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The Coevolution of Trust, Control, and Learning in Joint Ventures

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This article examines the evolution of trust, control, and learning in a joint venture relationship. Using a coevolutionary approach, we develop a framework that shows how initial joint venture conditions give way to evolved conditions as joint venture partners develop an understanding of each other and adjust the collaborative process. We explore the relationship between trust and control in joint ventures and identify how these two critical concepts impact joint venture processes. We argue that trust, along with partner collaborative objectives, creates the initial climate that shapes partner interactions. In turn, these interactions lead to subsequent decisions about the nature of controls. We then examine linkages between alliance learning and the trust and control concepts, and argue that learning processes are central to evolving joint venture dynamics. Once the joint venture is formed, and if the initial conditions support continued collaboration, then learning processes will be central to evolving alliance dynamics. As initial conditions give way to evolved conditions, learning and trust will coevolve and impact decisions about control. Propositions linking the concepts are provided as guides for future empirical research.

Key words: coevolution; trust; control; learning; joint ventures

Trust, control, and learning are three of the most important and studied concepts in the alliance and joint venture literatures. For example, Child and Faulkner's (1998) detailed summary of the alliance literature devotes full chapters to each concept. Extensive literature examines the role of trust as a key joint venture management issue (e.g. Gulati 1995, Currall and Inkpen 2002, Parkhe 1998). The issue of joint venture control is the focus of one of the largest collections of empirical studies in the joint venture area. In recent years, learning and knowledge management have also become a key alliance research issue as discussed in Inkpen's (2002) recent literature review. Indeed, Child and Faulkner argued that "strategic alliances, including JVs [joint ventures] ... are at base, all about organizational learning, and should be structured towards that end" (1998, p. 6). In Doz and Hamel's (1998) view, learning and adjustment by the partners are the keys to alliance longevity and the avoidance of premature dissolution.

Negotiating and forming a joint venture initiates a dynamic relationship that must evolve if it is to be successful. In this paper, we examine how joint ventures evolve and how that evolution impacts trust, control, and learning. Although various studies have examined relationships between learning and control (e.g. Hamel 1991, Inkpen and Beamish 1997, Makhija and Ganesh 1997), the relationships between trust and these two concepts have not been studied. Also, extensive literature deals with joint venture control and trust (e.g. Das and Teng 1998, Dyer 1997, Nooteboom et al. 1997, Yan 1998), but the role of learning has received little attention. Thus, we believe that the literatures dealing with alliance trust, control, and learning have not been linked in a systematic fashion, leaving gaps in theoretical understanding of the relationships among the concepts. By linking the three concepts in a theoretical framework, our work will shed new light on how joint ventures evolve from initial conditions to evolved conditions. To do this, we examine the coevolutionary processes associated with trust, control, and learning. Alliances are particularly suited to coevolutionary study because over their life alliances remain vulnerable to many types of destabilizing factors regardless of how well conceived they are strategically (Doz and Hamel, 1998, p. 118).

There are various types of strategic alliances, such as joint ventures, licensing agreements, distribution and supply agreements, research and development partnerships, and technical exchanges. We focus on equity joint ventures, an alliance form that combines resources from more than one organization to create a new organizational entity (the "child") distinct from its parents. There are three reasons for the equity joint venture focus. First, the examination of trust, control, and learning associated with equity joint ventures requires a depth of analysis not necessary for other types of alliances. Joint ventures are typically used when the required task integration between the partners is high and the alliance business is characterized by uncertainty and decision-making urgency (Doz and Hamel 1998). Second, most previous conceptual and empirical research in the alliance area deals with equity joint ventures. Third, because equity joint ventures involve independent organizations, the identification of individual alliance managers and reporting relationships associated with interfirm trust and control is more apparent than in nonequity alliances such as licensing agreements.

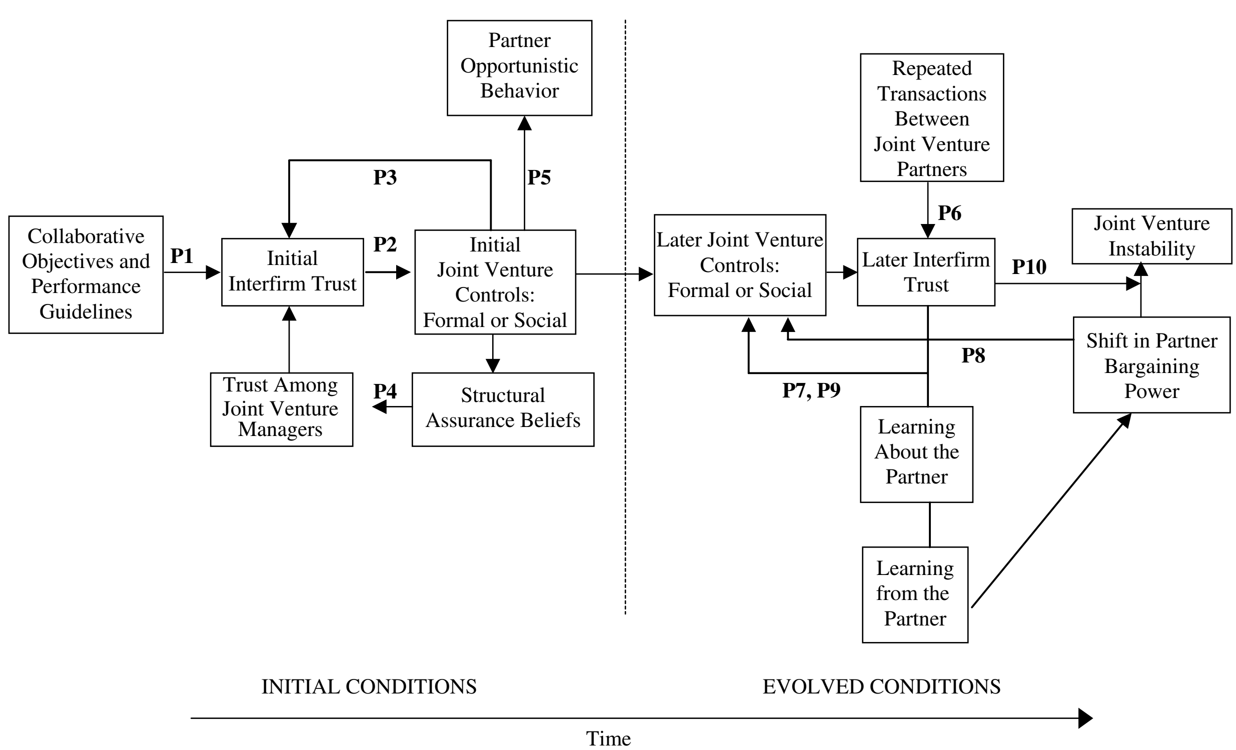
Coevolution and Alliances

That alliances are dynamic systems of adaptation and evolution has become well accepted (Ariño and De la Torre 1998, Doz 1996, Ring and Van de Ven 1994). However, we believe that important questions remain unresolved. Specifically, the role of trust as an emergent and evolving concept in the alliance process is not well understood. Child, in discussing alliances and trust stated, "trust remains an under-theorized, under-researched, and, therefore, poorly understood phenomenon" (2001, p. 274). We concur with Koza and Lewin's (1998) view that there is a need for systemic research on trust and that trust should not be viewed as a static causal variable for the duration or success of the alliance. As discussed in the joint venture trust section below, trust plays a central role in joint venture management. We also believe that the evolving properties of joint venture control require further study, and that decisions involving implementation of control mechanisms are influenced by both trust and learning.

We examine the evolution of alliances with an emphasis on the simultaneous and changing relationships between trust, control, and learning. The idea of coevolution means that the concepts will evolve over time, and in so doing, will impact other concepts. Thus, various scenarios could unfold depending on how the joint venture moves from initial conditions to evolved conditions. After an overview of the trust and control concepts, we consider the initial conditions between the partners and the establishment of control. We argue that the selection of initial controls is influenced by trust between the partners, which in turn is influenced by collaborative objectives. As initial conditions give way to evolved conditions, the partners learn from and about each other. We discuss the concepts of learning *from* a joint venture partner and learning *about* a joint venture partner firm (Doz and Hamel 1998, Parkhe 1991) and consider their impact on trust and control. We will show that as trust, control, and learning coevolve, the partners develop an understanding of each other as the basis for adjustments to the collaborative process. Figure 1 shows the relationships that are explained.

By adopting a coevolutionary perspective that incorporates trust as a central variable, a key goal is to broaden understanding of postformation joint venture processes. Lewin and Volberda (1999) identified five properties of coevolutionary models for strategic

Figure 1 Initial and Evolved Joint Venture Conditions



management and organizational adaptation research: multilevelness, multidirectional causalities, nonlinearity, feedback and interdependence between organizations, and history dependence. In our framework, multilevel aspects can be seen in the argument that firm-level control decisions influence the development of trust between partner managers, which subsequently plays a role in interfirm trust. Multidirectional causalities appear in several areas. For example, we argue that trust influences the selection of controls and also that the selection of controls can influence trust. A nonlinear relationship is seen in our argument that trust can lead to learning from a partner, which can then lead to a shift in bargaining power, less trust, and more controls. Feedback occurs in various places in the framework. For instance, we suggest that an increase in interfirm trust may lead to a greater desire for control because of the increased trust's impact on willingness to rely on the partner to perform alliance tasks. Finally, the framework incorporates an historical perspective as it moves from formation to operation to stability or, possibly, instability.

The Concepts of Trust and Control

The Nature of Trust

Previous definitions of trust have involved two principle concepts: (1) reliance (Giffin 1967, Rotter 1980) and (2) risk (Gambetta 1988, Mayer et al. 1995). We define joint venture trust as the decision to rely on another joint venture party (i.e., person, group, or firm) under a condition of risk (Currall and Inkpen 2002). Reliance is action through which one party permits its fate to be determined by another. Risk is the potential that the trusting party will experience negative outcomes, i.e. "injury or loss" if the other party proves untrustworthy (March and Shapira 1987, Sitkin and Pablo 1992). Risk creates the opportunity for trust (Rousseau et al. 1998). Thus, trust is based on social judgments such as assessment of the other party's benevolence, competence (Currall 1992), together with assessment of the costs if the other party turns out to be untrustworthy. Under a condition of risk, a party's trust is signified by a decision to take action that puts its fate in the hand of the other party. Focusing on actions is consistent with the idea that partner firm *actions* shape and modify the interorganizational relationship.

We acknowledge that various conceptualizations of trust exist in the organizational studies literature. Viewing trust as a decision to take action allows the joint venture researcher to extend the level of theory and measurement to the firm, which is the level where most research involving trust and joint ventures has been carried out. Our conceptualization of trust as a decision to take action can be applied to persons, groups, and firms because all three are capable of trust decisions and measurable actions.

Trust and Joint Ventures

As Inkpen and Currall (1998) discussed, joint venture trust has both antecedents and consequences, which means that trust plays a crucial role in the overall nature of joint venture processes (see also Sydow 1998). Over time, as the partners and partner managers learn about each other and the joint venture becomes an operating entity, the level of interfirm trust will change, which means trust should be viewed as an evolving rather than static concept. (Currall and Inkpen 2003). Trust requires familiarity and mutual understanding and, hence, depends on time and context (Nooteboom et al. 1997, p. 314). As the relationship ages, previous successes, failures, and partner interactions will influence the level of trust. Furthermore, unlike most economic commodities, trust may grow rather than wear out through use (Hirschman 1984). Trust may also decrease over the life of the relationship. For example, when a joint venture is formed, there is a subjective probability that a partner will cooperate. Experience will lead to adjustment of the probability, which in turn may lead to a shift in the level of trust.

Control and Joint Ventures

Management control is the organizational process that aligns subunits and individuals with the objectives of the organization (Tannenbaum 1968, Yan and Gray 1994). Control in the joint venture context refers to the process by which partners' firms influence a joint venture entity to behave in a manner that achieves partner objectives and satisfactory performance. The process includes the use of power and authority, and a range of bureaucratic, cultural, and informal mechanisms (Geringer and Hebert 1989).

In joint ventures, control issues are often at the heart of management conflict between the partners. Joint ventures are formed when two or more partners, often with disparate skills and objectives, pool a portion of their resources to form a new entity. The primary problems in managing joint ventures stem from one cause: There is more than one parent (Killing 1982). Thus, the ability of an owner to exercise control over its joint venture is a function not only of its influence over its joint venture managers, but also of the influence over the other parent (Child et al. 1997). The owners of joint ventures are often visible and powerful; they can and often will disagree on many issues. Given the potential for partner conflict, control issues are usually an important consideration for joint venture partners (Geringer and Hebert 1989, Yan and Gray 1994). Various approaches have been employed to develop an understanding of joint venture control and, in particular, its relationship with joint venture performance. Geringer and Hebert (1989) made a significant contribution in identifying and analyzing dimensions and mechanisms of joint venture control.

Child et al. (1997) made a distinction between contractual and noncontractual resource inputs as sources of bargaining power and, hence, control over joint venture activities.

Initial Conditions: Joint Venture Trust and Control

Although both trust and control are central concepts in understanding joint venture processes, the relationship between control and trust is far from clear in the literature (Das and Teng 1998). Dyer (1997) argued that trust itself should be viewed as an efficient governance mechanism in interfirm relationships. Gulati (1995) made a similar argument, suggesting that firms may substitute trust for contractual safeguards when they form repeat alliances. Nooteboom et al. (1997, p. 318) challenged this view, stating that "trust can only be considered an instrument of governance in a limited sense: it contributes to risk reduction, but it cannot be instituted instantaneously. If trust is not already present, it has to be built by developing bonds or shared norms and values." As our earlier definitions make clear, we concur with Das and Teng's (1998) view that trust should not simply be viewed as a control mechanism. Trust involves an assessment of the partner and willingness to take action that puts its fate in the hands of the other partner. At the extreme, when a firm can fully trust its partner, there may be no need to control the behavior of the joint venture entity. Thus, it could be argued that trust and control are "substitutable": The presence of trust may negate the need for certain controls. As we will show below, trust and control coevolve over time, with trust influencing control and being influenced by the type of controls that the partners implement.

Initial Conditions

The initial condition between the joint venture partners is the starting point in examining how the joint venture partner relationship evolves. Initial joint venture conditions include the definition of the collaborative objectives, the design of the partner interface and governance systems, and the identification of expectations about the performance of the joint venture and the performance of one's partner (Doz 1996). Expectations about the performance of the partner will be driven by elements such as prior relationships, firm reputation, industry affiliation, and demographic and cultural contexts (Ariño et al. 2001). After the equity split has been established, the interface between the partners must be clarified in terms of control mechanisms for the joint venture. Specifically, how will the partners ensure that their joint venture objectives are achieved, investments are protected, and essential information about the joint venture operation is captured? Because costs are associated with controls and because the partners may have asymmetric collaborative objectives, partner disagreements over the nature and extent of joint venture controls are common.

The initial conditions of a joint venture are shaped by an assessment of the likelihood that the partner will behave in a trustworthy manner. The greater the likelihood of untrustworthy behavior, the greater the risk because untrustworthy actions by a partner could lead to negative consequences. The likelihood that the other party will be trustworthy is based on judgments made about the counterpart's benevolence and/or competence (see also Currall 1992), which predisposes the counterpart to be trustworthy. So, under a condition of risk, the decision to trust is made when there is sufficient confidence (Rousseau et al. 1998) that the counterpart will be trustworthy (i.e., not take action that will result in negative consequences).

Assessing the likelihood of trusting action requires a consideration of two types of risk. One is the risk of partner opportunistic actions, which Das and Teng (1996) called "relational risk." The risk of partner opportunistic behavior plays a pivotal role in all alliances, not because all economic agents behave opportunistically all the time, but because it is difficult to differentiate those that do from those that do not (Parkhe 1993). The risk stemming from opportunism refers to the loss incurred by Partner B if Partner A behaves opportunistically (Nooteboom et al. 1997). Firms that refrain from acting opportunistically are said to forbear. In a successful joint venture (i.e., one that achieves the partners' alliance objectives), mutual forbearance is a central feature of the relationship. A second type of risk involves the inability of a partner firm to execute its share of the joint venture bargain. When a joint venture is formed, each partner must assess the other's competence, then decide how tasks will be jointly performed. Before the partners have worked together, they have little information about each other's skills. If one firm leads the other to believe it can perform certain tasks when it cannot, achievement of joint venture objectives may be impossible.[1]

We believe that a firm's initial decision to engage in trusting action in the formative stages of an alliance will be based on a risk assessment shaped by various elements of initial conditions. In newly formed alliances between firms without prior interactions, a basis for trust may be absent and the partners are often suspicious of each other and unsure of the value of the collaborative opportunity (Doz and Hamel 1998). These two types of risks will be present at some level, which means the partners may perceive no choice but to exercise control through extensive use of contracts and monitoring (Tsang 1999). As interactions increase and individual attachments develop, trust may increase, which means the scope for—and the concern over—opportunistic behavior may decrease (Das and Teng 1996), and the partners "can act as if the future were more certain" (Zajac and Olsen 1993, p. 140). Furthermore, the risk associated with the partner's ability to perform the alliance task may dissipate once the partner demonstrates competence. Thus, as trust between partners increases over time, there will be a greater reliance on alternative governance structures, emphasizing relational and informal contracts over more formalized mechanisms such as market or hierarchical contracts (Ring and Van de Ven 1992).

Initial Controls. Various terms have been used to describe controls. To describe joint venture control, the terms formal (or objective) and social (or informal), have gained acceptance (Das and Teng 1998, Makhija and Ganesh 1997). Formal controls tend to be predictable, regular, and involve explicit information transfers, and are codified in rules, procedures, and regulations. Examples include lawsuit and arbitration provisions, financial reporting guidelines, specific joint venture procedures designed by the parents, and regular meetings between parent and alliance managers. Social controls are more uncertain, ambiguous, and organizationally embedded (Deakin and Wilkinson 1998), and utilize values, norms, and cultures to encourage desirable behavior (Das and Teng 1998). Social control can take the form of socialization, training, and spontaneous interactions between the partners and personal friendships between managers (Das and Teng 1998, Doz 1996).

Controls can also be viewed as strategic and operational. Strategic controls include the establishment of collaborative objectives and performance guidelines by the partners. In turn, the collaborative objectives and performance guidelines become the basis for establishing operational controls over the joint venture output. As discussed, the initial level of trust is the starting point in understanding the evolution of joint venture governance structures and control modes. However, the intense cooperation and trust necessary for an alliance to succeed will rarely exist when an alliance is first formed (Doz 1996). Doz suggested that strong institutional anchors between the individual managers and the partner firms could actually support the development of trust because they provide managers with a safety net and a willingness to step out of roles. Going one step further, we posit that clear, unambiguous, collaborative objectives and performance guidelines (such as market share, return on equity, etc.) established at the time of formation will support the development of interfirm trust because firms and their managers that understand what is expected of them will be willing to experiment with their roles with limited personal risk. Sitkin's (1995) discussion of legalization provides the underlying rationale. In it, Sitkin argued that the process of crafting a mutually agreeable set of documents will lead to a more enlightened understanding of the other party's perspective. Das and Teng (1998) supported this view, suggesting that, for example, objective performance appraisal processes for joint venture managers can be conducive to generating trust. Hence, clear joint venture agreements reduce uncertainty and allow the partners to begin interacting with transparent collaborative objectives.[2] We propose the following:

Proposition 1. *Clearly defined joint venture collaborative objectives foster the initial development of trust between the joint venture partners.*

After the establishment of collaborative objectives and initial trust foundation (which could be very weak if collaborative objectives are vague or unclear), initial joint venture operational controls must be established. A willingness to rely on social and noncontractual safeguards will be more likely when there is a high level of initial trust between the partners. For example, in cases of high trust, the joint venture agreement may be less detailed because the probability of opportunism is low. Governance costs under low levels of trust will be greater and operational procedures will be more formal, such as more detailed contract documentation, more frequent board meetings, and closer scrutiny by lawyers. These procedures will result in additional transaction costs to the joint venture partners (Dyer 1997). If the partner's reputation is unknown or questionable, further controls may be required to offset the additional risks (Hill 1990). Parkhe (1993) found that the elaborateness of safeguards and the perception of opportunistic behavior are strongly related.

Proposition 2. *The greater the initial level of trust between joint venture partners, the lower the initial joint venture monitoring and control costs by the partners and the greater the initial reliance on social controls.*

We acknowledge the reciprocality of the trust and control relationship. A lack of trust can lead to a desire for increased control, which in turn can lead to a further decrease in trust. Also, effective control in an alliance will require a certain level of trust between the partners (Goold and Quinn 1990). In the absence of trust, it is unlikely that the partners will be able to agree on control mechanisms. This is a problem that confounds many new joint ventures. The partners must work closely together in the initial years of a joint venture, and yet this is the time when the partners are poorly positioned to cooperate (Doz and Hamel 1998). In a nascent joint venture with little trust, both partners may seek formal control mechanisms. However, because neither partner is willing to trust, they may disagree on the nature and aims of the controls. One partner may want, for example, specific monitoring mechanisms and the other may want certain types of board oversight.

Formal and Social Controls

We posit several theoretical issues with respect to formal and social control dimensions. First, joint venture managers may seek to utilize both types of control to "hedge their bets" against failure of one type of control. For example, if social control fails because of interpersonal relations among joint venture managers, then the contractual safeguards inherent in formal controls may provide a safety net. Second, formal and social controls may operate simultaneously, yet at different levels of analysis (Currall and Inkpen 2002). Formal controls may operate at the interfirm level, in that joint venture partner firms have formalized, routine contractual structures for joint venture relationships that are set in place regardless of the extent of the social controls operating at the level of relations among joint venture managers. In other words, even if interpersonal relations among joint venture managers result in the emergence of effective social controls, firm-level policies for joint ventures may mandate that contractual safeguards must be in place. The degree to which one form of control is viewed as the most important in linking partner interests with joint venture outcomes will depend on the evolution of the partner relationship. As joint ventures become more established and are viewed as successful, personal ties between individual managers and organizational ties between the partner firms will likely strengthen. Because social controls evolve from the interactions and cultural integration between the partners, the stronger ties should lead to a greater emphasis on social control.

Furthermore, a distinction must be made between de jure controls and de facto controls. De jure controls are controls stipulated contractually, generally by the joint venture shareholder agreement. De facto controls are those that may or may not be stipulated contractually; they involve controls that managers choose based on the situational exigencies of joint venture operations. Over time, the need for formal control mechanisms will likely shift (as we discuss later) yet the formal mechanisms may remain in the joint venture agreement. In the event of a failure of social control, joint venture managers may have no choice but to resort to formal controls, perhaps to resolve disputes between the partners. Yan (1998) proposed that controls associated with political and institutional environments tend to remain in place even when the environmental conditions that lead to their establishment are removed.

The selection of control mechanisms has implications for one partner's assessment of the other's trustworthiness. Those discussing sociological approaches to studying trust (Shapiro 1987, Sitkin and Roth 1993) have argued that deployment of formal control mechanisms diminishes partner trust because such mechanisms supply alternative explanations for trustworthiness (see Das and Teng 1998 for similar arguments). To this logic, we add an emphasis on the role of formalization in limiting the discretion of parties. For example, early in a relationship, low levels of trust are typical because of a lack of information and direct experience with a partner. Trust normally develops incrementally, whereby a party will trust in small ways, observe the consequences, and then trust more if the counterpart has behaved in a trustworthy manner. Yet, the existence of formal controls may limit the discretion of the parties in an alliance. Therefore, if Firm A interprets Firm B's trustworthy actions as being largely a function of formal controls as opposed to freely made choices to be trustworthy, then Firm A will discount Firm B's apparent trustworthiness. Thus, formalization may serve to *retard* or *impede* the development of trust. Formalization will not necessarily stop or undermine trust development, but it will slow it down because trustworthy actions are discounted.

PROPOSITION 3. *The more extensive the use of formal controls, the slower the development of trust.*

Initial Control and Trust Between Managers

As the joint venture moves beyond initial conditions, interactions between alliance managers will play an increasingly important role in establishing the context for continued collaboration and for the development of firm-level trust. Although an indepth discussion of how interpersonal trust and related social and cognitive factors evolve is beyond the scope of this paper (see McKnight et al. 1998), we believe it is important to address how initial firm-level control decisions influence the development of trust between partner managers because interfirm trust may have its basis in individuals (Inkpen and Currall 1997).[3]

When a new joint venture is formed, information about the other partner and, in particular, information about the managers involved in the joint venture management will be incomplete. Assume a manager is assigned to the joint venture from one of the partners. Although this manager may be aware of prior relationships between the partners and may have been told "our firm and the other firm have a strong relationship," the willingness of that manager to trust may still be tentative. Various controls, such as legal recourse and clear operating rules, may encourage the manager to accept that the individuals in the partner firm will act in a trustworthy fashion. These controls create structural assurance belief effects (McKnight et al. 1998) and were described by Shapiro as institutional "side bets" (1987, p. 204). Beliefs about the institutions will help form beliefs about the managers involved in the joint venture (McKnight et al. 1998). For example, the specific language of the joint venture shareholder agreement may provide for legal recourse in the event that the partner violates certain provisions. Especially in the early stages of interactions among managers, if an individual manager believes that legal recourse for the firm provides some positive assurance about the partner's probable future action, then the manager will be more likely to initiate trusting action.[4] Thus, trust is not just a function of the relationships among managers; it is also a function of the nature of the institutional context in which these relationships are embedded (Sheppard and Sherman 1998). The support for this argument is that safeguards produce perceptions of safety, which may lead joint venture managers to place themselves at risk with other managers. Without these safeguards, managers might be more focused on self-protection than mutual task performance (Sitkin 1995). Over time, when information about counterpart managers becomes more complete, the safeguards will have less influence on managerial trusting action. Moreover, when there is legal recourse, risk is mitigated and trust may not be necessary. However, our argument is that, at least initially, managers will be more likely to trust partner managers when they know that, at a firm level, structural safeguards exist.

Proposition 4. *In the initial stages of a joint venture, controls that create structural assurance beliefs will foster the development of trust between partner managers.*

It may appear that there is an inconsistency between Propositions 3 and 4. Proposition 3 suggests that formal controls can slow the development of trust. Proposition 4 argues that controls can foster trust. A key difference between the propositions is that Proposition 3 refers to how a specific form of control (formal) can impede the development of trust over time; whereas, Proposition 4 refers to the firm-level (i.e., institutional) context in which interpersonal trust is initiated between partner managers.

Initial Control and Opportunistic Behavior

Earlier we identified several sources of risk in joint ventures. Although the scope for and the concern over opportunistic behavior may decrease over time, the risk of opportunistic behavior will never entirely dissipate because controls cannot cover all contingencies associated with partner behavior.[5] As Doz and Hamel (1998) argued, firms in alliances must balance cooperation and competition and never forget that their partner *may* be out to disarm them. Thus, as firms negotiate the design of control mechanisms, one of their objectives will be to reduce the risk of opportunistic behavior. Firms with greater bargaining power will be able to influence the design and use of control systems more than the partner with less power (Makhija and Ganesh 1997). However, exercising that power could hinder the pursuit of collaborative value because it prohibits the partners from developing mutual commitment to the relationship (Madhok and Tallman 1998). More importantly, rather than reducing the risk of opportunistic behavior, disproportionate control by one partner may lead to opportunistic behavior by the other partner. Our rationale for this paradox, empirically supported in a study of dealer-supplier relations (Provan and Skinner 1989), is as follows. Asymmetrical control by one partner will constrain the decision-making authority of the other partner and constrain that partner's ability to achieve its alliance goals (Makhija and Ganesh 1997). A firm may therefore seek to compensate for its lack of control and influence by engaging in opportunistic behavior in areas over which the partner does not have control. For example, one partner may be selling components to the joint venture. If that partner believes the other partner is exerting too much control over the joint venture, the firm may seek to increase the transfer prices on components.

Proposition 5. *The greater the initial control one partner has over the joint venture, the greater the likelihood that the other partner will act opportunistically.*

Evolved Conditions and the Role of Learning

Negotiating and forming a joint venture initiates a dynamic relationship that, to be successful, will have to go through a series of transitions (Doz 1996). Virtually all joint ventures will evolve in ways that the joint venture partners did not predict when the joint venture was formed. As joint venture partners and partner managers watch each other and learn about each other, the initial conditions will evolve. During this mutual learning process, the partners increase their understanding of each others' complementary contributions, competitive positions, strengths and weaknesses, culture, and strategic objectives.

Learning processes are central to the evolution of a joint venture (Doz 1996). We examine learning from two perspectives: (1) learning *about* the joint venture partner and (2) learning *from* the joint venture partner.[6] Doz and Hamel (1998) emphasized that the motivations and effects of the two types of partner learning are very different. They referred to learning from the joint venture partner as skill mastery and learning about the joint venture partner as skill familiarity. Although the two types of learning are related, the main distinction between the two learning types is how knowledge can be used. Learning about the joint venture partner, studied in detail by Doz (1996), refers to learning that is primarily endogenous to the collaboration. We say primarily because some knowledge about the partner may be useful in applications beyond the joint venture. Partner learning that takes place in this context is necessary when firms seek to combine their skills successfully in an alliance (Doz and Hamel 1998). In learning about the partner, firms may seek access to the partner firm's knowledge but not necessarily with a goal of integrating the knowledge in their own operations.

When a firm learns *from* its joint venture partner, the knowledge generated can be used by parent firms to enhance strategy and operations in areas unrelated to the alliance activities. This knowledge constitutes the private benefits that a firm can earn unilaterally by picking up skills from its partner (Khanna et al. 1998). When a firm learns from its partner, the knowledge has value to the firm outside the joint venture agreement, which means that the knowledge can be internalized by the parent and applied to new geographic markets, products, and businesses. This potentially useful information is knowledge the parent would not have had access to without forming the alliance.

There is conceptual overlap in learning from and learning about the partner. Learning about a partner facilitates relational understanding and can provide the foundation for trust development (or possibly distrust), with trust constituting the currency by which joint venture knowledge gets acquired and traded by joint venture partners. Learning from a partner is more transactional in nature and can increase partner bargaining power and reduce dependence, which may lead to instability and reduced trust for the "teaching" partner. Some learning about the partner may become unexpectedly useful beyond the joint venture. For example, a firm may learn about its partner's human resource practices, which in turn provides important information about how to structure and manage the joint venture employees.

Learning About the Partner and Trust

Once the joint venture is formed and if the initial conditions support continued collaboration (as opposed to termination), the movement toward deeper cooperation involves a willingness by the partner firms to make irreversible commitments to the alliance such as learning about the partner (Doz 1996). For this to occur, the partner firms will have to become comfortable in working together in a social exchange process.

Several theories suggest that cooperative behavior between firms increases with the length of the relationship. Interaction over time may lead to commitment (Currall and Judge 1995) and to the development of relationship-specific assets such as a partner's knowledge of the other's procedures and values. Our view is that when firms repeat transactions with partners over time, as they will in a typical joint venture, an opportunity is created for learning about the partner that in turn can lead to the development of interpartner trust. The argument that repeated transactions lead to trust is consistent with Sabel's discussion of "studied trust" (1993, p. 130). According to Sabel, the creation of trust is actually a process of learning by economic actors with competing and mutual interests, such as the cooperative-competitive tensions in alliances. Along the same line, Powell argued that trust is "learned and reinforced, hence a product of ongoing interaction and discussion" (1996, p. 63).

In alliances, increased interpartner trust should emerge between partners when they have successfully completed transactions in the past and they perceive one another as complying with norms of equity and reciprocity (Ring and Van de Ven 1992). Successfully completed transactions are those that are congruent with alliance objectives.[7] Repeated cycles of exchange, risk taking, and successful fulfillment of expectations strengthen the willingness of parties to rely on each other (Rousseau et al. 1998). Transactions that are viewed as unsuccessful or laden with conflict, such as transfer pricing disputes or arguments over joint venture task requirements, may lead to stalled understanding and retarded trust development. Thus, if trust increases and mutual partner understanding develops, knowledge about partner systems and ways of doing business will become more accessible. Alternatively, in the event that trust does not develop, firms may be unwilling to "open their kimono," leading to a downward spiral (Doz 1996).

PROPOSITION 6. *Repeated transactions between the joint venture partners that are viewed as successful will lead to increased interfirm trust.*

Learning About the Partner and Control

Learning that involves the acquisition of partner knowledge can be a powerful basis for joint venture control and bargaining. However, learning *about* the partner may be viewed as the opposite of control (Birnberg 1998). The purpose of control is to ensure that goals and strategies are achieved and that the joint venture operates in a manner that is consistent with partner objectives. Although learning can lead to control, learning is an adaptive response that expands awareness of ideas and knowledge bases. When learning about the partner is a mutual process and not asymmetrical, the probability that trust will develop is enhanced. This learning process provides the mechanism for the linkage between trust and joint venture controls that we discussed earlier.

Thus, over time, the conditions between the joint venture partners will evolve as the joint venture strategy emerges and partners interact. As the fear of opportunism fades because of the development of mutual trust, there may be a reduction in formal coordination and monitoring costs, which in turn increases the efficiency of the collaboration. Trust reduces the probability of loss and enables partners to move forward even though risk and uncertainty in the relationship remain (Nooteboom et al. 1997). Although emphasis on formal controls may be reduced, they may remain in the background as we discussed earlier.

PROPOSITION 7. *Learning about the joint venture partner increases the likelihood that partner firms will reduce their emphasis on formal joint venture controls.*

We have argued that learning about the partner will lead to adjustments in control over time. A potential confounding factor, however, is that the joint venture partners are also learning about joint venture governance. As the partner firms acquire knowledge that is useful in the design and governance of alliances (see Lyles 1988), uncertainty may be reduced, which may lead to a greater willingness to trust a partner. As a firm becomes more confident in its ability to structure and manage the alliance governance process, a shift away from formal controls to more flexible social controls may result. Thus, we acknowledge that a partner firm's willingness to de-emphasize formal control could be the result of a combination of learning about the partner and learning about alliance governance. This is not to suggest that formal controls should be avoided or are somehow undesirable; successful firms use both formal and social controls to ensure that their alliance goals are achieved. Yet, because social control relies on cultural blending and shared values (Das and Teng 1998), formal control may be the only option when the joint venture is formed. As the partner interface evolves and common values and norms for the alliance emerge, social control provides a complement to formal control that, in some cases, may be more efficient. Finally, a partner may choose to implement specific controls to increase learning about the partner. For example, social controls that involve interactions between the partners or personal friendships between managers create the opportunity for firms to learn about their partners. Thus, it is plausible that controls may be used as a learning tool.

Learning from a Joint Venture Partner and Dependence

So far, we have discussed learning about the partner and the conditions that facilitate cooperation and the combination of partner skills. Learning *from* a joint venture partner is a different type of alliance learning and is a key determinant of joint venture bargaining power (Hamel 1991, Inkpen and Beamish 1997, Yan 1998). In turn, partner learning influences the extent of control that one firm can exert over its joint venture. Hamel (1991) proposed that the most important determinant of partner bargaining power in alliances was the ability to learn. Firms that can learn quickly are able to acquire partner skills, thus reducing dependence and increasing bargaining power. For the firm in the dependent position, one option is to reduce dependence. In reality, this will be difficult and may compromise the joint venture's ability to create value. Another option is for the dependent partner to get some assurance that the less dependent partner is committed to the relationship. In practice, assurance of commitment will be difficult to write in to a joint venture contract; the dependent partner may resort to controls.

Joint venture relationships will vary in the form and depth of partner dependence. Sheppard and Sherman (1998) distinguished between shallow and deep dependence and argued that the nature of dependence influenced the nature of risk and trust. Trust in a shallowly dependent relationship is primarily associated with partner competence, reliability, and discretion. In the case of deep dependence, the partner's behavior may be difficult to monitor, which means that trust must mitigate against opportunism. Deep dependence also may mean that one partner's fate is almost entirely in the other partner's hands. This scenario is quite common in alliances where a larger firm invests in a joint venture with a small firm with an option to acquire the joint venture business. These investments provide various benefits for small firms (e.g., legitimacy, capital, and market access). The risk is that the partner may unilaterally determine the small firm's fate. Because monitoring by the small firm is difficult, we believe that the best strategy for the small firm may be to create a situation of *inter*dependence.

As interpartner trust increases, partner willingness to provide access to information is likely to increase, thus providing the foundation for partner learning. We note, however, that when learning shifts the dependency relationship, the cooperative basis for the joint venture may erode and venture instability may be the result (Inkpen and Beamish 1997). Thus, there is the intriguing possibility of trust leading to more learning from a partner, which then leads to shifts in bargaining power, less trust, and more formal controls. Consider an example where Partner A acquires knowledge from Partner B that was originally necessary for performance of the joint venture task. Unless Partner B is contributing other valuable and inimitable skills to the joint venture, the motivation for cooperation, from A's perspective will be reduced. Partner A then has several options: terminate the joint venture, continue the joint venture but with changes to the collaborative agreement (if possible), or continue the joint venture on the same terms. The first two options represent opportunistic behavior and the third represents forbearance. If A chooses to stay in the joint venture but under new terms, B's willingness to trust will decrease. As trust decreases, A's access to further knowledge will decrease as B becomes suspicious of A's motives and blocks access to the knowledge. Also, B may seek more formal controls because of the perception that A is behaving opportunistically. The rationale for more formal controls is not because they are better or stronger than informal controls, but because the more explicit and predictable nature of formal controls is perceived as desirable in a situation of decreasing trust. The result is a spiral of decreasing trust, heightened probability of joint venture instability, and a reversion to more formal control by the "outlearned" partner.

Proposition 8. *If learning by one partner leads to a perceived shift in partner bargaining power, then there is increased likelihood that formal controls will be more emphasized.*

The Effect of Increases in Trust and Feedback on Control

As we have described, initial conditions will give way to evolved conditions as the partners develop an understanding of each other and adjust the collaborative process. With the growth of trust there is an increasing willingness to accept risk and to increase commitment to the joint venture. As a firm gets to know its joint venture partner, the firm will adjust its assessment of the partner's trustworthiness. As explained by Das and Teng (2000), in this scenario the risk of opportunistic behavior drops, although the risks associated with asset specificity and partner reliance may increase.

We note that, paradoxically, an increase in interfirm trust may lead to a greater need for social control. Assume there is a joint venture in which Partner A trusts Partner B as signified by a decision to rely on Partner B to operate the joint venture manufacturing plant. If Partner B performs well, Partner A's trust in Partner B may increase, leading Partner A to allow Partner B to operate a second plant. Partner A's increased learning about Partner B, which increased trust, has now increased A's opportunity cost of leaving the joint venture. Thus, Partner A's dependence on Partner B has now increased and so has its risk. This risk, which Das and Teng (2000) labeled "performance risk," has increased because there are now two plants operated by Partner B. Partner A may respond by increasing its social controls, such as informal monitoring of joint venture operations, and by working more closely with Partner B to ensure that there are continued shared values, beliefs, and goals.

Proposition 9. *Learning by one partner that leads to increased dependence on the other partner to perform joint venture tasks increases the likelihood that the learning partner will increase its desire for social controls.*

Dynamic Relationships Among Trust, and Learning About and from the Partner

A lack of trust may lead to competitive confusion about whether a partner is an ally or a competitor (Powell et al. 1996). Without trust during the collaborative process, information exchanged between the partners may be low in accuracy (Currall and Judge 1995). Conversely, an atmosphere of trust should contribute to the free exchange of information between committed exchange partners because decision makers do not feel that they have to protect themselves from the others' opportunistic behavior (Blau 1964). This suggests that interfirm trust is a key variable and a form of currency that determines knowledge accessibility. As trust develops over time because the partners are learning about each other, learning opportunities will increase and partner firms will decrease their efforts to protect their knowledge and skills.

For the joint venture partner whose knowledge is being acquired, the risk of knowledge spillover exists, which can create competition. Knowledge spillover occurs when valuable firm knowledge spills out to competitors, who can then use the knowledge to gain competitive advantage (Cohen and Levinthal 1990). From a competitive viewpoint, a loss of knowledge by one partner via asymmetrical learning may result in the creation of a new or stronger competitor (Tsang 1999). When there is high interpartner trust, spillover concerns are reduced, which means organizations may choose not to use detailed contracts and may demonstrate greater tolerance of shifts in bargaining power (Gulati 1998). When trust is low, fear of opportunism is heightened, increasing the perceived need for detailed controls over knowledge and greater sensitivity to shifts in bargaining power. This may result in joint venture instability. When trust is high, however, firms may refrain from instituting specific controls over knowledge spillovers, and joint venture instability is less likely.

Proposition 10. *Trust between joint venture partners will moderate the relationship between shifts in bargaining power and joint venture stability*: *High trust will decrease the likelihood that shifts in bargaining power will result in joint venture instability*; *low trust will increase the likelihood that shifts in bargaining power will result in joint venture instability.*

Providing access to knowledge increases risk for the partner with the knowledge. Without trust, access will not be provided because the partner will be unwilling to rely on its partner not to misuse or appropriate the knowledge. In cases of highly competitive overlap, firms will have a limited incentive to share knowledge. In fact, a firm may have little incentive to form alliances, let alone share knowledge that could potentially lead to the creation of a competitor. There is, however, a counterargument to this position. The negative alliance incentive associated with a competitor's knowledge acquisition is counterbalanced by both new learning and an enhancement in learning ability. The rationale is as follows. Knowledge spillovers are acknowledged to be an inevitable result of alliance involvement, despite the efforts of firms to protect their knowledge. Although a firm in an alliance risks knowledge spillover, there is also the opportunity to capitalize on spillovers of the partner's knowledge. Thus, firms may be able to learn more than they lose and build valuable learning ability in the process. In that sense, norms of reciprocity ("you may learn from me, but I also learn from you") counterbalance the negative incentive to share knowledge.

Learning and Alliance Stability

We believe that the dynamics of learning from and about a partner, and the impact of learning a partner's bargaining power, suggest that joint venture instability rates might be bimodal. At the beginning of a relationship, new joint ventures that start with an existing stock of "relationship assets" may experience a honeymoon period that effectively buffers the firm from early dissolution (Fichman and Levinthal 1991). Once the honeymoon is over, if trust is weak and the partners have learned little about each other, hazard rates for instability and termination will be high. Very often, performance issues will arise that escalate into serious partner conflict. If trust is low and there are minimal investments in relationship assets, conflicts will often result in a risk assessment that leads to a decision that termination is the best option.

As relationships evolve and trust increases, hazard rates for premature termination will drop. The problematic joint ventures will be dissolved. For those that survive, issues that may have resulted in serious interpartner conflict early in a relationship may be resolvable as trust increases and partner firms learn about each other through repeated transactions. As the fear of opportunism fades because of the development of mutual trust, there should be a reduction in coordination and monitoring costs. Thus, trust has efficiency implications; trust reduces the probability of loss and enables partners to move forward even though uncertainty in the relationship may remain (Nooteboom et al. 1997).

Because building trust and implementing control mechanisms both have costs, moving from a low-trust to a high-trust relationship requires an investment in relationship assets that may be highly specific to the joint venture and of limited use in the event of alliance termination. In some cases, it may simply be too costly to continue the joint venture and termination may occur. So, as the relationship continues and bargaining power shifts due to learning from the partner, the hazard rate for termination increases.

Conclusion

The main theme of this paper is that joint venture trust, control, and learning are key concepts that coevolve over time. Our position is that the level of interfirm trust is a determinant of the structures and control mechanisms that evolve in a joint venture. However, because trust cannot be instantaneously created or destroyed,[8] partner firms must balance the inevitable trade-off between trust and control. We also acknowledged the complexity of the question of whether joint venture performance is maximized through high levels of trust or high levels of formal control. Overemphasis on protective controls may hinder the pursuit of collaborative value because it prohibits the partners from developing mutual commitment to the relationship.

Trust creates the initial climate that shapes partner interactions. In turn, these interactions lead to subsequent decisions about the nature of controls. When a joint venture is being created and decisions about control must be made, formal controls may be preferred. Once the joint venture is formed and if the initial conditions support continued collaboration, learning processes will be central to the evolving alliance dynamics. As initial conditions give way to evolved conditions, learning and trust will coevolve and impact decisions about control. Two different learning concepts were discussed: learning *from* a joint venture partner (i.e., knowledge acquisition) and learning *about* a joint venture partner. By examining learning, we have argued that in interorganizational relationships, learning plays a critical role in establishing firm bargaining power, shaping partner interactions, and influencing decisions about control processes and risk taking.

Based on our discussion, several issues for future research can be identified. As Koza and Lewin (1998) pointed out, existing treatments of alliance trust exhibit conceptual and methodological weaknesses. The framework developed in this paper suggests several promising avenues. One is the relationship between formal and social control mechanisms and how decisions are made about the implementation of control processes. To what degree, if any, is one form of control viewed as the most important in linking partner interests with joint venture outcomes? Second, the relationship between control and joint venture performance must also be studied further. Is joint venture performance maximized through high levels of trust or high levels of formal controls, or some combination of both? Furthermore, does learning, as Hamel (1991) suggested, relegate most control mechanisms to a secondary position in terms of influencing partner bargaining power? Another issue (drawing on the Khanna et al. (1998) discussion of the ratio of private to common benefits) concerns the ratio of the extent of learning from the partner to the extent of learning about the partner. How does this ratio affect firm behavior and incentives to remain in the alliance? Finally, several interesting questions involve organizational levels of analysis. For example, although the interpersonal level of trust may be high between joint venture managers, and they may prefer social methods of control, one or all partner firms may have firm-level policies that require a system of formal controls regardless of the level of trust among joint venture managers (Currall and Inkpen 2000, 2002).

Our propositions provide a starting point for an empirical examination of these and other questions. We believe that all of the concepts in our propositions can be properly operationalized for empirical study. Indeed, many concepts such as trust, bargaining power, instability, and partner learning have been examined in previous empirical studies.

Researchers must also recognize that concepts of trust and control can have different meaning in different national cultures. For example, Child et al. (1997)

pointed out that in China, an assertion of legal rights may be interpreted as a lack of trust in the partner. Finally, the issue of the cost of building trust must be considered. Trust building can be costly and time consuming; in certain situations, the use of controls may be less expensive. Advancing this line of inquiry will provide new areas of research concerning joint ventures and the coevolution of trust, control, and learning, as well as provide practical insights for managers involved in alliance management.

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Endnotes
[1]A third type of risk, asset specificity, is associated with the specific resources and efforts devoted to building a cooperative relationship. These resources and efforts may have no transferable value if the joint venture is terminated. Although this type of risk has less of a connection to trust than the other types, Das and Peng (1998) pointed out that a significant level of nonrecoverable investments signals one's trust.
[2]This is not to suggest that greater detail in joint venture agreements is the preferred approach. Detailed contracts can get in the way of creating effective trust-based relationships (Rousseau et al. 1998).
[3]A complicating factor in the study of joint venture trust is that trust can exist at different organizational levels. Trust at one level does not necessarily mean that trust exists at another level (Currall and Inkpen 2002). As a joint venture evolves, person-level trust may facilitate trust at the firm level and vice versa. Trust is amplified as it travels across organizational levels. From individuals to groups to firms, more and more managers decide to engage in trusting actions.
[4]An attribution theory analysis (see Stricklin 1958), however, might suggest that the perceived cause of the other manager's trustworthy behavior is external safeguards that make the attribution of trustworthiness lower rather than higher.
[5]A reviewer pointed out that if formal controls work, they should make it difficult for partners to engage in opportunistic behavior. To add to this, the reality in complex alliances is that formal controls will allow certain behaviors to be monitored and controlled. However, it will not be possible to monitor all aspects of the alliance, which means that in most alliances the risk of opportunistic behavior can never be entirely mitigated by controls.
[6]Note that there are other learning processes beyond these two, such as learning about the joint venture environment and learning about how to collaborate.
[7]Successful transactions are not necessarily correlated with joint venture success. Transactions refer to repeated interactions between partners. It is possible that some types of repeated transactions could be viewed as successful and the joint venture itself viewed as unsuccessful. However, over the life of a joint venture, it is likely that a history of successful interpartner transactions will be correlated with joint venture success.
[8]Trust can be destroyed much faster than it can be created (Currall and Epstein 2003).

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