
Trust, Control, and Risk in Strategic Alliances: An Integrated Framework*

T. K. Das, Bing-Sheng Teng

Abstract

T. K. Das
Department of
Management,
Zicklin School of
Business, Baruch
College, City
University of
New York, USA

Bing-Sheng Teng
Department of
Strategic
Management and
Public Policy,
School of Business
and Public
Management,
George
Washington
University, USA

Trust and control are inextricably interlinked with risk in strategic alliances. Hence, to understand how partner firms can effectively reduce and manage this risk, we need to examine the inter-relationships between trust, control, and risk. In this article, we propose a comprehensive and integrated framework of the three constructs in the context of strategic alliances, contending that trust and control are the two principal antecedents of risk. First, we suggest that the three constructs are each comprised of certain key dimensions. Risk can be considered separately as relational risk and performance risk. The two dimensions of trust are identified as goodwill trust and competence trust, and control is differentiated in terms of the three modes of behaviour control, output control, and social control. Second, we discuss systematically the various linkages between the different types of trust, control, and risk in alliances. Third, we suggest several risk reduction approaches — minimizing relational risk through goodwill trust, behaviour control, and social control, while minimizing performance risk through competence trust, output control, and social control. Fourth, we discuss a number of trust-building techniques and control mechanisms to reduce risk in different types of strategic alliances. Finally, we develop propositions for empirical testing of the integrated framework and offer brief comments on future research directions and managerial implications.

Descriptors: trust, control, risk, strategic alliances

Introduction

Trust and control are inextricably interlinked with risk in strategic alliances. Hence, for effective alliance performance, partner firms need to manage this risk adequately by understanding the conjoint roles of trust and control. Our aim here is to develop a comprehensive and integrative framework of trust, control, and risk in the context of strategic alliances. We begin by noting that risk is one of the most encompassing — and widely researched — concepts in the social sciences. It is used to denote both outcome variations in general and negative variations specifically in outcomes of importance. This latter view focuses on possible losses and is called downside risk.

In strategic alliances, downside risk is of two primary types — relational risk and performance risk. Relational risk and performance risk are about

the uncertainties, respectively, in partner cooperation and in alliance performance. Risk is the variable that connects trust and control in our comprehensive framework. The overall proposition is that trust and control jointly determine one's perceived total risk — that is, relational risk and performance risk — in strategic alliances.

Second, we treat trust as a multidimensional concept. We attempt to capture the complexity of the trust concept in the proposed framework by examining separately its two dimensions — namely, goodwill trust and competence trust, using the terminology from the literature that seems to best reflect the nature of the two dimensions.

Our third objective is also to incorporate — as with the trust concept — a comprehensive typology of control modes. Some researchers have noted the effects of formal control and social control on trust; in this article we adopt three control modes — namely, behaviour, output, and social control. We suggest that these three control modes have differential impacts on the various dimensions of trust and risk. In brief, we will propose specific determinative relationships among the dimensions of trust, control, and risk in strategic alliances.

We divide the rest of the article into seven sections. First, we discuss the importance of risk in alliances, giving particular attention to the notions of relational risk and performance risk. In the second section, we present the two dimensions of trust mentioned earlier and examine their relationships with risk. Third, and in a similar fashion, we discuss various control modes and their relationships with risk. We then explore the trust–control relationship, following up with an examination of how risk impacts on trust and control. Sixth, we discuss trust, control, and risk reduction in different alliance types. Finally, we suggest a number of trust-building techniques and control mechanisms for the purpose of reducing risk in different types of strategic alliances.

Risk in Strategic Alliances

Risk and risk taking occupy a prominent position in the social sciences. Risk is often conceptualized as variances in outcomes of importance to the risk-taking subject. Perceived risk, however, is different from a condition of uncertainty, because risk perception usually relates to the estimated probabilities of several outcomes. Since risk taking is often associated more with potential losses than associated gains, researchers have begun to focus on downside risk. This focus on the negative outcomes of risk taking is generally acknowledged to be managerially most relevant (March and Shapira 1987), and empirical studies on interfirm trust have also operationalized risk in accordance with this view (Inkpen and Currall 1997).

Risk, risk perception, and risk management are acknowledged as critical in management and strategy research. Risk is also a particularly important aspect of managing strategic alliances because alliances are an inherently

risky strategy. The failure rate of alliances is significantly higher than that of the single firm (Bleeke and Ernst 1991; Das and Teng 2000). One key difference between single-firm strategies and strategic alliances is the uncertainty attending the cooperation among partners. When firms pursue market opportunities on their own, there is little need to be concerned about the opportunistic behaviour of other firms because they are involved only in market transactions. In alliances, however, there is the risk of the partner not cooperating in good faith (namely, relational risk) in addition to the usual risk of unsatisfactory business performance (called performance risk). We now briefly discuss these two types of risk.

Relational Risk

In strategic alliances, relational risk is defined as the probability and consequences of not having satisfactory cooperation (Das and Teng 1996). This risk arises because of the potential for opportunistic behaviour on the part of both firms. Opportunistic behaviour is exemplified in shirking, cheating, distorting information, appropriating resources, and so on. Conflicts arise because firms have their own individual interests that are not necessarily congruent with those of their partners. The benefits that accrue to only one partner firm have been called private benefits, in contrast to common benefits that accrue to all partners (Khanna et al. 1998). Private benefits can be a source of interest conflicts. Furthermore, partner firms often have hidden agendas in the alliance — e.g., secretly learning valuable know-how and eventually taking over a target firm — which may subsequently create serious problems in cooperative interactions. All this suggests the possibility of low commitment to the cause of producing common benefits.

Performance Risk

Besides relational risk, there are many other factors that may adversely affect alliance performance. These factors include intensified rivalry, new entrants, demand fluctuations, changing government policies, a lack of competence of the partner firms, and sheer bad luck. These factors account for performance risk, or the probability and consequences that alliance objectives are not achieved, despite satisfactory cooperation among partner firms (Das and Teng 1996). For example, despite a keen desire to learn, partner firms often fail to achieve effective learning and knowledge transfer in alliances (Lam 1997). Unlike relational risk — which is unique to inter-firm cooperation — performance risk is present in all strategies, including strategic alliances.

Alliances are often noted for enabling the sharing of risk among partner firms. Such shared risk is clearly performance risk rather than relational risk, because the latter is, in fact, created by the formation of the alliances. For example, it is through alliances that partner firms may share risk per-

taining to R&D investments, achieving economies of scale and scope, jointly bidding for large projects, and entering new markets. All these activities can be viewed as reducing performance risk for the partners in a given project.

The distinction between relational risk and performance risk is a crucial one (Das and Teng 1998b). For instance, depending on which risk is more of a threat, partner firms may decide on the strategy that is best for acquiring others' valuable resources while protecting their own. Also, the two types of risk affect alliance structuring, in which partner firms form their own structural preferences based on their estimation of relational risk and performance risk (Das and Teng 1996, 2001).

In the next two sections, we propose that perceived risk is determined by two separate factors — trust and control. Both trust and control reduce the perceived probability and impact of undesirable outcomes — which, by definition, is risk. Trust entails a positive expectation about the partner, suggesting that unpleasant outcomes are less likely (Lane and Bachmann 1996). At the same time, control is about influencing the behaviour of the partner, so that undesirable outcomes are also less likely. We maintain that there is no third determinant that is of comparable importance. Trust leads to low risk perception without doing anything about the partner. In contrast, control is a more proactive and interventionist approach and leads to a low risk perception through affecting the behaviour of the partner. It is in this sense that we suggest that trust and control determine the perceived risk level.

We need to note the critical difference between risk and perceived risk. Risk (or objective risk) is based on the consequences or outcomes of alternatives and their probabilities. Risk can be objective because it is something inherent in given situations. In many cases, such as lottery and card games, risk can be objectively calculated, based on known possible outcomes and their probabilities. On the other hand, perceived risk (or subjective risk) is decision makers' estimate of objective risk (Dowling 1986; Fischhoff 1985). Decision makers, thus, may have different estimates about the level of risk in a given situation.

While trust reduces perceived risk, it may not reduce actual risk inherent in the relationship. Because trust is a state of mind rather than an action, it does not *do* anything about objective risk in a relationship. Nevertheless, as a positive expectation about others, trust does lead to a perception of lowered risk in a relationship. In this sense, we maintain that perceived risk is reduced (or lowered) by the presence of trust. Besides, if trust leads to behavioural reliance on the trustee, then the trustor voluntarily becomes vulnerable to the actions of the trustee (Mayer et al. 1995). This may actually increase the risk to the trustor. Similarly, control does not always reduce objective risk, as it may be only an 'illusion of control'. Besides, firms may opt for control that is excessive (Garnsey and Wilkinson 1994), precluding increased productivity that may accrue if a degree of autonomy is granted in alliances. Accordingly, risk, as used in this article, refers to subjective or perceived risk rather than objective risk.

We now turn to a discussion of the specific relationships between trust and risk in alliances.

Trust as a Determinant of Risk

Trust is a multilevel phenomenon that exists at the personal, organizational, interorganizational, and even international levels. At the interfirm level, researchers believe that trust is a key element in cooperative relationships (Ring and Van de Ven 1992; Sydow 1998). It is effective in lessening concerns about opportunistic behaviour, better integrating the partners, and reducing formal contracting. Therefore, although interfirm trust is difficult to come by, scholars have paid particular attention to the development of such trust (Kanter 1994; Larson 1992).

Despite the importance of trust, the issue of defining trust remains largely unresolved (as is clear from the articles included in the 1998 special research forum on trust in and between organizations appearing in the *Academy of Management Review*). Although numerous definitions of trust have been offered in the literature, we suggest that trust is about positive expectations regarding the other in a risky situation (Boon and Holmes 1991; Gambetta 1988). Some researchers, we should note, emphasize the behavioural implications of trust, thereby defining it as a reliance on the other in a risky situation (Hosmer 1995; Moorman et al. 1992). A similar differentiation has been made between trusting beliefs and trusting intentions (McKnight et al. 1998). The difference is one of trust and trusting — the latter denoting the behavioural consequences of trust. In this article, we adopt the former view and treat trust as a subjective state of positive expectations.

Researchers have also identified a number of antecedents of trust — including personal characteristics (Rotter 1967, 1980), institutional arrangements (Sitkin and Roth 1993), and situational factors (Scott 1980; Kee and Knox 1970). It is while categorizing various sources of trust that it becomes clear that trust is not a unidimensional construct.

Dimensions of Trust

Although trust can be viewed as positive expectations regarding another's goodwill, trust is increasingly being conceptualized in multidimensional terms (e.g. Barber 1983; Lewicki et al. 1998; McAllister 1995; Rempel et al. 1985; Ring 1996). Sheppard and Tuckinsky (1996) suggest that trust can be of three types — deterrence-based, knowledge-based, and identification-based. Ring (1996) proposes that trust is of two types, one being fragile and the other resilient. Whereas fragile trust is more calculative, resilient trust is said to be based on a perception of goodwill. McAllister (1995) notes that trust is either cognition-based or affect-based. Cognition is calculative and affect is about goodwill and responsibility. Rempel et al. (1985) discuss the components of trust as predictability, dependability, and

faith. Barney and Hansen (1994) suggest that interfirm trust comes in weak form, semi-strong form, and strong form, depending upon the degree of vulnerability in the relationship.

Barber (1983) and Gabarro (1978) stress the importance of competence in trust. Competence trust refers to 'the expectation of technically competent role performance' (Barber 1983: 14). Other terms that have been used to denote this competence include 'ability' and 'expertise' (Mayer et al. 1995). In contrast to competence, the other dimension has been called goodwill (Ring and Van de Ven 1992), responsibility (Barber 1983), dependability (Rempel et al. 1985), and integrity (Mayer et al. 1995). This dimension of goodwill refers to 'the expectation that some others in our social relationships have moral obligations and responsibility to demonstrate a special concern for other's interests above their own' (Barber 1983: 14).

Based on these two broad notions, Nooteboom notes that '[t]rust may concern a partner's *ability* to perform according to agreements (competence trust), or his *intentions* to do so (goodwill trust)' (1996: 990, emphasis in original). Since goodwill trust and competence trust present a clear distinction, we adopt these dimensions of trust here.

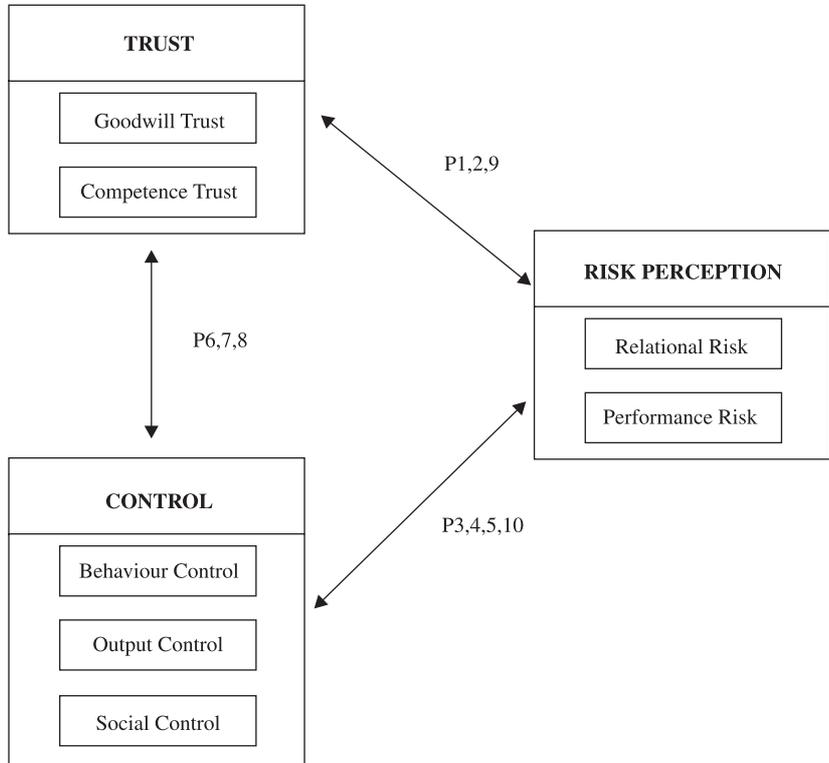
Risk plays an important role in our understanding of trust, but their relationship is far from clear in the literature. Many definitions of trust incorporate the element of risk. For example, Boon and Holmes define trust as 'positive expectations about another's motives with respect to oneself in situations entailing risk' (1991: 194). The idea is that trust is a relevant factor only in risky situations (Coleman 1990; Deutsch 1958). Without uncertainty in the outcome, trust has no role of any consequence.

In our framework — depicted in Figure 1 — we propose a different orientation for studying the relationship between risk and trust. Since trust is based on positive expectations regarding goodwill and competence, it reduces the perceived risk in a relationship. Although scholars recognize this general relationship (e.g. Inkpen and Currall 1997; Ring and Van de Ven 1992), in fact, this relationship is present only as a set of distinct relationships between specific dimensions of trust and risk. Below, we present our rationale for these particular relationships.

Goodwill Trust and Relational Risk

We suggest that goodwill trust reduces a partner firm's perceived relational risk in an alliance. Goodwill trust is about one's good faith, good intentions, and integrity. It is about whether a firm has a reputation for dealing fairly and caring about its partner firm's welfare in alliances. With such a reputation, a focal firm feels more assured that the partner firms will cooperate in good faith, rather than behave opportunistically. Thus, scholars believe that goodwill trust reduces the perceived likelihood of opportunistic behaviour occurring, which in turn contributes to low transaction costs (John 1984; Nooteboom 1996). This trust can be established over time through previous alliances (Gulati 1995). Barney and Hansen (1994) note that interfirm trust can be a source of competitive advantage. In sum,

Figure 1
Integrated
Framework of
Trust, Control,
and Risk in
Strategic Alliances



because goodwill trust suggests good intentions to make the alliance work, the partner firm will be less concerned with problems of cooperation. Hence, goodwill trust reduces the perceived level of relational risk.

On the other hand, goodwill trust is not likely to be related to perceived performance risk. Goodwill trust delineates only a firm's intention to make things work, rather than one's ability to accomplish that. Clearly, since the sources of performance risk reside in extraneous factors — such as intense competition in the industry and a lack of resources — goodwill trust is of no help in dealing with these issues. As such:

Proposition 1: A firm's goodwill trust in its partner firm will reduce its perceived relational risk in an alliance, but not its perceived performance risk.

Competence Trust and Performance Risk

When it comes to reducing perceived performance risk, competence trust is plainly the relevant antecedent. Competence is based on the various resources and capabilities of a firm. Resources may include capital, human resources, physical properties, market power, technology, and others. These

resources and capabilities provide the basis for the competence or expertise that is needed in alliances. Moreover, firms that have been successful in previous alliances tend to build a reputation for competence. One's competence suggests a high probability of getting things accomplished successfully, which is tantamount to low performance risk. In this sense, because competence trust gives a firm a sense of confidence that the partner is capable of accomplishing given tasks in the alliance, performance risk of the alliance will be perceived as relatively low.

We should note, however, that competence trust does not by itself help lower the perceived relational risk. Competence trust is concerned only with the ability to do appropriate things, not the intention to do so. A very competent firm may well decide to be opportunistic in the alliance and, therefore, threaten a prospective or even an ongoing relationship. Thus:

Proposition 2: A firm's competence trust in its partner firm will reduce its perceived performance risk in an alliance, but not its perceived relational risk.

Control as a Determinant of Risk

Besides trust, the other determinant of risk in strategic alliances is control. Control is generally viewed as a process of regulation and monitoring for the achievement of organizational goals. For example, Green and Welsh define control as 'a cybernetic, regulatory process that directs or constrains an interactive activity to some standard or purpose' (1988: 291). In the 'planning and control' framework, control plays the role of checking and making sure that activities are being carried out according to plan. Some scholars propose that any process that is intended to affect the behaviour of other people is control (Sohn 1994). In this article, we adopt the definition of control as 'a regulatory process by which the elements of a system are made more predictable through the establishment of standards in the pursuit of some desired objective or state' (Leifer and Mills 1996: 117).

Control is widely acknowledged as essential in strategic alliances (Geringer and Hebert 1989; Medcof 1997). In alliances, control can be achieved through governance structures, contractual specifications, managerial arrangements, and other more informal mechanisms. Control in alliances is of two types — controlling the partner and controlling the alliance *per se*. Often, the two are discussed in an integrated manner. However, because of the managerial complexities of alliance management (Das and Teng 1997, 1999), control has been found to facilitate coordination (Kumar and Seth 1998) and learning (Makhija and Ganesh 1997). As a result, effective control becomes important for satisfactory alliance performance.

Nevertheless, control may also have negative effects on the alliance. Provan and Skinner (1989) found that dealers' opportunistic behaviour is positively related to supplier control over dealer decisions. Yan and Gray (1994) found

a contingent relationship between managerial control and alliance performance. The relationship is moderated by factors such as trust and common goals.

Control Modes

The control literature suggests that there are two basic approaches to control — external measure-based control and internal value-based control (Eisenhardt 1985). The first approach emphasizes the establishment and utilization of formal rules, procedures, and policies to monitor and reward desirable performance. It has, thus, also been called formal control and objective control. The second approach relies on the establishment of organizational norms, values, culture, and the internalization of goals to encourage desirable behaviour and outcome. Here, control is intended to reduce goal incongruence and preference divergence among organizational members. Thus, this second approach has also been called clan control, informal control, and normative control.

There are two main modes of formal control (Ouchi and Maguire 1975). Organizations can control either by measuring the behaviours or the outcomes of these behaviours. Measuring behaviour (or behaviour control) is to ensure that the process is appropriate, while measuring outcomes only (or output control) is to rely on an accurate and reliable assessment of members' performance.

Social and informal control often refer to the idea of clan control proposed by Ouchi (1979). Clan control is exercised when organizations do not specify task-related behaviours and outputs. Instead, the focus is on developing shared values, beliefs, and goals among members so that appropriate behaviours will be reinforced and rewarded. Because members internalize organizational goals, their commitment and motivation to achieve these goals will be high.

Eisenhardt (1985) has suggested, based on Thompson (1967) and Ouchi (1979), that the choice of an appropriate control mode depends on two task characteristics — task programmability (or knowledge of the transformation process) and output measurability. Task programmability refers to the degree to which managers understand the transformation process in which appropriate behaviours are to take place. Output measurability refers to the ability to measure outputs in a precise and objective manner. Referring to Figure 2, output control is appropriate with high output measurability and low task programmability. Behaviour control works best in the opposite situation — high task programmability and low output measurability. When both dimensions are at the low end, social control is preferable because it allows a more participatory goal-setting process.

Because the typology of behaviour, output, and social control modes has been widely accepted in the literature (Eisenhardt 1985), we adopt it in this article. As compared to the typology of formal vs. social control, this three-item typology recognizes — as we will see presently — the significant differences between behaviour and output control in the context of risk.

Figure 2
Control Modes
and Incidence of
Relational Risk
and Performance
Risk

		Knowledge of the Transformation Process (i.e. Task Programmability)	
		high	low
Outcome Measurability	high	Behaviour control and output control	Output control <i>(Performance Risk)</i>
	low	Behaviour control <i>(Relational Risk)</i>	Social control <i>(Relational Risk and Performance Risk)</i>

Adapted partly from Ouchi (1979) and Eisenhardt (1985).

Gencturk and Aulakh (1995) found that the type of control used in foreign markets is often determined by internal and external sources of uncertainty, akin to our notion of relational risk and performance risk.

Behaviour Control and Relational Risk

Behaviour control is also called process control, since it focuses on the process which turns appropriate behaviour into desirable output. The measurement is of the behaviour itself rather than the final output — often because the measurement of output is not precise and objective. Another necessary condition here is that the understanding of the process by the managers is satisfactory and that they know exactly the kind of behaviour they are looking for.

These particular task characteristics (low output measurability and high programmability) is in good accord with the incidence of relational risk (see Figure 2). Alliances are characterized primarily by low output measurability. It is difficult, ordinarily, to measure the outcomes of opportunistic behaviour and relational conflicts in a precise and objective manner. Because the essence of relational risk is about the likelihood of underhanded and surreptitious activities, alliance managers have a hard time measuring the exact consequences of these relational problems.

The degree of the knowledge of the transformation process — means–ends relationships — can be either high or low, so that relational risk can be present in both cases. Alliance managers may or may not understand the process by which opportunistic behaviour affects alliances in an adverse manner. In some cases, the transformation relationship can be quite clear. For example, if one firm appropriates its partner's technological know-how, that behaviour will translate into an erosion of the partner firm's competitive advantage. In other cases, alliance managers may not fully understand

the effects of unsatisfactory cooperation and asymmetric learning on alliance outcome.

Often, the incidence of relational risk entails characteristics that favour behaviour control — low output measurability and high knowledge of the process. Essentially, relational risk is about partners' opportunistic behaviour and ineffective cooperative behaviour. Behaviour control mechanisms, or *ex post* deterrents such as explicit clauses about information exchange and usage, should be used to regulate the conduct of partners to prevent major surprises. In this sense, behaviour control can effectively reduce relational risk. We should note, moreover, that output control is not very relevant for managing relational risk. If partners cannot accurately measure the adverse consequences of relational risk, output control mechanisms will be difficult to develop. Thus:

Proposition 3: Perceived relational risk in an alliance will be reduced more effectively by behaviour control than by output control.

Output Control and Performance Risk

In contrast to relational risk, performance risk is more result oriented, because the latter is about whether or not the alliance achieves the objectives of the partner firms, given satisfactory cooperation. Performance risk squarely relates to alliance performance, or the outcome of partner activities. Referring to task characteristics in Figure 2, performance risk accords with low knowledge of the transformation process, coupled with both high and low output measurability.

On the one hand, knowledge of the transformation process in relation to the incidence of performance risk tends to be limited — neither the most important sources of performance risk nor the unfolding of performance risk can be easily understood. Although we know that performance risk emerges from factors like competition and a lack of competence, how precisely these factors affect alliance functioning is difficult to comprehend.

On the other hand, alliance managers may or may not have *a priori* knowledge of performance measures. In particular, alliance managers from different partner firms may not agree on specific performance measures, or they may not know what measures are appropriate for new or experimental endeavours. Of course, the partners may very well develop consensus objectives and output measures through negotiations in alliances. In the negotiation process, partner firms bargain based on their preferences, objectives, and interests in the alliance. The outcome depends on each partner's bargaining power (Yan and Gray 1994).

Given these considerations, output control appears to be appropriate. Recall that output control (or outcome control) is exercised through close monitoring of performance and is most effective in situations that have two task characteristics — (1) one's knowledge about the transformation process is limited, and (2) output measurements are precise. Output control helps to

direct the attention of alliance managers to key performance measures, so that they may react as quickly as possible when performance risk rises to dangerous levels. Behaviour control will not be effective in dealing with performance risk because managers hardly know what kind of behaviour (besides cooperation) could help in assuring better performance. Therefore:

Proposition 4: Perceived performance risk in an alliance will be reduced more effectively by output control than by behaviour control.

Social Control and Risk

Social control or clan control aims at reducing the discrepancies in goal preferences of organizational members through the establishment of common culture and values (Kirsch 1996). The key difference between social control and formal control — behaviour and output — is that neither the behaviour nor the outcome is specified in the beginning. No boundaries are set as to what activities should be carried out or which ones are permissible. The goal-setting process is decentralized and evolving in nature, which is why social control is particularly appropriate for ambiguous circumstances. Through a socialization and consensus-making process, members become more committed to the organization, and shared views serve to influence strongly the behaviour of the members. In strategic alliances, social control is often used, because agreed-upon goals do not exist — at least not initially.

Social control is most valuable when both output measurability and knowledge of the transformation process are low. In this situation, neither behaviour control nor output control is appropriate, because both behaviour and output measures are unclear. Social control, in contrast, provides the appropriate ambiguity at the beginning and lets members develop a consensus. Organizations can, thus, avoid the problem of not being able to measure either behaviour or the outcome of such behaviour, but still be able to influence the behaviour of the members for their own benefit.

As we discussed earlier — and as shown in Figure 2 — both relational risk and performance risk seem to accord with social control. The implication is that social control — when used properly — has the potential of dealing with relational risk and performance risk simultaneously. This is so because, initially, social control may reduce relational risk through the establishment of shared values in alliances and, thus, deter partner firms from acting opportunistically. Social control may reduce performance risk as well, because it encourages the partner firms to lay out reasonable and achievable goals for the alliance. The establishment of appropriate goals is critical for satisfactory alliance performance (Hatfield and Pearce 1994). Therefore:

Proposition 5: Social control in an alliance will reduce both perceived relational risk and perceived performance risk.

The Trust–Control Relationship

The Effects of Control on Trust

The inter-relationships between trust and control in alliances have been the subject of some research in recent years. Control is often believed to be detrimental to trust because regulation implies a sense of mistrust (Argyris 1952). In contrast, some theorists argue that proper control mechanisms may, in fact, increase trust, because objective rules and clear measures help to institute a ‘track record’ for people who do their jobs well (Goold and Campbell 1987; Sitkin 1995). Adopting a more contingent perspective, we have suggested elsewhere that the effects of control on trust may not be the same across all situations (Das and Teng 1998a). We have argued that formal control — that is, behaviour control and output control — may undermine trust, because the employment of strict rules and objectives means that members do not have the autonomy to decide what works best. Members’ goodwill is thrown in doubt. As a result, an atmosphere of mistrust is created. Social control, on the other hand, influences people’s behaviour through creating shared goals and norms. This process increases mutual understanding — and is thus trust-breeding.

Whereas the above argument is primarily concerned with goodwill trust, a similar logic would apply to competence trust. First, when specific outcome measures (or output controls) are used in an alliance, the implication is that a firm does not fully trust the competence of its partner to decide what is best for the alliance. A lack of trust leads to the conclusion that outcomes need to be frequently checked against preset measures and objectives. An emphasis on outcome measures can also create the impression that a partner needs to meet the targets on its own. Such an impression of being left to its devices in situations involving downside risk may also create anxieties that could erode competence trust.

Furthermore, output control gives partner firms little leeway in pursuing long-term objectives at the cost of certain short-term targets, because alliance outcomes will be constantly and closely monitored. Once partners are preoccupied with these kinds of measures, encouraging strategic myopia, partner firms would not pay much attention to the evidence of each other’s competence. As a result, competence trust in partner firms will be even more difficult to develop.

Second, when behaviours and processes are specified in an alliance, the implication is that the partners cannot be trusted with things being done their own way. Their competence is questioned as to whether they have the ability to carry out the job in the best possible way. As such, a sense of mistrust prevails in the alliance. If partners have limited autonomy in designing their own behaviour, it becomes more difficult to demonstrate their competence. Thus, again, there will be less likelihood of developing competence trust.

In addition, when one firm controls the behaviour of another, a dependence relationship is created. Since it is safe to assume that few firms like to be

directed by others, close monitoring of behaviour tends to generate tension that makes partners more skeptical of each other's approaches. Competence trust will therefore be compromised. Thus:

Proposition 6: Both output control and behaviour control will undermine goodwill trust and competence trust in an alliance.

In contrast to both behaviour control and output control, social control can boost goodwill trust in alliances (Das and Teng 1998a). In social control, partners influence each other's behaviour by achieving shared norms, value, culture, belief systems, and preferences. No specific behaviour is prescribed, nor are rigid outcome measures employed. Partners are relatively free to develop the process they prefer, and set targets as they see appropriate. They influence each other's behaviour through frequent meetings and communications, culture blending, and socialization. Thus, a sense of confidence in each other's goodwill is implied in social control. According to Ouchi (1979), clan (or social) control is most appropriate in high trust situations and it also advances trust. Barney and Hansen suggest that trust is 'strong' when partners believe that 'opportunistic behaviour would violate values, principles, and standards of behaviour that have been internalized by parties to an exchange' (1994: 179). Empirically, Aulakh et al. (1996) found a positive relationship between social control and goodwill trust in alliances.

While research has focused on the positive relationship between social control and goodwill trust, the same logic applies as well to competence trust. Recognition of the other's competence is evident when more autonomy is allowed in deciding on desirable behaviours and outcome measures. Developing shared norms means, in part, that partners are trusted in terms of their competence. Since trust is reciprocal, more competence trust by one party often leads to more competence trust between all partners. In addition, when partners engage in social control, they interact with each other more and develop an agreeable approach collectively. This consensus-making process increases understanding between partners, and provides a foundation for competence trust. Hence:

Proposition 7: Social control will enhance both goodwill trust and competence trust in an alliance.

The Effects of Trust on Control

Not only does control influence trust in an alliance, but trust, in turn, affects the effectiveness of control modes as well. It has been noted that a minimum level of trust is needed for any economic transaction (Arrow 1974). The implementation of control in business organizations also requires a certain level of trust. Similarly, to have effective control over a partner in an alliance, a certain level trust is needed (Das and Teng 1998a). Social control works best when there is a relatively high level of trust.

Likewise, behaviour control and output control also work better with the presence of trust. After all, trust reduces the level of resistance and brings harmony to the controller–controllee relationship. A lack of trust means that the firms will question the motive and competence of the controlling partners. Inadequate goodwill trust makes partners wonder whether control is for the purpose of advancing someone’s private interests rather than the common interests in the alliance. A lack of competence trust makes partners wonder whether the type of control is the right one. Thus, without a certain level of trust, it will be difficult to accept outcome measurements, to follow specified behaviour patterns, and to share values. Trust reduces the chances of retaliation because partners tend to practice mutual forbearance. In an empirical study, Vryza and Fryxell (1997) found that trust makes control mechanisms more effective. Therefore:

Proposition 8: Goodwill trust and competence trust will enhance the effectiveness of all control modes (behaviour, output, and social) in an alliance.

Risk as a Determinant of Trust and Control

In earlier sections, we discussed trust and control as determinants of perceived risk level. In reality, risk perception also serves as a source for trust and control, because risk perception levels determine the need for trust and control. The idea is that, in alliances, partner firms can accept risk only up to a certain level, beyond which the alliance becomes too risky for them. Thus, depending on how much risk they can accept, different levels of trust and control will be needed.

Acceptable Risk and the Need for Trust

We have noted that partners in alliances are exposed to relational risk and performance risk. There is a maximum level of risk that a partner can reasonably accept in an alliance. Therefore, when risk levels are perceived as too high, partners feel the need to rely on either trust or control or a combination of the two. Trust and control help to reduce perceived risk to an acceptable level.

Partner firms have different levels of acceptable risk. In different alliance types, partners would tend to need different levels of confidence in partner cooperation (Das and Teng 1998a). For instance, because of the typical high commitment and embeddedness in joint ventures, partner firms will need a higher level of confidence in partner cooperation. In other words, the maximum acceptable level of relational risk in joint ventures is lower than that of other alliance forms. Other factors that may influence partner firms’ acceptable risk level include their risk preferences (Chiles and McMackin 1996), their resource profiles and competitive positions, and industry dynamics.

Since trust and control are the only two risk-reducing mechanisms, a lower

acceptable risk level demands higher trust, when control levels are held constant. Thus, the ability to rely on trust becomes critical. As Ring and Van de Ven observe, 'the greater the ability to rely on trust, the less the risk inherent in a transaction, *ceteris paribus*' (1992: 489). We have, of course, argued that this is true only when we choose to, or have to, hold the control level as constant. Remember, too, that the relationship is only true between relational risk and goodwill trust and between performance risk and competence trust, as we discussed in earlier sections. Thus:

Proposition 9a: Control levels remaining the same, the lower the acceptable relational risk level, the higher the needed goodwill trust level in an alliance.

Proposition 9b: Control levels remaining the same, the lower the acceptable performance risk level, the higher the needed competence trust level in an alliance.

Acceptable Risk and the Need for Control

A similar pattern exists in the relationship between risk and control: when the trust levels remain the same, the lower the acceptable risk, the more the need for control. The reason lies, again, in the supplementary roles of control and trust in reducing risk. Researchers (e.g. Madhok 1995; Ring and Van den Ven 1992) suggest that a lack of trust and a perception of high risk prompt alliance partners to choose governance structures with tighter control mechanisms (e.g. joint ventures). This essentially supports the idea that when it is difficult to rely on trust, more control is the answer for lowering risk. Parkhe (1993) found that a perception of opportunistic behaviour (high relational risk) leads to the deployment of contractual safeguards, or control in alliances.

We noted earlier that relational risk can be reduced by behaviour control and social control, whereas performance risk can be contained through output control and social control. Therefore, the negative relationship between an acceptable risk level and the need for control exists as follows:

Proposition 10a: Goodwill trust remaining the same, the lower the acceptable relational risk level, the more will be the use of behaviour control and social control in an alliance.

Proposition 10b: Competence trust remaining the same, the lower the acceptable performance risk level, the more will be the use of output control and social control in an alliance.

Risk Reduction Through Trust-Control Combination

In earlier sections, we argued that trust and control can individually help to reduce perceived risk. They can also be used jointly for enhanced risk

Figure 3
Risk Reduction
Through Trust and
Control

	Behaviour Control	Output Control	Social Control
Goodwill Trust	<i>low</i> Relational risk	<i>moderate</i> Relational risk	<i>low</i> Relational risk
	<i>high</i> Performance risk	<i>moderate</i> Performance risk	<i>moderate</i> Performance risk
Competence Trust	<i>moderate</i> Relational risk	<i>high</i> Relational risk	<i>moderate</i> Relational risk
	<i>moderate</i> Performance risk	<i>low</i> Performance risk	<i>low</i> Performance risk

reduction. The key lies in the effective combination of trust types and control modes on the basis of the specific relationships we proposed earlier in this article. To illustrate and elaborate upon our risk-reduction logic, we list in Figure 3 the risk reduction effects of various combinations of trust and control. For the sake of clarity and simplicity, we consider only combinations of one type of trust and one control mode at a time.

We assume that perceived risk levels (both relational and performance) will be high if there is neither trust nor control in an alliance. The risk levels may be reduced to 'moderate' or 'low' by a combination of trust and control. Specifically, when firm A has goodwill trust concerning partner firm B and controls the behaviour of firm B, firm A will perceive a low level of relational risk. The reason is that both goodwill trust and behaviour control reduce the perceived possibility that partner firm B will behave opportunistically. One may argue that goodwill trust mitigates the need for behaviour control, an overlapping effect that will further reduce perceived relational risk. Performance risk, however, will remain high because it cannot be addressed by goodwill trust and behaviour control.

A combination of goodwill trust and output control will result in moderate levels of relational risk and performance risk. While goodwill trust reduces relational risk, output control lowers the level of performance risk. Since the overlapping effect is not present, risk levels will be moderate rather than low. The rest of the cells in Figure 3 follow the same logic. For example, competence trust plus social control lead to moderate relational risk and low performance risk. Social control will be effective with both relational risk and performance risk (Proposition 5). When we have the additional effect of competence trust, performance risk will be reduced to a low level.

So far, we have presented the basic framework of trust, control, and risk in alliances. In the next section we explore further their roles in different types of alliances.

Trust, Control, and Risk in Different Alliance Types

Strategic alliances come in a variety of forms and structures — such as joint ventures, minority equity alliances, joint R&D, joint production, co-marketing, licensing, long-term supply agreements, and so on. Alliance structures and types influence the functioning of alliances, including their strategic motivation (Glaister and Buckley 1996). Also, the type of alliance has significant implications for the roles of trust and control (Birnbirg 1998). In this section, we further examine the implications of alliance types in terms of the different dimensions of trust, control, and risk.

Scholars have proposed a number of typologies to classify the large number of alliance structural arrangements. One typology that has gained wide acceptance consists of joint ventures, minority equity alliances, and non-equity alliances (Killing 1988; Yoshino and Rangan 1995). Joint ventures are new, separately incorporated entities jointly owned by the partners, whereas minority equity alliances involve an acquisition of equity shares by one or more partners. In contrast, non-equity alliances involve no equity arrangements. Both minority equity alliances and non-equity alliances may embody various configurations, such as co-marketing, joint R&D, licensing, and so on. The difference lies in whether partner firms become partial owners of each other. In Table 1 we list the contingent effects of trust, control, and risk in different types of alliances.

Trust in Different Alliance Types

Goodwill Trust

Goodwill trust is important for both partner firms in joint ventures as both are actively involved in these new and separately incorporated companies. Because they have to work together as if it were a single firm — the joint venture — a positive feeling about each other's goodwill and integrity is essential. By comparison, goodwill trust is less important in non-equity alliances. Non-equity alliances are often contract-based and partners usually have clear legal obligations. Although goodwill trust can be valuable in non-equity alliances, partner firms do not necessarily rely on it. Besides, in minority equity alliances, goodwill trust tends to be more important for the partner firm which receives investment or gives out equity shares. The bitter fight between Northwest Airlines and KLM Royal Dutch Airlines illustrates how potentially explosive a situation can become when an investing partner develops an interest in taking over the other partner (Tully 1996). The recipient firm needs to make sure that the investing firm does not harbour ambitions which are being facilitated by acquiring an equity position.

Competence Trust

In minority equity alliances the investing firm tends to need more competence trust regarding its partner. Large pharmaceutical firms often take equity positions in start-up biotech firms as a way to finance expensive

Table 1
Trust, Control,
and Risk in
Different Alliance
Types

Dimensions	Applicability to Alliance Types		
	Joint ventures	Minority equity alliances	Non-equity alliances
Goodwill trust	high for both firms	high for recipient firm	moderate
Competence trust	high for both firms	high for investing firm	high
Behaviour control	high	high	moderate
Output control	high (more convergent measures for partner firms)	high (often different measures for partner firms)	high (often different measures for partner firms)
Social control	high	high	high
Maximum acceptable relational risk	low	moderate	high
Maximum acceptable performance risk	low	moderate	high

R&D efforts. Before they do that, however, it is necessary for them to have sufficient competence trust regarding the small firm. The recipient firms, on the other hand, often do not insist on as much competence trust from the investing firm, because obtaining financial resources is the principal objective here.

In contrast, competence trust is equally important for all partners in joint ventures, because they have to rely on each other to carry out every specific task. This required reliance emphasizes all-round competence of the partners. In non-equity alliances too, partners are equally dependent on each other in joint efforts, whether it is for joint R&D or co-marketing agreements.

Control in Different Alliance Types

Behaviour Control

Behaviour control tends to be more important in joint ventures and minority equity alliances than in non-equity alliances. In non-equity alliances, partners collaborate according to clear-cut agreements and, thus, rely more on output control. For example, in licensing agreements and long-term supplier agreements, partner firms do not attempt to regulate and influence each other's behaviour. As long as standard products and services are provided, the cooperation should remain satisfactory. However, firms adopt the joint venture form rather than contractual agreements when the nature of cooperation becomes complex (Garcia-Canal 1996). One reason is that joint ventures may allow more effective control over the cooperative process. Such control is warranted, because the possibilities for opportunistic behaviour are more abundant in joint ventures and minority equity

alliances, given that partner firms work more closely with each other. Thus, they often need to regulate each other's behaviour through specific rules.

Output Control

Output control is important for all three types of alliances — although the nature of the output and performance measures is often different. Joint venture performance is usually evaluated the same way as in most single firms — through financial and market-based measures. Because partner firms share the ownership of the joint venture, they would have more convergent perspectives on alliance performance. There tends to be considerable agreement regarding what is meant by success in a given joint venture.

Mutually acceptable alliance performance measures are less common in minority equity alliances and non-equity alliances. When one firm invests in another, the objectives of the parties may not coincide. Investing firms may use return on investment or stock prices as output measures, while recipient firms may pay more attention to measures like market share.

Partners of non-equity alliances tend to develop different output measures as well. Take the example of a co-marketing agreement. Partner A may want to establish itself in a new sales territory, whereas partner B may want to utilize the financial might of the other firm. As such, A's output measures focus on establishing a marketing channel, while B's measures are more about overall market-share gains. Their definitions of alliance success may thus diverge quite substantively.

Social Control

Joint ventures are the most relevant sites for social control, as they are stand-alone entities in which partner firms work closely together. When personnel from partner firms work in one entity, a clan-like environment is possible. In joint ventures, partner firms are able to employ such social control mechanisms as socialization, interaction, and training. These mechanisms are less feasible in minority equity alliances and non-equity alliances — which lack a common and free-standing entity that would facilitate an enduring consensus-building process.

Risk in Different Alliance Types

Relational Risk

We argued earlier that the requisite level of confidence in partner cooperation differs according to the alliance type — high in joint ventures, moderate in minority equity alliances, and low in non-equity alliances (Das and Teng 1998a). We contended that joint ventures demand a higher confidence level because they (1) require more alliance-specific investments; (2) result in high levels of structural embeddedness; and (3) facilitate unintended resource transfers. Whereas the first two points are associated with performance risk, the third has to do with relational risk in alliances.

One important type of opportunistic behaviour is the confiscation of partner firms' technological and managerial know-how (Hamel 1991). Since

partners in a joint venture work under the same roof, they are significantly exposed to each other in terms of various kinds of know-how. As such, partner firms in joint ventures cannot afford to take much relational risk. The maximum acceptable relational risk is thus low. By the same token, unintended knowledge loss is less likely in minority equity alliances, and minimal in non-equity alliances. As a result, partner firms in these alliance types are more willing to proceed with moderate to high relational risk.

Performance Risk

Alliance-specific investments and structural embeddedness suggest that partner firms in joint ventures can afford only low levels of performance risk. Joint ventures engage in much more alliance-specific investments than other alliance forms because a new, separately incorporated firm requires to be established. Partner firms in joint ventures are also structurally more embedded. For instance, it is much more difficult and costly to exit a joint venture than a licensing agreement. Higher investments and deeper embeddedness mean severe consequences should the alliance fail. Thus, partners need to be fairly confident about the success of the joint venture. For instance, Osborn et al. (1998) report that in technology-intensive industries (high performance risk), contractual agreements (or non-equity alliances) are preferred over joint ventures.

Minority equity alliances usually involve moderate levels of alliance-specific investments and structural embeddedness. Alliance-specific investments include the cost of taking equity positions in another firm, while structural embeddedness results from the loss of liquidity due to equity acquisition. As such, the maximum acceptable level of performance risk will be moderate.

Finally, partners of non-equity alliances are most able — among the three types of alliances — to accept a relatively high probability of alliance failure, precisely because the adverse consequences of such failure tend to be limited. Co-marketing and licensing agreements do not require many alliance-specific investments — and they are comparatively easy to dissolve. Hence, a high performance risk level tends to be acceptable.

So far, we have discussed the role of trust, control, and risk in various types of alliances. In the next section, we suggest a number of specific trust-building techniques and control mechanisms that can be fruitfully used in these alliance types.

Trust-building Techniques and Control Mechanisms for Risk Reduction in Alliances

Trust building goes by various terms in the literature, including trust production (Sheppard and Sherman 1998), trust inducing (Bhattacharya et al. 1998), and trust development (Gabarro 1978). For example, Doney et al. (1998) mention various trust-building processes that are based on calcula-

tion, prediction, intentionality, capability, and transference. Sheppard and Sherman (1998) discuss trust production as related to various types of dependence relationships and risks. At the interorganizational level, Bhattacharya et al. (1998) list four trust-inducing mechanisms — alignment of interests, value alteration, selectivity in transactions, and research/information revelation. In this section, we suggest some of the ways to reduce relational risk and performance risk in alliances. Recall that we discussed earlier how perceived relational risk can be reduced through goodwill trust, behaviour control, and social control, and that perceived performance risk can be reduced through competence trust, output control, and social control. In Table 2, we list these approaches to risk reduction with comments on the degree of their applicability to the three different alliance types.

Reducing Relational Risk

Goodwill Trust-building Techniques

Goodwill trust in alliances can be developed in three major ways — establishing mutual interests, individual and team trust, and joint dispute resolution.

First, developing mutual interests precludes the possibility of interest conflicts, thus increasing a sense of reliability (Bhattacharya et al. 1998, Creed and Miles 1996). It is in this sense that Rempel et al. (1985) emphasize that motivations are an important source of trust. Benign motivations and mutual interests suggest that one is likely to care about the other's interest. Mutual interests will be important in all three types of alliances.

Second, Ring and Van de Ven (1994) suggest that interfirm trust often boils down to individual-level trust. Thus, one may also argue that, in fact, firms do not trust, individuals do. Individual- and team-level trust is often transformed into firm-level trust, and a decrease in individual attachments is associated with the dissolution of alliances (Seabright et al. 1992). Zaheer et al. (1998) found that interpersonal trust and interorganizational trust are indeed different constructs. However, these two types of trust at two different levels are also found to be highly correlated. Therefore, developing individual- and team-level trust is instrumental in developing goodwill trust between partner firms. This technique will be particularly important in joint ventures because individuals from partner firms have to work closely and develop interpersonal trust.

Third, Zucker (1986) notes that, in addition to process and personal bases of trust, there are also institutional bases of trust. Institutional bases pertain to formal social structures and include trade and professional associations, bureaucracies, banks, and regulations. These mechanisms can be used to produce goodwill trust among partners. For example, members of the same trade association will have better information about each other and thus believe that they share the same values and norms. Opportunistic behaviour is less likely if partner firms belong to the same interactive group of firms because their reputation can be damaged more easily. Thus, rely-

Table 2
Risk Reduction in
Different Alliance
Types

	Applicability to Alliance Types		
	Joint ventures	Minority equity alliances	Non-equity alliances
Trust Building and Control Mechanisms	(A) <i>REDUCING RELATIONAL RISK</i>		
<i>(a) Goodwill trust-building</i>			
1. Establishing mutual interests	high	high	high
2. Individual and team-level trust	high	moderate	moderate
3. Joint dispute resolution	high	high	moderate
<i>(b) Behaviour control mechanisms</i>			
4. Policies and procedures	high	high	high
5. Reporting structure	high	moderate	moderate
6. Staffing and training	high	moderate	moderate
<i>(c) Social control mechanisms</i>			
7. Decision-making process	high	high	high
8. Rituals, ceremonies, and networking	high	moderate	moderate
(B) <i>REDUCING PERFORMANCE RISK</i>			
<i>(d) Competence trust-building</i>			
9. Proactive information collection	high	high	high
<i>(e) Output control mechanisms</i>			
10. Setting objectives	high	high	high
11. Planning and budgeting	high	high	high
<i>(f) Social control mechanisms</i>			
12. Decision-making process	high	high	high

ing on institutional bases of goodwill trust is important for all types of alliances.

Lastly, joint dispute resolution has proven to be critical in alliances (Ring and Van de Ven 1994). Through joint dispute resolution, partners have a chance to understand each other better — including appreciating differences in perspectives, ideas, and approaches. It also provides a chance for firms to demonstrate their mutual forbearance and their caring for each other. This technique is used less often in non-equity alliances, since they rely more on contract-based dispute resolution.

Behaviour Control Mechanisms

Scholars suggest that behaviour control in alliances can be achieved through a number of mechanisms (Geringer and Hebert 1989; Makhija and Ganesh 1997; Schaan 1983). Three of these mechanisms appear to be most representative and widely used — policies and procedures, reporting structure, and staffing and training. First, partner firms can control each other's behaviour in an alliance through establishing policies and procedures (Littler and Leverick 1995). These can be part of the alliance contract, specifying the acceptable boundaries of behaviour — what should be done and what

should not be done. Along with the rewards associated with clear and pre-specified behaviour (Kirsch 1996), members will be able to behave with adequate knowledge about the benefits of complying with these behaviour rules. This mechanism is applicable to all alliance types.

Second, the reporting structure provides role specifications for everyone in the system (Heide 1994). It facilitates the process of supervision and monitoring. Authority within the alliance (especially in joint ventures) needs to be established before behaviour can be assessed. Alliances that are not joint ventures tend to use less of this mechanism, as there may not be any hierarchical structure in the alliance.

Third, staffing and training are important measures to regulate and standardize behaviour in alliances (Geringer and Hebert 1989). With proper staffing procedures, alliance partners will be in a position to select people whose behaviour is more in compliance with expectations. They can also persuade people to behave properly through training (Cyr and Schneider 1996). Again, this mechanism is more effective and widely used in joint ventures than in the other two types of alliances because they are separate 'firms' in which staffing and training can be implemented.

Social Control Mechanisms

Social control influences people's behaviour through 'soft' measures such as creating shared values and a clan-like environment. The key is to reduce goal and preference incongruence and thus increase members' commitment. Two main mechanisms can be used in alliances. First, partner firms can create shared vision and values through a participatory decision-making process (Grandori 1997). Such a process ensures that the preference of each party is understood and integrated into mutually acceptable goals and plans. This is likely to reduce potential conflicts among the alliance partners and facilitate more cooperative working relationships. The participatory nature of the decision-making process will be important in all alliance types.

Second, partner firms can also stress cultural activities such as rituals, ceremonies, and networking, to help establish shared norms and beliefs. They are informal but effective ways to translate organizational ideals into behaviour models that can provide guidance. As in single organizations, joint ventures can use this mechanism with relative frequency and ease. It is less prominent in other forms of alliances — again, because they lack the status of being separate entities.

Reducing Performance Risk

Competence Trust-building Techniques

Theorists often emphasize the importance of being open and free about sharing information in the process of building trust. To this end, partner firms need to proactively collect information about various aspects of partner firms. Scholars note that a firm's reputation is a strategic asset, and that such reputation results in added demand for being an alliance partner (Dollinger et al. 1997). Sohn (1994) also suggests that social knowledge

about a partner firm is an important factor in alliances. However, without proactive information collection one may not know who has a good reputation. There are two basic ways to collect such information. The first is through direct and open communication with the partner. The other is to collect information through networking activities with other firms (Creed and Miles 1996). Networking provides a unique way to gain inside information about a firm's competence and alliance history — which is often not publicly available. This technique should be applicable in all alliance types.

Networking activities are also related to institutional bases of competence trust. When firms belong to the same professional organization, under the scrutiny of the same government agency, or do business with the same bank, they will have reason to believe in the presence of certain skills, level of competence, assets, and standards in their partners. For example, being listed in a well-known stock exchange would suggest to a partner that the firm in question has a respectable standing.

Output Control Mechanisms

We consider two output control mechanisms as particularly important — setting objectives and planning and budgeting (Geringer and Hebert 1989). First, objectives and performance measures are of paramount importance to output control, because, without these, no output can be evaluated. The ability to set objectives for the alliance allows a partner to exercise control over what is satisfactory performance. It can adjust the strategy accordingly, if its objectives are not met. Performance risk of the alliance is thus reduced.

Scholars often stress the importance of equity stake in determining one's voting power (Blodgett 1991). Despite its significance, equity stake does not automatically give one the ability to set objectives (Geringer and Hebert 1989). Much needs to be done in order to get one's desirable output measures accepted as the norm. This mechanism is important for all alliance forms.

Second, planning and budgeting can also be used to ensure that outputs of the alliances are more likely to be satisfactory. Planning and budgeting represent a process in which organizational goals are specified and the direction of the alliance set. Because the significant functions are usually planned and financed, planning and budgeting help to reduce unplanned alliance outcomes. All alliance forms rely on planning and budgeting to make sure that alliance objectives are given adequate resource and managerial support.

Third, partner firms may also use institutionalized control measures for output control. Such measures include financial reporting and disclosure such as 10-K reports, various FDA procedures, patent applications, environmental regulations, and lawsuit clauses in the alliance contract. With the help of these measures, partners can ensure that alliance outputs are as transparent to them as possible, and if the outputs do not meet expectations, they can be better dealt with through legal procedures. Since the insti-

tutionalized measures are particularly relevant for independent firms, they are used more often in joint ventures than in other forms of alliances.

Social Control Mechanisms

The social control mechanism that can be used to reduce performance risk is again a participatory decision-making process. We mentioned earlier that this process reduces relational risk because the various preferences of the partners are considered and integrated. In our view, this process also reduces performance risk because partners get to actively contribute their respective kinds of expertise. When the decision-making process is participatory and informal, partners are more likely to treat it as an exercise for internal consumption rather than an activity to produce decisions meant for outsiders. As a result, more honest and open communication will take place, which is likely to result in more sound decisions. In this sense, alliances of all types may benefit from this mechanism.

Discussion and Conclusion

Theoretical Contributions

We proposed in this article an integrated framework of trust, control, and risk in strategic alliances. Overall, the framework suggests that trust and control are two separate routes to risk reduction in alliances. While trust can be seen as a more intrinsic source for lowering the perception of risk, control may be viewed as a more overt and active way of reducing risk. The two can and should be combined in specific ways for best risk management results.

These specific ways have to do with the dimensionalities of trust, control, and risk. We discussed the dimensions of alliance risk as relational risk and performance risk. Trust is comprised of goodwill trust and competence trust, while control consists of the three modes of behaviour, output, and social. We argued that not all dimensions of trust and control are related to risk — there are distinct one-to-one relationships across the various dimensions of the three constructs. For example, goodwill trust is linked only with relational risk, but not performance risk.

Thus, the main contribution of our integrated framework is that it identifies the specific relationships among the different dimensions of trust, control and risk in strategic alliances. Emphasizing these distinct linkages, it is at once more detailed and comprehensive than the existing models of trust and control. Based on these refinements, we suggested combinations of trust and control types that could help minimize relational risk and performance risk in alliances.

To further enhance our understanding of the roles of trust, control, and risk in alliances, we also examined them in relation to different alliance types. We discussed how certain dimensions of trust and control are more important than others in particular alliance types for purposes of risk reduction.

For example, whereas competence trust is needed in all alliance types, social control is more relevant in joint ventures than in non-equity alliances. Finally, we discussed a number of trust-building techniques and control mechanisms along with their comparative applicability in individual alliance types. Here the contribution is the systematic discussion of useful ways to employ trust and control for risk reduction.

Research Implications

An important implication for future research is that previous studies on the relationships among these three constructs need to be re-examined in terms of which precise dimensions are involved in the various studies. For example, while some researchers explicitly identify the dimension (or type) of trust they have chosen to deal with (e.g. Ring and Van de Ven 1992), others are less clear about the dimensionality of trust while examining the trust–risk relationship (e.g. Boon and Holmes 1991). Add to that the fact that we now have two kinds of risk that enters the calculus of integration, in place of the monolithic conception pervading the literature. These ambiguities may well be responsible for some of the empirical results that were previously difficult to explain. For example, Aulakh et al. (1996) hypothesized, but found only limited support for, significant relationships between trust and control. In our view, a pair-wise negative relationship may exist among specific dimensions, when the risk level is controlled. It seems to us that our framework has the potential for helping to explain some of the conceptual and empirical fuzziness in the existing literature on this subject.

Managerial Implications

Our framework also has important implications for business practitioners. First, the framework provides guidance for more effective risk management in alliances. Currently, alliance risk management is at best an eclectic topic. It is clear from our framework, that managers should be aware of the fact that risk management in alliances is a complex endeavour that is related to specific types of trust and control. For instance, a firm's reputation in terms of goodwill should not be confused with its reputation for competence, because the former is related to low relational risk while the latter helps lower performance risk. The impact of different types of control on risk management should also be noted. Depending on the type of risk one is dealing with, a strategic combination of trust development and control mechanisms can be formulated. Our framework provides managers with a systematic way to manage risk in complex alliance situations.

Second, managers can act on the basis of the knowledge of various trust-building techniques and control mechanisms, coupled with the information about the degree of applicability of these in various types of alliances. Not all these choices are equally effective in all kinds of alliances. We have indicated a more discriminating approach in this article. For instance, we suggested that goodwill trust has a more significant role in joint ventures

than in non-equity alliances. Therefore, individual and team-level trust building may be more promising in joint ventures. Joint ventures also offer more opportunities for social control than the other forms of alliances. This contingent approach is important because a mismatch could be costly to an alliance.

Thus, we show in this article how trust, control, and risk are interlinked in strategic alliances and how, also, risk reduction can be approached in a comprehensive and systematic manner, both for purposes of conceptual understanding and for managerial practice. We hope the integrated framework presented here will help advance our understanding of the complex inter-relationships between trust, control, and risk in the management of strategic alliances.

Note

* We would like to thank Special Issue Editor David Knights and three anonymous reviewers of this journal for their helpful suggestions. An earlier version of this article was presented at the 1999 annual meeting of the Academy of Management, Chicago, IL.

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