of governance, which has direct implications for value creation and realization and (b) a shift in the primary identity of transaction-specific and relationship-specific expenditures from cost to investment in future value.
(*Interfirm Collaboration*; *Strategic Alliances*; *Resource-Based View*; *Transaction Costs*)

Collaborations between firms have become very popular in recent years, but have also been characterized by a high level of dissatisfaction with their actual outcomes relative to expectations and, correspondingly, a high rate of failure (Parkhe 1991, Dodgson 1993, Pearce 1997, Hennart et al. 1997). The high failure rate suggests that even when potential synergies are present, firms face substantial difficulties in attaining them. This paradox poses an important research question which is reflected in the increasing interest on the part of organization scholars in issues pertaining to alliance formation, ongoing relational dynamics and alliance stability and instability (Balakrishnan and Koza 1993, Parkhe 1993a, Kumar and Nti 1998, Gomes-Casseres 1996, Larsson et al. 1998). Research suggests that many of the advantages that firms bring to the alliance tend to have a significant tacit component (Mowery

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et al. 1997). This paper is accordingly concerned with a specific collaborative context, namely those alliances which require a mutual and synergistic pooling of resources and capabilities and a substantial degree of commingling between partners, in terms of people, systems, skills, etc., in order to attain their objectives through sharing tacit knowledge. More than the legal form of ownership, the key issue in these collaborations is the strategic intent to combine the relevant organizational resources and capabilities of two (or more) partners in the search for a sustainable competitive advantage. Similar to Parkhe (1993a) and Teece (1992), the above definition excludes market-like exchange agreements.

This paper offers a theoretical explanation for why interfirm collaborations form yet fail, and further suggests how firms might manage them for a more positive outcome. Our arguments derive from two major theoretical perspectives in the strategic management literature: the transaction cost (TC) and resource-based (RB) theories of the firm. Both TC (Williamson 1991, Balakrishnan and Koza 1993, Hennart 1988, 1991) and RB (Eisenhardt and Schoonhoven 1996, Hamel et al. 1989) arguments have been used independently as a basis for furthering understanding of collaborations between firms. In line with their primary domains of interest, the TC perspective is primarily concerned with the management of transactions in an efficient manner through the least cost (i.e., TC minimizing) form of governance, under the assumption of opportunism (Williamson 1985), while the RB view is concerned with the management of resources in a manner which increases the competitive advantage and consequent rents that can be obtained from firms' resources (Peteraf 1993). Our paper takes a more integrative stance, based on the understanding that the TC incurred in the exchange of resources are not independent of the nature of resources to be transacted and, similarly, the returns realized from these resources are not independent of the transaction-specific expenditures incurred in effectively combining them and maintaining the combination.

The crux of our argument is that firms enter into alliances of the type defined above because these are expected to yield superior value to alternate organizational forms in certain situations, offering potentially synergistic combinations of complementary resources and capabilities, yet such alliances are frequently prone to failure because the partner firms tend not to recognize ex ante the nature and extent of transaction-specific investment that is required in the collaborative relationship to attain these synergies. In our argument, critically, the relationship between organizations is not seen simply as a governance structure of a hybrid nature but, more importantly, as a unique and productive resource for value creation and realization. In the search for value through the alliance, we demonstrate the importance of transaction-specific investment in what can be termed relational specificity. We also differentiate rent-yielding firm-specific assets at the core of the RB view from the transaction-specific assets at the core of TC theory and explain why it is important to understand the interdependence between the two which, mediated by the quality of the relationship, has direct implications for the earning of rents through the collaboration.

In its attempt to integrate elements of TC and RB theory, our approach follows the path-breaking stream of work by Teece, done both independently (Teece 1982, 1986) and in collaboration with others (Teece and Pisano 1994, Teece et al. 1994). Teece's work, however, is geared primarily toward understanding the specific issue of efficient firm boundaries, while this paper focuses more on the less often addressed but equally important issue of the management of boundary relationships themselves, specifically alliances. Second, our work is complementary to that of Gomes-Casseres (1996) in that he examines collaboration formation and failure at the industry level whereas we do so at the level of the individual transaction. Third, our argument builds on the idea of transaction value presented by Zajac and Olsen (1993), who specified joint value creation as a reason for interfirm collaboration (also Dyer 1997), but goes further to specifically identify and describe the sources of this value and to provide a theoretical explanation for the costs that firms may need to incur in order to secure such value.

The paper contributes to the organizational literature and to the themes of the special issue in three key related ways. First, the alliance relationship is shown to be embedded in a larger endogenous institutional context, namely a system of resource relationships—both interorganizational and intra-organizational—comprised of both the partners as well as the alliance in which the partners are engaged. Second, the output of an alliance is argued to be a collective good in the sense that it is not only generated collectively but also because the benefits are available to both parties, even if differentially so. This output's value is exclusively attached to the alliance and unavailable outside of it. However, the production of such a collective good is inextricably intertwined with the underlying dynamics of exchange among the parties involved. This places a premium on the quality of the relationship and on the returns from investing in it and underlines the key distinction made in the paper between the potential value attainable through an alliance and the realization of such value. Third, our discussion of various kinds of quasi-rents, and the implications of the interrelationships among them for the cost-benefit calculus associated with opportunistic behavior, provides a nontrust

explanation for why firms might forego opportunities to take advantage of their partners.

The above arguments underline: (a) the explicit recognition of the relationship as a value-bearing asset in and of itself, (b) a shift in focus from the form of governance, with its emphasis on the governance structure and formal safeguards against opportunism, to include the process of governance, which has direct implications for value creation and realization through the alliance, and (c) a shift in the primary identity of transaction-specific expenditures from cost to investment in future value.

Value in Interfirm Collaborations

The key premise of the paper is that viability in alliances is based on the net value of the collaborative transaction. Value is defined as the net rent earning capacity of an asset or resource, tangible or intangible. Rather than efficiency through economizing on (transaction) costs, the value perspective approaches boundary-related phenomena in terms of cost-effectiveness with respect to rent-earning capacity. In an alliance, such value can be conceptualized in terms of the ability of the partners to earn rents over and above what could have been achieved in the absence of the partnership, i.e., in alternative organizational arrangements. We can specify this relationship simply as:

$$V'_{\text{ifc}} > V'_{\text{alt}'} \tag{1}$$

where $V' = (R' - C')$ and

V' denotes potential economic value,
R' denotes potential rents to specialized resources,
C' denotes potential costs or expenditures specifically associated with transacting through an alliance,
ifc refers to the use of an interfirm collaborative organizational form,
alt refers to the next best alternative organization form.

There is a key distinction, however, between the potential value attainable through an alliance and the realization of such value. The former aspect has more to do with the choice of organizational form and refers to the theoretical synergies arising from the ideal combination of complementary resources and capabilities, while the latter aspect reflects the realities on the ground and has more to do with the effectiveness of the actual management of the alliance. The two aspects are related of course, in that value cannot be realized beyond its underlying potential. We therefore address both aspects. However, our primary interest lies in realized value, with the discussion of potential value basically serving to provide the "raw material" and the platform upon which we build the subsequent arguments. The pursuit and realization of value through an alliance requires a greater appreciation of the relationship management process, this being essential for a more informed understanding of alliance dynamics and outcome (Parkhe 1993b, Kumar and Nti 1998, Larsson et al. 1998, Doz 1996). The distinction between the two aspects of value in an alliance can be represented as follows:

$$V_{\text{ifc}} < V'_{\text{ifc}} \tag{2}$$

where V denotes the realized value of the alliance transaction and $V_{\text{ifc}} = f(V'_{\text{ifc}'}$ relationship-specific investment).

Clearly, it would be to the benefit of the partner firms to minimize $V'_{\text{ifc}} - V_{\text{ifc}}$. The second inequality suggests that internal systemic imperfections act to reduce realized value below potential value. While assessments of potential value treat transactions as clearly defined and unique economic events, our emphasis on minimizing $V'_{\text{ifc}} - V_{\text{ifc}}$ inherently recognizes the importance of treating the alliance as a transaction embedded in a larger organizational system of parent firms and alliance, as well as a continually evolving relationship embedded in a largely non-reversible pattern of ongoing organizational decisions (Doz 1996). The difference between V'_{ifc} and V_{ifc} can be attributed largely to the quality of the relationship between the parent firms. To the extent that expenditures dedicated specifically toward developing and enhancing the relationship are compensated by corresponding, if not greater, reductions in $V'_{\text{ifc}} - V_{\text{ifc}}$, these expenditures can be viewed as relational (and relationship-specific) investments in future value which bring realized value closer to its true potential.

Resources, Rents, and Transactions

Above, we tied value to the rent-earning capacity of an asset or resource. With respect to rents, an important distinction can be made (Peteraf 1993) between Ricardian rents, or rents arising from the possession of unique and valuable resources (scarcity value), and Pareto- or quasi-rents, or rents arising from the imperfect mobility of resources which are more valuable (i.e., able to generate greater rents) when housed within a particular firm than in any other firm (association value). To quote Peteraf (1993):

> Resources are imperfectly mobile when they are somewhat specialized to firm-specific needs (p. 183). . . . The rents are in fact *jointly* produced and are as much due to the firm as to the factor. A specialized factor cannot be so productive apart from the firm. [This] productivity is attributable as much to the context and other elements of the firm as to the factor itself. The firm and the factor are, in essence, a team (p. 184).

Such firm-specific quasi-rents are largely derived from tacit, organizationally embedded, and socially complex resources and capabilities which are not easily replicable by other firms (Barney 1991, Reed and DeFillippi 1990). They tend to be more sustainable in nature than Ricardian rents in that, even if another firm acquired a particular Ricardian resource, it might not be able to generate the same level of rents from it. This condition arises due to the specialized manner in which the original firm bundles and manages the Ricardian resource along with other firm resources and capabilities.

Three kinds of quasi-rents are of importance to alliances. First are the firm-specific quasi-rents (FSQR) central to RB theory. Second are the transaction-specific quasi-rents (TSQR) central to TC theory. As the terms suggest, the two are associated respectively with the firm specificity and the transaction specificity of assets or resources. While the former reflects the difference in the value of an asset or resource, in terms of rent generating ability, when associated with a particular *user* relative to the next best one, the latter reflects the difference in value between its application in a particular *use* relative to the next best one (Klein et al. 1978). Firm-specific resources could be gainfully applied to multiple uses in various product-markets through internal or external transactions, and in combination with various complementary assets (Teece 1986). In contrast, although firm-specific resources and transaction-specific ones typically complement one another in order to provide greater economic value within a particular application, the latter tend to be specific to a particular transaction.

Third are the interfirm or collaboration-specific quasi-rents (CSQR). These are tied specifically to the alliance and arise from the combination of both transaction-specific and the relevant firm-specific resources of both firms into a synergistic bundle that enables a level of accomplishment which the partners are unable to attain in the absence of the collaboration. In essence, the two firms can potentially push the Pareto-frontier outward jointly and thus generate quasi-rents exclusively through the alliance. These quasi-rents are dependent not just on the existence of the transaction but rather on the manner in which it is effectuated. In Khanna's (1998) terminology, these CSQR would be considered as common benefits. Besides the CSQR, a collaboration may also potentially benefit a firm through an accretion to its FSQR as a result of positive spillovers. For example, through the collaboration, the firm may gather new knowledge which it is able to combine uniquely with other resources resident in the firm in a value-adding manner so as to increase their rent-generating capacity outside of the collaborative relationship. This is an indirect benefit of alliances which, in Khanna's terminology, would be considered as permanent private benefits.

Broadly speaking, rents result from the efficient and effective development, deployment, allocation, exchange, and utilization of resources (Lado et al. 1997). Alliances are especially valuable when they provide firms with an avenue for the sustained earning of rents in situations where competitive advantage requires the synergistic combination of resources which a firm is unable to purchase through a market transaction or to develop internally in a timely and cost-effective manner. The decision to form an alliance implies that:

a) The firm does not possess the entire bundle of resources and capabilities needed for the sustainable earning of rents in a particular domain of activity and lacks the capability to develop them competitively in-house. This is because tacit and complex resources are largely path-dependent, idiosyncratic, and specialized to the history of a given firm (Nelson and Winter 1982, Teece et al. 1997, Teece et al. 1994) and are subject to diseconomies of scale, scope, and time as compared to the firm which already possesses them (Dierickx and Cool 1989). If the firm cannot develop, in a timely and cost-effective manner, the complete set of capabilities that it needs to maximize the rents from its key strategic resources, then it must look beyond its boundaries for them.

b) Markets are unable to adequately bundle together the relevant tacit resources and capabilities (Teece and Pisano 1994, Kogut and Zander 1992, Ghoshal and Moran 1996, Grant 1997, Madhok 1997). Being distributed throughout and embedded within the firm itself, such resources are difficult to identify, evaluate, and exchange through arms-length transactions without loss in value (Madhok 1996a, 1997). Markets are effective (efficient) at exchanging general and substitutable resources and know-how (Powell 1990) which are easy to identify and articulate and can be separated from the possessing firm without loss in value, but are handicapped in transmitting deeper knowledge even if the value of the resource/capability can be established. Alliances are more able than markets to provide the flexible relationship and the qualitative coordinative mechanisms that facilitate the effective transmittal and coordination of tacit knowledge flows (Richardson 1972, Loasby 1994).

c) A third avenue for the attainment of specific resources and capabilities is acquisition. However, the relevant resources may be difficult to separate out distinctly from the firm which holds them and, due to the association value, may lose part of their value on separation from the whole (Chi 1994, Hennart 1988). On the other hand, the whole may be too much to swallow and often brings unneeded and unwanted resources into the transaction.

Such concerns create difficulties in valuing the acquisition. Besides, fully digesting an acquisition is a costly and uncertain undertaking, the process of which often undermines the tacit competencies most desired (Chi 1994, Haspeslagh and Jemison 1991).

Under the above conditions, an alliance would appear to be a particularly suitable and attractive means of building a rent-generating resource bundle. In our mathematical notation, from the RB viewpoint, the choice of an alliance is in line with the theory's strategic orientation that:

$$V'_{max} = f\,(R'_{max}). \quad (3)$$

As stated though, the synergistic combination of firm-specific resources so as to increase the extent of CSQRs attained (plus any indirect accretion to a firm's FSQR through the alliance) particularly requires dedicated expenditures of a transaction-specific nature in order to approach the potential value of these rents (i.e., minimize $V'_{ifc} - V_{ifc}$).

The expenditure of resources of a transaction-specific nature is particularly central to TC theory. On one hand, the attraction of committing resources specifically to a particular transaction is that it potentially improves the returns from a particular transaction. On the other hand, from the standpoint of TC theory, the extent of commitment of transaction-specific assets or resources is directly tied to the level of TSQRs and increases the risk that a partner would act opportunistically to (mis)appropriate these rents. This is because transaction-specific investment results in switching costs and consequent reduced flexibility since, once committed, a firm faces difficulty and costs in generating equivalent value in alternate purposes due to the very specificity (Williamson 1985). The losses from any opportunistic behavior as well as the resources expended on protective mechanisms detract from the benefits derived from the collaborative transaction.

There is therefore a tradeoff involved in committing to a specialized investment (Richardson 1972, Parkhe 1993a), since the gains and risks of specialized investments, with their opposing effects on the cost-benefit calculus, are two sides of the same coin. In approaching this tradeoff, the TC perspective is oriented primarily toward the cost side. Accordingly, with the intent of protecting against (mis)appropriation of the associated TSQRs, the theory argues that the level of transaction-specific investment will drive the choice of organizational form, with the TC being lowest when the level of specificity of investment matches the characteristics of the organizational form (Williamson 1991). In this view, the following holds:

$$V'_{max} = f\,(C'_{min}). \quad (4)$$

However, the TC argument ignores the interdependence, in the search for value, between the respective firm-specific resources, the resources specifically dedicated to the transaction, and the collaboration-specific rents. As explained later, the interrelationships among these three kinds of quasi-rents change the cost-benefit calculus and the consequent payoff from opportunism. These interrelationships therefore need to be carefully examined together, in their totality, in order to more fully understand the tradeoffs and the relational dynamics between partner firms in the extraction of value through their alliances.

To sum up then, from a resource perspective, the value of an alliance arises primarily from the unique CSQR and indirectly through any incremental FSQR. From the TC perspective, value arises from lower TC, the extent of TC depending on the level of the TSQR. However, the reality of an alliance transaction is such that the rents generated and realized through the alliance and the associated costs in the process of doing so are bound closely to each other, with the actual rents depending not just on what resources are combined but also on how this combination is accomplished.

The Relationship as a Specialized Resource

So far, except in passing, we have not addressed the distinction between actual value and potential value. Typically, most assets or resources need to be actively managed, together with a bundle of other assets and capabilities and often requiring specific and committed expenditures, in order to properly extract value from them. In order to understand why the relationship should be considered a specialized resource or asset, it is important to recognize the crucial distinction between the true synergistic potential attainable through an alliance relationship and the realization of this potential. The scope to tap the underlying potential of an alliance relationship fully is greater when the relationship is characterized by a positive and mutual orientation than just by the avoidance of opportunism (Ring and Van de Ven 1992; Madhok 1995a, b; Dyer 1996). In a relationship dominated by protection against opportunism, firms tend to be reluctant to make unilateral and voluntary commitments outside the terms of the contract, and tend to perceive a greater need to take costly and elaborate safeguards (Parkhe 1993a, Ring and Van de Ven 1992, Lado et al. 1997). This diminishes the level of value created and realized through the relationship (Hill 1990, Pearce 1997). In contrast, the development of a mutual orientation not only restrains the tendency toward opportunistic behavior, and hence the perceived need for safeguards, but also provides an opportunity to earn greater rents through a

more effective blending of resources/capabilities (Nooteboom 1996, Dyer 1997).

In essence, the nature of interaction within a relationship is a critical aspect of the relationship (Madhok 1995a). By potentially yielding a higher level of CSQR than would be attainable in the absence of "true" mutuality, the relationship in and of itself behaves as an intrinsic source of value. Differently put, the difference between the value realized under a predominantly safeguarding orientation and a more mutual one can be considered to be the real value of the relationship itself. In this way, it takes on the characteristics of an asset, one whose effective exploitation in the pursuit of value requires the incurrence of expenditures specifically dedicated toward developing and advancing the relationship. A closer relationship facilitates more intimate interaction and enables the firms to push the joint frontier further outward through a more effective amalgamation of the relevant resources, which in turn manifests itself in a higher level of CSQR and even a possible accretion to a firm's FSQR.

While expertise in relationship management can be seen as firm-specific know-how which might be generally useful across different collaborations, much of the relationship-building activity tends to be very specific to the individual and small group interactions within the particular alliance. Therefore, expenditures dedicated toward the relationship—not just monies but also managerial time, energy, and effort—acquire the properties of a transaction-specific investment (i.e., they are specialized to the particular application and not transferable to alternate uses), and include "not only the economic and technological resources of participating firms but also social commitments and entanglements of individual agents" (Ring and Van de Ven 1994, p. 106). Yet, while on the one hand these investments become "a sunk cost of relationship development inhibiting mobility" (Dietrich 1994, p. 10; Pearce 1997), on the other such specific expenditures behave as relational (asset) specific investments and positive relational signals which enable the coordination of commitments in the process of creating and realizing value. Thus, relational investments act to embed the alliance in the very same process which serves to increase the quasi-rents from the collaboration.

Now recall that from the perspective of TC theory firms seek to structure a governance arrangement which minimizes transaction costs under the assumption of opportunism. In accordance with the logic, if the firm has chosen to form an alliance under TC considerations, then the alliance must reflect a lower level of TC than other forms. Note however that, to the extent of the difference in TC between the least cost form, in this case the alliance, and the next least costly alternative, there is scope to incur additional transaction-specific expenditures while still being the TC economizing form. But why would a firm want to incur such expenditures? The answer to this lies in the distinction between the true synergistic potential and the realization of this potential (i.e., $V'_{\mathrm{ifc}} - V_{\mathrm{ifc}}$). As explained, transaction-specific expenditures, when dedicated toward improving the quality of the relationship, potentially enable firms to realize greater rents through the alliance than they could have otherwise. Where this increase in rents is greater than the incremental expenditure, it makes economic sense to incur such expenditures since they behave as investments in relational capital which yield a payoff in future returns. Indeed, a firm may even choose to incur relationship-specific investments to the point where an alliance is no longer the transactionally least cost mode so long as there are sufficient returns to doing so. Basically, the additional rents justify the additional costs and amount to more fully managing an asset.

To sum up the entire section, we stated in the beginning that $V'_{\mathrm{ifc}} > V'_{\mathrm{alt}}$, $V'_{\mathrm{ifc}} > V_{\mathrm{ifc}}$, and $V_{\mathrm{ifc}} = f(V'_{\mathrm{ifc}}$, relationship-specific investment). To the extent that the quasi-rents gained from developing and exploiting the resources and capabilities through an alliance exceed the costs associated with organizing these resources and capabilities, alliances enable the firm in its pursuit of value. By making relationship-specific investments, while remaining the TC economizing form, firms can increase V_{ifc} and minimize the difference $V'_{\mathrm{fc}} - V_{\mathrm{ifc}}$. Therefore, from a value perspective, what TC theory sees as costs to an administrative form can be viewed as specialized investments in future value. Other than the differential in TC, additional sources for such investment are potentially available from the incremental benefits available through the anticipated increase in the CSQR (or even the increment to the FSQR), so long as the associated costs are lower than the rents generated. In an important way then, the relationship-specific expenditures can be of an internally generated nature, endogenous to the alliance form itself, and need not exceed alternative forms, while the associated benefits have the capacity to potentially exceed the alternatives. This translates into potentially superior value.

Managing the Alliance for Net Value

The above discussion is of fundamental importance to the management of alliances since it suggests that, in the search for value, a stringent concern with cost minimization may not be economically optimal, but that additional transaction-specific expenditures, properly committed, can significantly increase the value attained

through the alliance relationship. This argument has important implications for the allocation and misallocation of resources, both in respect to the relationship management process as well as in managing the tradeoffs firms necessarily confront when engaging in an alliance. Particularly central to the argument is the interaction of the costs associated with the transacting of resources and the nature of the resources to be transacted within the alliance. In this section, we explain how a value perspective on alliances encourages a level of intimacy among partners in the quest for synergies. To the extent that the synergistic combination of tacit resources and capabilities requires a greater degree of intimacy to attain the true alliance potential, it necessarily exposes a firm to the risk of opportunism. Yet, the very property of tacitness simultaneously limits this risk by making such behavior not economically worthwhile, due to the embeddedness of the unique CSQR within the collaboration system of alliance and parents.

The Relationship Process

To anticipate the key point, the realization of the synergistic potential which motivates firms to collaborate closely also requires them to incur greater expenditures in effectuating and managing the relationship than would be the case in a more arms-length relationship. In the search for value through an alliance, partner compatibility is especially important (Geringer 1988, Dodgson 1993), both in terms of strategic compatibility and of specific resources and competencies, since it affects both the synergistic rent potential and the ability to realize such rents. Two issues are critical for anticipated rents to be more fully realized: the partner's ability and the partner's willingness and commitment. In order to both identify potentially synergistic resources as well as to safeguard against opportunism, the partner selection process necessarily entails the incurrence of transaction costs, such as search, selection, evaluation, negotiation, and enforcement costs.

The vulnerability to self-interested behavior by a partner is exacerbated in situations where the pertinent resources and behavior are not readily transparent. Ironically, the very characteristics which make tacit resources valuable, such as complexity, causal ambiguity, and, in general, organizational embeddedness, and which underlie alliance formation and synergistic rents, also complicate the transaction (Chi 1994). First, it is challenging to define, recognize, and verify resources which provide "causally ambiguous" rents, to assess the potential for mutual complementarity, and to evaluate the possible synergies. Second, by their very nature, embedded resources intensify both the extent of information asymmetries between partners as well as the extent of ambiguity in specification and measurement of input, output, or contribution. This situation aggravates concerns of opportunism by creating more scope for opportunistic behavior and, consequently, increases the difficulties and costs of contracting, which in turn increases the associated TC.

In other words, tacitness in itself increases the complexity of combining the respective resources of the partners and, correspondingly, the relationship-specific expenditures associated with earning these rents. The earning of CSQRs through the combination of tacit resources is characterized by intensive and ongoing interaction and demands a considerable amount of time and effort and a long-term perspective in order to build a compatible framework and create the "intimate connection" necessary to realize the true value offered by the relationship (Loasby 1994, Dodgson 1994, Ring and Van de Ven 1994). Yet, such interaction behaves as a double-edged sword since, in order to attain the underlying purpose of transferring, absorbing, and, generally, more effectively combining complementary capabilities at the heart of the collaboration, the firm also exposes critical resources and capabilities to transmission through the alliance to the partner firm (Hamel 1991). Safeguarding against such an eventuality further increases TC.

Yet, even though the relationship process is replete with uncertainty, it is important. Over-economizing on the transaction-specific expenditures associated with the search for the "right" partner, both in terms of ability and willingness, may hinder the pursuit of value if it compromises partner compatibility and adversely affects the quality of the partnership. Yet, there are tradeoffs involved (Pearce 1997) since excessive contractual specifications ex ante, before commencement, may handcuff the alliance in its pursuit of value by limiting its flexibility and capacity for change and development in the face of changed circumstances. On the other hand, inadequate safeguards may render the firm vulnerable.

In brief, expenditures associated with the transacting of tacit resources are likely to be higher in an alliance relationship. Besides the concerns regarding safeguards, the need for "soft" relationally-oriented investment is especially high in the early formative period of a relationship, both ex ante and ex post the agreement. This helps build the foundation for subsequent stages and has the potential both to generate greater confidence and to enable the formation of norms, which facilitates coordination and reduces the probability and scope of conflict later (Madhok 1995a, 1995b; Ring and Van de Ven 1994). Without such relationally-oriented investments, the likelihood of fully tapping the quasi-rent potential from the alliance relationship is reduced. As a result of relational investments,

the governance of the relationship begins to shift in emphasis from a formal and contractual nature to a more informal and mutually oriented one (Madhok 1995a, Parkhe 1993a, Pearce 1997). Early understanding and confidence also enhances the opportunities to combine tacit capabilities and resources.

The Browning et al. (1995) description of SEMATECH's formative years richly demonstrates the importance of these early relationally-oriented expenditures in the light of the initial ambiguity and confusion about roles, responsibilities, systems, and procedures. Basically, some degree of patience and commitment are essential to creating a new and co-specialized rent bundle and then managing it to create and realize idiosyncratic value. As individuals, teams, task forces, and so forth from the partners begin to interact with each other, investment of time, money, and effort must be undertaken to build strong and lasting relationships. Since such roles, responsibilities, and systems are often difficult to contractually specify ex ante and must evolve over time through interaction, organization slack and flexibility become critical at the time of startup (Borys and Jemison 1989). Doz's (1996) research makes the same point.

Note, importantly, that even if there were no opportunism, i.e., when the collaboration is characterized by both ability and commitment on the part of the partners, the combination of resources in an intimate and substantive manner, by its very nature, is nevertheless fraught with difficulty. There is a distinction between the structural dimension, where resource complementarity leads firms to cooperate for economic purposes, and the process dimension, which frequently acts to undermine the potential gains from cooperation (Parkhe 1991, Madhok 1995b). The latter is crucial to the success or failure of organizational combinations (Parkhe 1993b, Tallman and Shenkar 1994, Jemison and Sitkin 1986).

The significance of the process dimension once again underscores the importance of the quality of the relationship. In this regard, it is important to recognize that the relationship process is not linear but circular in nature (Zajac and Olsen 1993, Doz 1996), containing feedback loops characterized by "a repetitive sequence of negotiation, commitment, and execution stages, each of which is assessed in terms of efficiency and equity" (Ring and Van de Ven 1994, p. 97). In effect, the repeated circularity of the process entails ongoing, relationally-oriented, transaction-specific expenditures or investments involving renegotiation, renewed commitment, and constant reconfiguration in the light of equity and efficiency considerations. Such a readjustment process is essential for each partner to continue perceiving value in the relationship (Arino and de la Torre 1998, Kumar and Nti 1998, Doz 1996). In addition, there is an element of mutual education involved in the process, in terms of teaching and learning, which enables the partners to better understand, receive, and process each other's complementary contributions (Nooteboom 1996). This in turn has a positive effect on the level of CSQR attained, which would serve to reduce $V'_{\mathrm{ifc}} - V_{\mathrm{ifc}}$.

The gist of the above is that the pattern and quality of interaction between partners throughout the life of the alliance relationship determines the value created and derived from it since, to create and realize economic value, partners must supply resources and effort into the alliance (Kumar and Nti 1998). The process of actually generating the anticipated CSQR from the collaborative relationship is facilitated by the establishment of an open, positive working relationship from the outset, while interaction of a guarded and suspicious nature is not only unlikely to generate synergies, it is also difficult to overcome once established. In a detailed case study, Arino and de la Torre (1998) investigate in detail how the deteriorating pattern of interaction between the partners, and the reevaluation through the feedback loop, negatively affects the quality and continuity of the relationship. This then increases $V'_{\mathrm{ifc}} - V_{\mathrm{ifc}}$.

On the other hand, though incurring higher transaction-specific expenditures during the initial search and negotiation phases and during the early stages after the commencement of the relationship increases transaction costs up-front, yet, by creating a solid foundation, it may not only increase the CSQR but also may eventually reduce TC over the longer term (Dyer 1996). This is due to lower subsequent "maintenance" costs in that lesser monitoring and enforcement is required as the relationship becomes characterized by coordinative efficiency and flexibility (Jarillo 1988, Ring and Van de Ven 1994, Madhok 1995a). Moreover, greater information sharing under a cooperative regime results in lower information asymmetries which reduces the scope for opportunistic behavior and hence the costs of protecting against it (Ring and Van de Ven 1992, Kumar and Nti 1998). Dyer's (1997) in-depth investigation of the automotive industry revealed how a shift in the nature of interaction from a more safeguarding to a more committed and mutually oriented one, characterized by a substantial increase in the investments in interfirm coordination mechanisms and relationship-specific assets—plant, equipment, systems, processes, people—on the part of both parties, increased the value attained by the Japanese automakers through their relationships with their suppliers, both in terms of synergies as well as eventually lower TC.

From the above, to the extent that (a) transaction-specific expenditures result in a corresponding increase

in the level of rents attained, both CSQR as well as any accretion to the FSQR through the collaboration, and/or (b) similar outcomes can be attained at a lower TC, this contributes to value, as defined. Due to both these effects, therefore, relationally-oriented transaction-specific expenditures behave as an investment in future value. Hence, over-economizing on such expenditures may well amount to a misallocation of resources with an adverse impact on long-term value.

Quasi-Rents and Opportunism in Embedded Relationships

The pursuit of value though the alliance, however, also compels firms to make tradeoffs against opportunism-related risks which potentially reduce the transaction value. This underscores the importance of protecting the interests of the parent firms. Yet, as stated earlier, excessive reliance on overly and overtly protective measures tends to hamper development of a closer and more mutual relationship. A superficial relationship, characterized by a safeguarding orientation and a low level of commitment, obstructs the fuller earning of the associated CSQRs. This does not mean at all to suggest that firms should not invest in protection mechanisms. Clearly, the risk of opportunistic behavior is ever present, even more so when specialized investments are greater, and firms must have recourse to safeguards. The important point is that, while investing in protective mechanisms may be necessary, overemphasis on these may end up hindering the pursuit of value.

The interrelationship among the different kinds of resources, and related quasi-rents—FSQR, TSQR and CSQR—is crucial in assessing and safeguarding against the risk of opportunism. In the search for value within a particular transaction, transaction-specific and firm-specific resources frequently tend to complement one another, in that the commitment of transaction-specific resources (which are the source of TSQRs), in combination with the firm-specific resources of the respective partners, enable and augment the earning of CSQRs. It is important to recognize here that the transaction-specific resources committed to a particular transaction is only one element of a larger and more composite resource bundle to which the transaction-specific component may or may not be richly connected. TC theory tends to focus mainly on the loss of the TSQR as a result of opportunistic behavior by a partner. However, only in situations where there is a superficial relationship between the transaction-specific resources committed and the firm-specific resource bundle which complements them are the associated TSQRs at a significant risk of being (mis)appropriated by an opportunistic partner. On the other hand, in situations where the transaction-specific resources committed are richly interconnected with the various components of the composite of resources of which they are a part, both directly and indirectly through association with one another, it is more difficult for another firm to capture the associated TSQR. This is because a richer and more substantial relationship tends to be characterized by greater social complexity, causal ambiguity, and the like, which in turn results in greater inimitability (Barney 1991). In other words, the value associated with the transaction-specific asset or resource is tied to other idiosyncratic and firm-specific resources and hence declines when isolated from the rest of the bundle (Madhok 1996a).

The above argument changes the cost-benefit calculus, and hence the associated payoff, of opportunistic behavior and suggests that a firm may not be as vulnerable to opportunism in an alliance as might appear on the surface. This is because misbehavior, i.e., appropriative behavior, can affect the rents earned by the opportunist negatively (Larsson et al. 1998), especially where the rents are more of a Pareto rather than a Ricardian nature. If opportunistic behavior by firm B, say, to exploit the transactional asset specificity and capture the related TSQR weakens firm A's commitment and endangers the level and quality of future cooperation, such behavior may not be worthwhile to B in a value sense for the following reasons. First, in a situation where A's firm-specific resources and the transaction-specific ones committed to a specialized investment are closely tied together, while B could seek to appropriate the associated TSQR, it also risks sacrificing the unique value the transaction-specific asset derives from being attached exclusively to A because of the idiosyncratic organizational context that A provides. Such value loss would be even more so if B were not the next best user. Furthermore, interaction of a more arms-length nature as a result of the deterioration in the quality of the relationship could compromise additional benefits and result in not only some portion of the CSQR being foregone but also in the loss of any accretion to B's FSQR uniquely through the collaboration. Of course, B may try to replicate the relevant resource bundle internally but this is difficult, costly, and frequently imperfect, and could consequently result in value loss. For all the reasons above, opportunistic TSQR appropriation may well amount to value-inefficient behavior since it pursues self-optimization at the sub-systemic level while ignoring the system interdependencies and the ramifications thereof. On the other hand, though superficial resources may be vulnerable to opportunism, they may in any case not be so valuable in a sustainable rent-earning sense due to their very superficiality.

In brief then, the density of the relationship between

firm- and transaction-specific resources, along with the centrality of combining respective resource bundles in an interdependent manner so as to more fully attain collaboration-specific rents, is a particularly critical aspect of an alliance transaction since it essentially acts as a protective umbrella (Madhok 1996b) and lowers the risk of opportunism, *even in the absence of any "trust" between the organizations.* Further, a lower perceived risk of opportunism reduces the expected value of loss should an opportunistic partner attempt to seize the TSQR. The net result is firms need not resort to as elaborate a level of formal safeguards as might be the case otherwise. In situations where the resource interrelationships control for opportunism and inherently provide a significant level of "natural" protection, high levels of protective measures needlessly entail a higher level of TC than necessary, while returns from expenditures associated with more formal safeguards would be only marginal at best. As earlier, value is added to the extent that similar outcomes can be attained at a lower level of TC and/or through the fuller realization of the CSQR, which is intrinsically dependent on the quality of the relationship. In such a situation, therefore, investing in formal safeguards amounts to a misallocation of resources since these resources could instead be better utilized toward developing the relationship in a direction oriented toward creating and realizing value.

Parent Dissatisfaction and Failure of Alliances

The arguments put forward so far can be brought to bear upon the issue of managerial dissatisfaction and failure through several possible scenarios. First, it is possible that firms and their managers both under-appreciate the notion of (relationally-oriented) transaction-specific expenditures as investments in future value and underestimate the importance and extent of such investments. If the value of an alliance is considered from a net present value perspective, the initial expenditures are high and extend over a substantial period of time before any significant revenues can be expected. This is because costs and returns are temporally skewed toward different periods of the relationship. With the effective realization of the synergistic potential being a lengthy and laborious process, rents, in contrast to "costs", are biased toward later periods. While some returns may occur shortly after the alliance is formed, synergistic quasi-rents, upon which the alliance is justified, will not be effectively and efficiently generated until key actors learn how to interact and to apply their know-how mutually, tacit understandings are in place, the combination of strategic and complementary capabilities is complete, and a unique output reaches the marketplace. Moreover, the benefits are more variable and uncertain and are highly dependent on the pattern of relational investment in the earlier stages. Yet, without such investments, the revenue stream is likely to be adversely affected while, to realize increased revenue, expenditures must shift upwards. There is a necessary and delicate tension between the two.

In this light, a net present value analysis is likely to reveal a visibly dismal picture if firms are not fully committed toward the alliance. Such pessimism would be exacerbated under a scenario characterized by fear of potential opportunism, since such apprehension would entail a higher discount rate applied over a shorter time frame, and this in a situation which we argue actually controls for opportunism. If such pessimism undermines the level of commitment toward the relationship, the result would be a self-fulfilling prophecy of failure.

Second, a modification of the first situation is that the expected rents may not be available at expected levels to both parents. Failure could therefore occur if one partner perceives itself to be putting more into the alliance than it is receiving, not just relative to its partner but also relative to its own means. Particularly in the situation where the parents are of very different size, one (typically the smaller partner) would probably put a more significant portion of its available rent-earning resources into the alliance than the other and, in a relative sense, would probably commit more resources—money, time, effort, know-how—to the relationship as well. A larger or more diversified partner is likely to have alternative sources of rents and to put relatively less into the alliance. Greater investment and risk (again, on a relative scale) is likely only in the expectation of a corresponding premium in terms of value anticipated. If the more committed partner perceives itself to be gaining less value than anticipated compared to its less committed partner, a difference which may only become apparent as the relationship develops with time, it may conclude that even a positive return may be insufficient to cover its relative input, which would then undermine its commitment.

Third, poor understanding about the difference between potential and realized value can lead to dissatisfaction. Our first inequality showed that, for an alliance to be chosen as the form of transaction, $V'_{\mathrm{ifc}} > V'_{\mathrm{alt}}$, while the second inequality showed that $V_{\mathrm{ifc}} < V'_{\mathrm{ifc}}$. This suggests that from a managerial perspective, the apparent value of the alliance frequently ends up being less than what was anticipated at the time when the alliance was chosen. That is, costs tend to be higher than expected and returns lower, especially in early stages, and as discussed

above. If management has remained aware of the potential for alternative forms of transaction, the realized value of the alliance is likely to be seen as less than the *potential* value of one or more alternatives, say in-house production. That is, $V_{ifc} < V'_{alt}$. However, this is a flawed comparison since V_{alt} could well be considerably less than V'_{alt}. If the difficulty of managing any organization so that V approaches V' is not sufficiently recognized, a disappointed management may well conclude that an alternative transactional form should outperform the alliance, thus blaming the shortfall of value on the choice of organizational form rather than on the process by which it is managed. As a result then, the transaction governance form is likely to be changed—the alliance judged to have failed.

The above situations suggest that opportunism is not necessary to explain alliance failure. Of course, opportunism to the detriment of a partner could certainly occur and would also lead to failure, but this need not be assumed when an alliance fails. In fact, the possibilities above suggest that the alliance may be terminated even though it may be generating at least some synergistic value, but that the parents view either the investment excessive or the net value apparently less than anticipated and less than an alternative might potentially be perceived to provide. Yet, in a dynamic and intensely competitive marketplace, a withdrawal of commitment or a prescriptive "tonic" such as hierarchical governance may not be adequate and would amount to a misallocation of resources in terms of value, especially if the need for synergistic complementary resources is what prompted the collaboration in the first instance. Here, internalization would be unlikely to compensate for the loss of value associated with inadequate in-house capabilities (Quinn 1992) and, additionally, the loss of the potential CSQRs and FSQRs uniquely attached to the alliance.

Implications, Contribution, and Concluding Remarks

In this paper, we have explained the formation and failure of alliances from the perspective of value and, in this context, examined the potential benefits and possible costs associated with alliances. We see the long-term value of the alliance to be closely tied to its embeddedness within a system of dense and complex relationships, both intra- and inter-organizational. The flows of quasi-rents that stem from the dynamics among these relationships tend to hold the system together so long as the participant actors recognize that the rents could well disappear with the alliance relationship, thus providing an economic incentive to avoid opportunistic actions.

In the process of examining the pursuit of value through alliances, we described how a more integrative and inclusive perspective, one which combines elements of TC- and RB-related arguments, provides a more robust insight to collaboration formation, management, and instability than either theory alone. While RB focuses primarily on the production aspects, TC focuses on the exchange aspects of the relationship. Yet the two aspects are inevitably intertwined. In our argument, the relationship was explained to be both a governance structure for organizing exchange as well as a productive asset or resource. Viewing it in such a dual manner, governance mechanism as well as endogenous factor of production, then provided the means or bridge to tie TC and RB arguments together in the pursuit of value.

We also made a clear and important distinction between the potential synergies, which arise from combining the productive resources and capabilities of the partner firms, and their actual realization. Without strong relationship-building efforts, potential synergies from the alliance are likely to remain unrealized and the alliance is more likely to fail. This distinction between potential and actual value provides scope for management to enhance the value of a transaction through entrepreneurial and relationally-oriented actions. The following statement by Dodgson (1994, p. 291) is relevant in this regard.

> The cooperative rather than the universally competitive model of interfirm relationships. . . . has implications for those theories that reduce all firm transactions to cost and price considerations without regard to the mutually valuable synergies achievable through the sharing of competencies and knowledge.

Clearly, we are in accordance with this sentiment, which echoes Borys and Jemison's (1989) criticism of TC theory for its assumption that merely improving the design of the governance attributes and the incentives within organizational combinations is in and of itself an adequate solution to the coordination problems commonly present in interfirm relationships in the process of value creation. The need for ongoing modification to adapt to new conditions and skill requirements suggests that the alliance, to survive and thrive, must be an adaptable, dynamic relationship, not a static economic condition.

Though theoretically-rooted, the approach we propose toward transaction- or relationship-specific expenditures as investments in future value has direct and important implications for managers. While we do not claim to have discovered a new form of asset specificity, what we have discerned and described is the underlying "hidden" value of relational asset specificity and the significance and implications thereof, an aspect which has not been fully appreciated hitherto. Perhaps the lack of a proper appreciation of the true value of relational assets prevents firms

from enjoying the benefits from their alliances more fully. Firms are much more willing to invest large sums of money in a hard asset, such as plant and equipment (even though these, like relationships, incur subsequent maintenance costs), where the cost-benefit calculus is easier to evaluate with conventional financial tools. We would argue that this is a short-sighted approach. In the management of value, short-term inefficiency may actually be fully consistent with long-term efficiency and effectiveness, which may require expenditures specifically dedicated toward relationship-building. This is a delicate and lengthy process, though one with a potentially healthy payoff.

Researchers, too, need to pay closer attention to the dynamics within which interfirm collaborative relationships are embedded. In particular, greater attention needs to be paid toward the relationship management process, not just to issues such as opportunism, forbearance and trust (Parkhe 1993b) but also to the rational bases for nonopportunistic behavior. In a recent response to critics, Williamson (1993) contended that opportunism is often suppressed by analysts unknowingly or selectively. Furthermore, once suppressed, the ramifications are rarely assessed. He rhetorically asks: "Provided that analysts who suppress opportunism do this knowingly and come back to assess the ramification, who could object?" (p. 100). We contend this is exactly what we have done. In doing so, we have shown how the hazards of opportunism vary not just with the characteristics of the transaction alone but also with the endogenous institutional system of which the transaction is a part. Therefore, instead of a blanket approach of costly safeguards against opportunism, a more sophisticated approach would critically analyze the situation in a more nuanced and contextual manner, where the likelihood of opportunism and nonopportunism is evaluated in terms of a cost-benefit calculus of the kind proposed in this paper. This needs to be investigated further.

Other research questions come to mind. Is "collaborating technology" a firm-specific capability in and of itself? If so, how can firms acquire it? Is it an ex ante (e.g., selection, socialization), ex post (e.g., communication, conflict resolution, organizational slack, continuity of association) phenomenon, or both? Is one more important than the other? Under what conditions is the nurturing of relationships important? Clearly, in a simple contract where safeguards against opportunism would suffice to attain the intended outcome, overemphasis on a mutual orientation would result in unnecessary expenditures of money, time, and energy without proportionate returns. Therefore, another important research issue relates to the kinds of situations where it makes economic sense to incur value-seeking relational investments. Besides, in the pursuit of value, firms need to not only make relationally-specific investments well beyond the point of simple transactional efficiency, but, in the process, also trade off TC-related concerns. When and under what situations? How are these trade-offs managed? These are all important questions for research. Longitudinal case studies would provide further insight in this regard. Studies such as those of Arino and de la Torre (1998) and Doz (1996) are important first steps in this direction.

In concluding, drawing upon a value perspective, and through the distinction between cost and investment in future value, the argument in this paper helps explain the puzzle posed by the simultaneous popularity of collaborations and the high level of dissatisfaction that characterizes them. Basically, cooperation has an inherent economic value which justifies the push toward alliances. Yet extracting the value from them is complicated and difficult and requires a shift in the manner by which firms structure and approach their interactions with other firms who are their partners. The shift in orientation proposed in this paper away from opportunism and from cost to investment in future value is a fundamental one with critical implications for the manner in which interfirm cooperative relationships are managed (also see Madhok 1996b, 1997). In our opinion, it is a pivotal attitudinal shift which, if approached properly, can enable firms to attain a competitive advantage over those which remain stuck in a cost minimizing mold (Barney and Hanson 1994, Lado et al. 1997). While we do not disagree about the potential for and possibility of opportunism, we do believe that the extent of emphasis on it is unwarranted (Madhok 1996a, 1996b, 1997). The study of alliances must find a more realistic balance in its approach to the pursuit of value if we as researchers are to get a better handle into this increasingly prominent economic phenomenon. We hope the ideas put forward in this paper provoke further thought in this regard.

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