

AFTER THE INK DRIES: THE INTERACTION OF TRUST AND CONTROL IN US-BASED INTERNATIONAL JOINT VENTURES

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ABSTRACT

This study empirically examines the moderating effects of age and partner trust on the relationship between control mechanisms and perceptions of performance in 129 US-based international joint ventures (IJVs). A reliance on formal control mechanisms and general managers' perceptions of IJV performance were found to be positively related in younger IJVs, but this relationship became negative in more mature IJVs. In addition, social control mechanisms and perceptions of IJV performance were positively related, but only in the presence of affect-based trust between the parents.

INTRODUCTION

International joint ventures (IJVs) are compelling strategic options for multinational corporations (MNCs), especially those pursuing global strategies (Hergert and Morris, 1988). At one time or another, most MNCs form IJVs in order to gain competitive advantage, diversify risk, and gain access to new markets and technologies. Over the past two decades, competitive imperatives along with favourable legal and political changes have fuelled a rapid growth in strategic alliances of all types (Alter and Hage, 1993; Ghoshal, 1987; Goldenberg, 1988).

Interorganizational cooperation can assume many forms – it can be bilateral or multilateral, involve partners from similar or different product or service sectors, and impose higher or lower cooperative mandates (Alter and Hage, 1993; Pfeffer and Salancik, 1978). Such arrangements can also vary in their strategic impor-

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tance to the partners, ranging from rather casual and tactical arrangements (e.g., trade shows, membership in industry associations, information sharing) to various forms of strategic alliances requiring high levels of commitment and control (e.g., cartels, joint research and development). An IJV is a form of strategic relationship in which an independent legal entity is formed by two or more parent organizations of which at least one of the parents is headquartered outside the joint venture's country of operation (Geringer and Hebert, 1989). Ample equity commitments between the partners (in both a financial and a joint problem-solving sense) in the context of cultural dissimilarity and transboundary complexities further characterize IJVs.

From one perspective, IJVs represent hybrid arrangements somewhere between full equity ownership and bureaucratic governance and a more 'arms length' relationship approaching market governance (e.g., Thorelli, 1986; Williamson, 1991). Among strategic alliances, however, IJVs require unusually high levels of commitment from each partner and pose formidable governance problems. From this point of view, IJVs are less of a hybrid arrangement and better characterized as a highly sophisticated organizational form in both an evolutionary sense and because of their potential for minimizing transaction costs through 'clan-like' structures (Alter and Hage, 1993; Wilkens and Ouchi, 1983).

A popular argument for IJVs is that their structure enables parent companies to blend their competencies into a stronger organization than if either parent acted independently (Jarillo, 1988). The more historical approach to IJV synergy tended to match the legitimacy and local market knowledge of a domestic firm with some technological or other global competence of a strong multinational corporation. Evolving from this basis, IJVs have become particularly important in enabling integrated global production networks with large potential gains for each partner along multiple performance dimensions (Alter and Hage, 1993). Along with the emergence of multiple foci of regional competencies, IJV partners are now seeking synergies through technological exchange and global competitive positioning which place the partners on a more equal footing (Bartlett and Ghosal, 1995). As a result, undisputed dominance of an IJV by one partner is less common and IJV partners are becoming highly interconnected and interdependent – a condition Osborne and Baughn (1990) called 'interfirm embeddedness'.

In spite of having their fates intertwined, IJVs inevitably involve some level of divergence between partner goals, making cooperation vital to their success (Doz, 1996; Kanter, 1994). Indeed, attaining such cooperation in IJVs is both critical and elusive (Das and Teng, 1998). This ample potential for mutual benefit, in conjunction with obstacles to effective cooperation and vulnerability to exploitation, has earned IJVs a reputation for being 'Trojan horses'. In fact, in the early 1990s, it was reported that over half of all IJVs fail within two years (Geringer and Hebert, 1991; Parkhe, 1993). Although the track record of IJVs may have improved over the past decade, a large gap remains between the potential for mutual benefit and their actual track record. This disparity also appears to distinguish IJVs among other forms of organizational networks.

Given this intriguing mix of promise and peril, organizational researchers have begun to examine the effects of alliance structural arrangements on partner cooperation and alliance performance. Within this growing body of literature are a substantial number of studies addressing the importance of control mechanisms for IJV performance (e.g., Beamish, 1988; Sohn, 1994). Although these studies

have provided considerable insight into our understanding of strategic alliances, results addressing the control mechanism – alliance performance relationship have been profoundly equivocal.

Perhaps one reason for these conflicting results is that, for the most part, these studies have assumed a positive, monotonic relationship between control mechanisms and alliance performance (i.e., the more control, the better). Yet, this form of relationship is highly suspect in light of conceptual and anecdotal arguments that point to the possibility of negative consequences resulting from the use of control mechanisms. Acknowledging this potential for dysfunctional side effects, Das and Teng (1998, p. 502) observed that in strategic alliances, ‘partners do not automatically achieve effective control by implementing control mechanisms’. They propose that understanding the relationship between control mechanisms and alliance performance requires identifying relevant contingency variables and allowing for more complex types of effects. In this study, we pursue this contingency line of reasoning and argue that the relative effectiveness of control mechanisms is contingent upon perceptions of behavioural uncertainty in the IJV relationship. Specifically in this regard, we examine in detail two of the contingency relationships highlighted by Das and Teng (1998) – the moderating effects of IJV age and partner trust on the relationship between two types of control mechanisms, formal and social, and IJV performance.

Our decision to focus on alliance age and trust between alliance partners as key contingency variables in the control performance relationship was based on transaction cost reasoning. A central axiom in the transaction cost perspective is that the economic performance of an exchange relationship is contingent on the ability of exchange partners to match governance mechanisms with the exchange attributes so as to minimize transaction costs (Dyer and Singh, 1998). Critical to the governance mechanism decision is the level of exchange risk resulting from the potential for opportunistic behaviour. Two exchange attributes identified from strategic alliance literature that affect the level of perceived risk in an exchange relationship are alliance age and trust between alliance partners (Parkhe, 1993).

THEORY AND HYPOTHESES

The purpose of control in IJVs is to attain predictability through some regulatory means (Merchant, 1984). Such predictability promotes confidence that the other partner will behave in a way that is consistent with mutual benefits (Das and Teng, 1998). Presuming both partners possess such confidence, they are much more likely to collaborate in governing their joint creation that will in turn improve IJV performance. The potential for mutually beneficial outcomes was underscored by Alter and Hage, who argued that systemic networks, of which IJVs are a prime example, offer ‘the greatest competitive advantages in the global economy’ (1993, p. 2).

Concerns with predictability in IJVs could have many sources, ranging from relatively small misunderstandings to major discontinuities (e.g., economic crisis, political turmoil, technological change, and competitive response). Of particular importance, however, as a source of uncertainty in IJVs is the prospect that the other partner may act opportunistically. Concerns with opportunism loom especially high in IJVs due to the interaction influences of a high level of contextual

turbulence (Ansoff, 1984), the necessity for each partner to commit ample venture-specific investments (Gulati, 1995; Williamson, 1985), difficulties in measuring and controlling performance outcomes (Barney and Ouchi, 1984), and issues of agency and risk aversion (Davis, 1991; McGuire, 1988).

Contextual turbulence and performance ambiguity underscore the partners' realization that there are likely to be numerous situations where the other partner will be tempted to act opportunistically. Asset specificity raises the stakes of opportunism, whereas agency problems raise doubts about one's own representation in the venture. As a result, partner control – defined by Das and Teng (1998, p. 493) as 'the regulatory process by which the partner's pursuit of mutually compatible interests is made more predictable' – is likely to be among the highest priorities of each partner. Such control is normally attained through the implementation of various control mechanisms.

Control Mechanisms and Opportunism in IJVs

There are many network mechanisms employed to sustain inter-firm cooperation, and most are employed in IJVs. Grandori and Soda (1995) provide a comprehensive list of such mechanisms for the much broader domain of inter-firm networks, including various communication mechanisms (i.e., information systems), structural approaches (i.e., 'linking pin roles' and hierarchical relations) and more social means (i.e., selection, incentive systems, and group norms). They point out that although IJVs are often 'qualified as "equity networks", joint ventures are much more than that, and, where they are effective, they employ *all* the coordinating mechanisms described above' (p. 204; emphasis in original).

The earliest research on this topic focused on these equity mechanisms as 'ownership control' (e.g., Blodgett, 1991). Such mechanisms included provisions for voting rights, board composition, and the right to appoint key executives – the intent being to mitigate fears of opportunism by dominating the relationship. Historically, domination (usually by the foreign partner) faced limitations as communication obstacles (both technical and cultural) introduced uncertainties of their own and constrained information flows (Mjoen and Tallman, 1997). Moreover, it is inconsistent with the more equitable mutual intent characteristic of modern IJVs. Besides, ownership and domination are more easily realized through direct foreign investment.

Instead, the attainment of effective partner control in modern alliances among peers appears to be more strongly dependent upon the utilization of a variety of formal and social mechanisms that influence behaviour and decision-making more within the IJV itself. At this point, it is important to distinguish between formal and social control mechanisms. In general, control mechanisms are structural arrangements deployed to determine and influence what organizational members do. Conceptually, then, both formal and social control mechanisms are organizational arrangements established to effect organizational behaviour. However, although conceptually similar, social and formal control mechanisms differ in the means by which they influence organizational behaviour.

Formal control mechanisms can be cybernetic ('post-hoc' mechanisms) or those aimed directly at protecting the assets of the partner firms. With the former, information is gleaned post-hoc and compared to a priori expectations. Thus, opportunism is mitigated by an increased likelihood that such behaviour will be easily identified and dealt with in a timely manner. With regard to the latter, formal

mechanisms seek to reduce the potential for opportunism by controlling the assets through hierarchical means (Mjoen and Tallman, 1997). Whereas such formal controls may go hand-in-hand with ownership control, in more equitable, modern IJVs such controls are mutually agreed upon and imposed by agreement between both partners. Among the mechanisms listed by Grandori and Soda (1995), those involving hierarchy, planning and reporting mechanisms best map onto this description.

In contrast, social control mechanisms are designed to permit the evolution and inculcation of norms and values through *structured personal interaction* and training. The primary distinction is that unlike formal control mechanisms, social control mechanisms have a potential to impose firm, a priori restrictions on managerial behaviour. While such norms and values may be manifest in some documents (e.g., mission and philosophy statements), at the operational level they more often exist intangibly as shared understandings. Among Grandori and Soda's (1995) mechanisms, those based on group norms, selection and social interaction appear most conducive to social control. The aim of these mechanisms is cultural blending between partners through the training and socialization of IJV managers (Das and Teng, 1998). Their relevance lies in their ability to elevate confidence in inter-partner cooperation by influencing shared norms and values that serve to establish boundaries in the partners' relationship which each perceives are unlikely to be transgressed. These can have their origins in compatible cultural values of the partners, the integrity (reputation) of the each partner, or in the realization of mutual interdependency and long-run common interests (Wilkins and Ouchi, 1983). Because the shared understanding of each organization is likely to be idiosyncratic, our intention here is to focus on the mechanisms which facilitate the formation of social control.

The Interaction of Formal Control and IJV Age

The potential for social control is usually limited upon alliance formation, although some of the foundations for social control may be present to the extent that the partners have previous experience with each other. Indeed, Alter and Hage (1993) correctly point out that social interaction between potential network partners may begin long before the actual joint venture is formed. Boundary spanners (Aldrich, 1979) inevitably form social ties outside of the organization. Thus, social interaction often provides the seeds from which larger organizational networks, and IJVs in particular, grow.

At the same time, the formation of an IJV poses a unique point in time in the relationship. It is during formation that concerns with the opportunistic proclivities of each partner during the proposed life of the IJV will be especially salient. There is also often a discontinuity of social ties at this stage. Legal experts will be brought in, additional senior management in each partner firm will be increasingly involved, and the team that will implement the agreement will be formed. Past personal relationships that may have been formed prior to the consummation of the agreement may give way to role relationships as role specialists (e.g., lawyers) are brought in to finalize the agreement (Ring and Van de Ven, 1994). Thus, not only are the partners likely to be relatively unfamiliar with each other, this is further complicated by the fact that in IJVs the partners are from different cultures and legal systems. This makes it even more difficult to set aside such concerns. Consequently, in the more legalistic context of IJV formation with an influx

of 'fresh blood', each partner contemplates committing resources to an uncertain joint enterprise (of which many are asset specific). Under these conditions, it is understandable that each should seek a range of formal control mechanisms. As a result, subsequent to negotiations in creating the IJV, the inclusion of formal rules and procedures introduces a mutually agreed upon basis for monitoring behaviour and performance that provides the necessary stability and efficiency critical to the early stages of the IJV (Larson, 1992). This is also consistent with the legalistic negotiations observed in the initial formation of most IJVs (Cullen and Johnson, 1995; Tallman and Shenkar, 1994).

Problematically, however, the same turbulent environments that create windows for opportunism also make it difficult to pre-specify behaviours and outcomes desired as a basis for effective formal control mechanisms. Thus, the utility of formal control mechanisms as a basis for mitigating opportunism will be useful but relatively short-lived in the turbulent competitive and uncertain context of most IJVs (Ring and Van de Ven, 1994). Dyer (1997) also argued that that formal control mechanisms (e.g., legal contracts) are by nature effective for a finite period of time, but their relevance diminishes due to the need for repeated contractual renegotiation to accommodate the changing expectations of the partners. Under these conditions, transaction costs will be unmanageably high. Consequently, in the long-run, social control mechanisms (e.g., self-enforcing contracts through trust, credible commitments, etc.) will be more economical once the initial cost of establishing social controls averages out to become less than that of the cost of periodic contracting.

In addition, a continued reliance on formal control mechanisms over time may sow the seeds of IJV dissolution. Ring and Van de Ven (1994) point out that as interorganizational relationships mature, formal control mechanisms increase the probability of conflict and foster an atmosphere of distrust between partners. Successful cooperative arrangements will transition from the use of formal specifications early in the relationship to more informal processes later in the life of the relationship.

Possibly even more importantly from a partner control perspective, formal control mechanisms impede interpartner adaptation and mutual adjustment based on evolving needs and expectations, which is critical to long-term IJV success (Ansoff, 1984). The links to IJV performance are particularly strong if one defines IJV performance in terms of its ability to meet the needs of each partner. This leads to the following hypothesis:

Hypothesis 1: The relationship between the use of formal control mechanisms and IJV performance will be positive for younger IJVs and negative for older IJVs.

The Interaction of Social Control and Affect-based Trust

Assuming a continuing and mutual need for partner control, social controls are better suited to building partner cooperation in IJVs once such control can be established. Compared to formal control mechanisms, social control mechanisms have the potential to reduce monitoring and contracting costs and permit the flexibility and adaptability that are critical to long-term performance in the IJV context (Dyer, 1997). However, such mechanisms, by themselves, are likely to be incomplete in ensuring the attainment of partner control (Das and Teng, 1998). As mentioned previously, upon IJV formation the social ties that may have existed

between boundary spanners in each organization are substantially diluted by an influx of new members.

Moreover, it must be recognized that social control *mechanisms* do not necessarily lead to social control. On the contrary, each partner may be somewhat more exposed to the potential for opportunism in relying on ineffectual social control mechanisms. This could easily be the case since social control mechanisms do not formally pre-specify behaviour and performance standards in as much as they create the opportunity to do so (Granovetter, 1985). Thus, before social control mechanisms can properly be presumed to regulate parental pursuits, attendant concerns with opportunism must be overcome as a prelude to creating effective norms and values that can then reinforce confidence in partner cooperation. Ultimately, the efficacy of social control mechanisms will depend on the level of trust between alliance partners (Das and Teng, 1998).

That said, the conceptual domains of social control mechanisms, social control, and trust have significant overlap that merits some discussion. Social control mechanisms are structural arrangements that foster socialization and interaction among partner managers, such as cross-functional teams and sharing of personnel. The outcome of these arrangements is social control (i.e. the ability to influence behaviour) based on mutual understanding and the development of shared values and norms. Because social control does not rely on pre-specified behaviours or performance outcomes to influence behaviour, it increases the level of perceived risk in the relationship. As Granovetter (1985, p. 492) points out, the potential for enormous malfeasance follows from strong personal relations. Since there are no formal mechanisms in place to control behaviour, the success of the relationship is contingent upon the willingness of individuals to make themselves vulnerable to the risk – in other words, trust. Success in a relationship may, in turn, set the stage for even more trust, creating a potential for mutually reinforcing ‘trust cycles’ (Thomas, 1976).

Research on trust has been approached from a wide variety of perspectives (see Hosmer, 1995 for a thorough review). However, most studies have conceptualized trust as willingness to make oneself vulnerable to the actions of another under conditions of risk, based on the characteristics or qualities of specific others, groups, or systems to be trusted (Mayer et al., 1995; McAllister, 1995). This is essentially what we have just suggested is required when relying on social control mechanisms in IJVs.

Although researchers have identified multiple characteristics or qualities that inform trust (e.g., Butler, 1991), their relative importance in eliciting trust (i.e. their willingness to engage in risk-taking behaviours) will depend on the specific relationship context (Bigley and Pearce, 1998). McAllister (1995) identified two main attributions upon which trust is formed – those based on ‘good reasons, constituting evidence of trustworthiness’ (Lewis and Weigert, 1985, p. 970) and those based on ‘emotional bonds’. The former or ‘cognitive-based trust’ promotes the selection of competent partners and informs the development of prudent formal control mechanisms. Although opportunistic behaviour cannot be completely eliminated by a combination of cognitive-based trust and formal controls, at the formation of an IJV such a combination of prudence and formal understandings can go a long way to bind parties to mutual promises. However, it is the latter attribution or ‘affect-based trust’ that serves to mitigate fears of opportunistic behaviour where and when formal mechanisms are insufficient (e.g., because of

unforeseen contingencies created by complexity or change due to turbulence). This is because affect-based trust promotes the belief that an exchange partner actually cares about the relationship and, more importantly, is attentive to the needs of the partner (Lewis and Weigert, 1985). Accordingly, affect-based trust enhances cooperation and goal congruence such that a partner can be confident that his or her interests will be fully protected and that formal monitoring of behaviour is not necessary (Lewicki and Bunker, 1996). This level of confidence becomes increasingly critical as complexity and change place limits on cognition. Such confidence also facilitates the honest and open exchange of information required to be informed of the needs of the other party and overcome perceptual biases that can lead to dysfunctional conflict.

A recent study by Dooley and Fryxell (1999) provides additional empirical evidence for this assertion. They found that within top management teams dissenting opinions are processed more effectively when there is within-team trust grounded in the belief that team members are not acting opportunistically. In the absence of such beliefs, they argued that dissenting opinions lead to dysfunctional conflict and political processing of information. This is highly relevant, in that the evolving needs of each IJV partner will inevitably introduce dissenting viewpoints that must be effectively resolved.

In sum, since social control mechanisms do not rely on formal monitoring of partner behaviours and performance, they increase the potential for opportunistic behaviour. To be effective, social control mechanisms must be supplemented by affect-based trust. Affect-based trust promotes the belief that the IJV partners will not take advantage of the attendant vulnerability resulting from the use of social control mechanisms. This leads to better IJV performance by promoting cooperation (i.e., affect-based trust and social controls will have a joint effect on IJV performance). Thus, it is hypothesized that:

Hypothesis 2: The relationship between the use of social control mechanisms and IJV performance will be positive when affect-based trust is high and negative when affect-based trust is low.

METHODOLOGY

Sample

The sample for this study was gleaned from multiple reference documents (e.g., *The Wall Street Journal Index*, *Predicasts*, *Funk & Scott Index of Corporate Change*, *Yearbook on Corporate Mergers, Joint Ventures and Corporate Policy*, *International Directory of Foreign Affiliations*, *Moody's Corporate Report*, *Standard and Poor's Industrial Reports*, and others). All IJVs reported in the above directories were required to meet three criteria for inclusion in this study: (1) be for-profit operations in the USA involving two partners (one domestic and the other foreign); (2) be primarily engaged in manufacturing (i.e., SIC 20–39); and (3) involve shared equity (10–90 per cent owned by one of the partners).

Choice of Respondents and Data Collection

Initially, IJV general managers from each parent company were contacted. A prenotification card was mailed approximately two weeks prior to receipt of the

survey. Three rounds of reminders were sent to non-respondents as suggested by Mangione (1995). Of the 603 surveys mailed, 91 came back undelivered, 108 were returned along with the information that they were no longer IJVs, and 140 surveys were returned (of which 129 were usable). Excluding the undelivered surveys, the response rate was 32 per cent. This rate is favourable compared to similar studies seeking responses from harried executives (Hambrick et al., 1993).

Subsequent to receiving all these responses, separate surveys were mailed to representatives from each parent that the GM had identified as being in a position to evaluate IJV performance from that particular parent's perspective as well as the relationship between the parents. Thirty of these corroborating opinions were received from the nominated representatives of the US-based parents and 21 were received from those of the foreign parents. Of the 129 US-based IJVs, the following types of foreign partner were indicated: 54 Japanese partners; 27 German; 15 Canadian; 12 UK; 6 French; 15 involving other nationalities. As a partial check for non-response bias, responding and non-responding IJVs were compared along the following dimensions: IJV age, number of employees, and IJV sales/number of employees. T-tests revealed no significant differences in these comparisons.

Measurement

IJV performance. Alliance outcomes are difficult to evaluate and even more challenging to measure. Sometimes alliances never deliver, nor are they expected to deliver, exceptional financial returns. Similarly, the termination of an alliance does not necessarily indicate that an alliance has failed, as sometimes the benefits of alliances are reaped and the partners go their separate ways. Nonetheless, there is an emerging consensus that the ability of the alliance to meet the joint strategic objectives of the partners involved is paramount and that subjective assessments of objective attainment are unavoidable (e.g., Ding, 1993; Killing, 1983; Schaan, 1983). These objectives may be financial, technological, or operational in nature. They may also involve all of the above.

With this in mind, IJV performance – the dependent variable – was measured as a weighted index of evaluations of multiple performance dimensions. Moreover, in keeping with the fact that performance could be viewed quite differently by each of the parents, separate evaluations were sought for each parent perspective. This was accomplished by having the IJV GM respond for each parent with follow-up evaluations undertaken from nominated representatives of each parent (i.e., individuals in the partner firms that are knowledgeable about the IJV).

Initially, the following performance dimensions were separately assessed: return on equity, operating costs, production processes, marketing and sales, technology and customer service. Each of these evaluations was then weighted by the relative importance attached to each dimension by the parent prior. These weighted assessments were then summed. Thus, the performance measure for one of the parents would be represented by the formula:

$$\text{IJV Performance}_{\text{A or B}} = \sum_{\text{I-J}} (\text{Dimension}_i \times \text{Importance}_i)$$

where A or B represents the IJV partners and I-J is a particular performance attribute (e.g., ROE, technology). Each of these measures (i.e., of each parent) will be treated as a separate dependent variable.

The correlations of IJV GM evaluations for each parent's view of IJV performance with those of US and foreign representatives, when available, were quite high (0.84 and 0.77, respectively). In cases where we had both evaluations (i.e., that of the IJV GM and the nominated representative; 30 from US partners and 21 from foreign partners), these were averaged.

Control mechanisms. A literature review yielded a large set of items that had been previously used to assess how IJV parents exercise control. After eliminating redundant items, ten items were drawn from Schaan (1983) and Killing (1983) that appeared to adequately cover the domain of formal and social control mechanisms. On a five-point, Likert-type scale (i.e., ranging from 'Often Used' to 'Never Used'), IJV GMs were asked to rate the extent to which parents relied on each control mechanism. Factor analysis of these items produced two distinct factors. First, a dominant factor of six items was associated with social control mechanisms (i.e., rotation of personnel, task forces and ad-hoc committees, informal socialization, face-to-face communication, and participatory decision-making) with an α of 0.78. A second factor comprised of four items was associated with formal control (appointment of key personnel, representation on the board of directors, financial reports, and progress reports) with an α of 0.89. The difficulties in assigning some of these mechanisms to the formal or social control categories has already been acknowledged. In this sense, we believe that the perceptions within each organization about how a particular mechanism was deployed are telling in constructing these scales. Thus, the clear alignment of these mechanisms under two factors is reassuring. (The content of these items will be provided in a table of factor loadings to be presented together with the trust items.)

Interpartner trust. In this study, affect-based trust is a moderator variable (i.e., in the relationship between social controls and IJV performance) and cognitive-based trust is included as a control variable (as it is not included in a hypothesized relationship). McAllister's (1995) scales were used to measure cognitive- and affect-based trust in the context of IJVs. Five items assessed the level of affect-based trust between the IJV parents and six items captured their level of cognitive-based trust ($\alpha = 0.87$ and 0.89 , respectively). The correlations provided by the GM with those provided by the representatives of the US and foreign parents were 0.79 and 0.83, respectively. These extra evaluations were used to corroborate the GM reports only (i.e., they were not averaged together).

An oblique factor analysis of all the control and trust items reported by the IJV GMs is reported in Table I, which also provides the content of each item. The pattern of loadings provides evidence of discriminant validity among the four constructs. Although the intercorrelation between the two trust-based scales appears rather high (0.60), this is nearly identical to the earlier results for these obtained by McAllister (1995). Loadings below the threshold of statistical significance have been omitted for clarity.

IJV age. This variable is also a moderator (i.e., in the relationship between formal control mechanisms and IJV performance). The age of each IJV was operationalized as the number of years since the reported formation of the IJV as reported by the GM. Although the relationship between the two partner firms may have existed for some time prior to the formation of the IJV (Alter and Hage,

Table I. Factor analysis of control and trust items (oblimin rotation)

<i>Items</i>	<i>Factors</i>			
	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>
The IJV partners . . .				
1. address venture issues with professionalism and dedication	0.65			
2. due to their track record, have no reason to doubt each other's competence to fulfil their obligations	0.65			
3. can rely on each other not to make their part of the agreement more difficult by careless work	0.58			
4. are trusted and respected by companies that do not do business with them	0.84			
5. are considered to be trustworthy by companies that conduct business	0.84			
6. if they actually knew more about each other's activities, they would be concerned and try to monitor them	0.50			
7. have a sharing relationship . . . they both freely share ideas, feelings and hopes about the IJV				0.85
8. can freely talk to each other about difficulties they encounter with the venture and both know that their concerns will be addressed				0.69
9. would feel a sense of loss if the IJV were to be dissolved and they could no longer do business together				0.64
10. would respond constructively and caringly to their partner's concerns about the venture				0.73
11. have made considerable emotional investments in their working relationship				0.64
12. Rotation of parent-venture personnel		0.67		
13. Task forces and ad-hoc committees		0.81		
14. Informal socialization		0.71		
15. Face-to-face communication		0.78		
16. Participatory decision-making		0.81		
17. Parent training of IJV managers		0.78		
18. Appointment of key IJV personnel			0.62	
19. Participation in IJV board meetings			0.66	
20. Financial IJV reports			0.70	
21. Progress reports on IJV plans			0.81	
Factor eigenvalue	6.93	3.53	2.51	1.22
Percent variance	33%	17%	12%	6%
Factor intercorrelations	1.00			
	0.15	1.00		
	-0.12	0.02	1.00	
	-0.60	-0.22	0.00	1.00

1993), this more formal commitment between the two partners marks a point in time where irreversible commitments escalate and many new parties become involved.

Cultural distance. An additional variable – cultural distance – was included as a control. This was created using Hofstede's (1984) original indices to create a measure as suggested by Kogut and Singh (1988). This index is based on the summation of the squared differences on each of the four Hofstede indices given the

home country of the foreign partner. As one partner was always a US firm, this provides a rough measure of how culturally distant the foreign parent company is from its US partner. Although these measures are dated (from the early 1980s), it can be presumed that cultural values are stable over time and the cultural distances are sufficiently valid so as to provide a useful control.

Analysis

All predictor variables were centred prior to computing the product term (Aguinis, 1995; Jaccard et al., 1995). Centring involves subtracting the mean from all responses for a variable, and is recommended in order to minimize problems associated with multicollinearity in models involving interactions (Aiken and West, 1991).

The hypotheses were tested via nested model comparisons using the structural equation program AMOS (Arbuckle, 1997) in a manner analogous to hierarchical regression. This approach offers some advantages by permitting the simultaneous estimation of both dependent variables (i.e., IJV performance from each parent's perspective). One advantage is incorporating the correlation between the two residual terms into the model (which is likely to be significant given that numerous influences outside the model are likely to influence IJV performance perspectives). This approach also provides more flexibility in evaluating global differences between the estimates of the two regression equations, as well as in making comparisons between specific estimates.

RESULTS

The descriptive statistics are presented in Table II. As is evident in this table, the majority of these bivariate intercorrelations are rather low, with the exception of those between the pairs of performance and trust measures (0.81 and 0.67, respectively). It is of some interest that the cultural distance variable is negatively correlated with both bases of trust, as this is consistent with the expectation that a dissimilarity of cultural values would complicate the formation of trust.

The regression results for the two hypotheses are reported in Table III. Procedurally, the control variables and main effects were entered first, followed by the addition of the interaction terms – singly and then in combination. After the first step (reported under the first column) it is noteworthy that there are relatively few significant direct effects in predicting perceptions of IJV performance. The number of significant direct effects was greater for the performance evaluations attributed to the US parent, with 20 per cent of the variance explained. Both social controls and affect-based trust had a positive influence and formal controls and cultural distance had a negative effect. For evaluations of IJV performance from the foreign parents' perspective, only a weak positive result for social controls and a weak negative effect of cultural distance is observed, with only 8 per cent of variance explained. It is also interesting that cultural distance appears to have a strong negative direct effect on IJV performance, which is sustained through the various models. This appears to imply that partners with dissimilar norms and values have additional difficulties in addition to the influences of control and trust. IJV age, on the other hand, does not have a significant direct effect on IJV performance, controlling for the influences of the other variables.

Table II. Descriptive statistics (n = 129)

Variable	Mean	s.d.	1	2	3	4	5	6	7	8
1. IJV performance (US parent)	13.36	3.70	-							
2. IJV performance (foreign parent)	12.26	3.86	0.814***							
3. Affect-based trust	18.49	4.63	0.358***	0.187*						
4. Cognitive-based trust	23.69	4.47	0.254**	0.105	0.674***					
5. IJV age	7.29	6.53	0.018	0.023	0.106	0.091				
6. Social controls	18.51	5.51	0.187*	0.126	0.246**	0.196*	-0.062			
7. Formal controls	15.53	3.55	-0.057	-0.036	0.279**	0.221*	-0.034	0.266**		
8. Cultural Distance	0.37	0.46	-0.232	-0.178	-0.264	-0.187	-0.051	0.165	0.031	

Note:

*p < 0.10; **p < 0.05; ***p < 0.01.

Table III. Results of moderated regression analysis

		<i>IJV Performance as rated by</i>							
		<i>US Parent</i>				<i>Foreign Parent</i>			
		<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>
Step 1: Main effects ^a									
Cultural distance		-1.385**	-1.328**	-1.684***	-1.625***	-1.372*	-1.293*	-1.775***	-1.695***
IJV age		-0.012	0.006	-0.015	0.002	0.004	0.028	-0.001	0.023
Formal control		-0.201**	-0.153**	-0.180**	-0.134*	-0.116	0.051	-0.089	-0.025
Social control		0.124**	0.103**	0.109**	0.088**	0.105*	0.075	0.084	0.055
Cognitive-based trust		0.019	0.001	0.008	0.009	-0.037	-0.061	-0.051	-0.075
Affect-based trust		0.246***	0.256***	0.208**	0.218***	0.138	0.152	0.086	0.101
Step 2: Interaction									
H1: Formal control × IJV age		-	-0.171***	-	-0.168***	-	-0.236***	-	-0.232***
H2: Social control × Affect-based trust		-	-	1.160***	1.152***	-	-	1.568***	1.556***
Model information:									
R ²		0.20	0.24	0.30	0.33	0.08	0.15	0.24	0.31
ΔR ^{2b}		-	0.04	0.10	0.13	-	0.07	0.16	0.23
r _{e1,e2} ^c		0.81	0.80	0.78	0.78	-	-	-	-

Notes:

*p < 0.10; **p < 0.05; ***p < 0.01.

^a Unstandardized regression weights.

^b The change in R² is relative to main effects model in step 1.

^c The correlation between the error terms of both dependent variables (i.e., r_{e1,e2}) when estimated simultaneously.

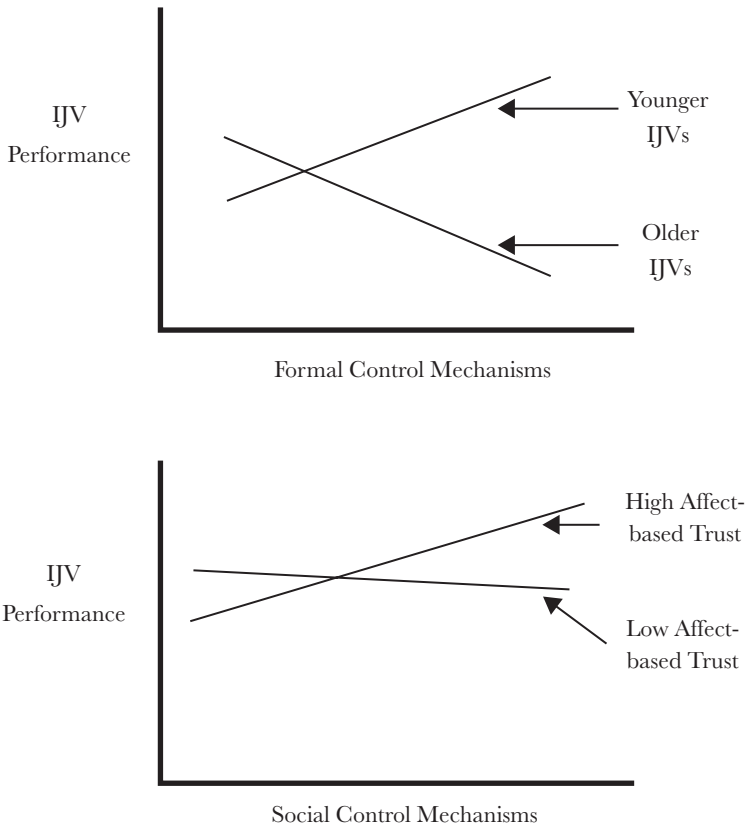


Figure 1. Plots of interactions

The first hypothesized relationship anticipated that IJV age would moderate the relationship between formal control and parents' perceptions of IJV performance. The results shown in Table III clearly support this hypothesis (estimates reported in columns under model 2). Estimating the parameters of the first-order interaction of formal control and IJV age significantly increases the R^2 for both dependent variables (0.04 for IJV performance perceived for the US parent and 0.07 for that of the foreign parent).

This interaction is more easily interpreted from the plot of the relationship that is provided in Figure 1. Because the estimates of this interaction effect for each parent were *not* significantly different ($\Delta\chi^2 = 2.31/1df$, $p > 0.10$ for a test of the equivalency of the two estimates), a single combined plot is given. In this plot, the split for separating young versus mature IJVs was made at the inflection point of the influence of age, determined by taking the partial derivative as prescribed by Aiken and West (1991). The value obtained, -2.14 , suggests that the sign change occurs two years prior to the average IJV age in the sample. This plot shows graphically that formal controls are *negatively* related to these perceptions of IJV performance for the mature group. These findings provide ample support for the type of disordinal interaction predicted by the first hypothesis.

The regression results for the second hypothesis are also given in Table III. When the interaction term (i.e., the product of social control and affect-based trust measures) is estimated, the R^2 increases are 10% in predicting perceptions of performance from the perspective of the US parent and 17% for that of the foreign parent. Again, the interaction coefficients did not differ ($\Delta\chi^2 = 3.55/1df$, $p > 0.05$) and a combined plot of this relationship is provided with the inflection point for high and low affect-based trust determined by the partial derivative (0.428 above the mean). As is evident in the plot, social controls are positively related to IJV performance in the presence of affect-based trust, but negatively related to perceptions of IJV performance in its absence. Together, these findings provide support for the second hypothesis.

An additional model is reported in Table III (under column 4), where both interactions are simultaneously estimated. While this model provides no surprises, it provides estimates based on a complete model and its predictive power (i.e., R^2 s of 33% for the IJV performance for the US parent and 31% for the foreign parent). In looking back on the progression of models, it is interesting that the influence of the interaction terms is relatively more powerful in explaining the variance of perceptions of IJV performance for the foreign parent.

At this point, we performed a significance test regarding the equivalence of the two full models (i.e., setting each pair of regression weights equal to each other). In this test, the regression weights for the two estimates of cultural distance were set equal, as were the weights for IJV age, and so on. This results in a decrement of model fit that is significant at the 0.05 level of confidence ($\Delta\chi^2 = 20.1/8df$), suggesting that there are some differences in the two models. The significance of this global test of model parameters is taken as evidence that the interaction of trust and control mechanisms influences each parent's evaluation of the IJV somewhat differently. Further examination revealed that the primary difference is found in the direct effect of affect-based trust, which is higher in predicting perceptions of performance for the US-based parent than for the foreign parent.

DISCUSSION AND CONCLUSIONS

This study found that IJV age and formal controls interact in predicting perceptions of IJV performance for both parents. Based on this finding, it appears that after IJV formation – and for some limited period thereafter – formal controls fit with the requirements of the competitive environment and the needs of both partners. To some extent, this finding is simply an affirmation that the act of committing to an IJV represents a formalization of a prior relationship (which likely was created upon the shoulders of some interpersonal relationships among actors in each firm). Although it may not be surprising to find an affinity for formalization at such a contractual moment, the relative value of formal controls at this point in time is underscored by the positive slope for younger IJVs in Figure 1.

Relatively soon, however, it appears that the advantages of formal controls wane, as is evidenced by the negative slope for the relationship between IJV performance and formal control mechanisms for older IJVs. Our interpretation of this finding is that there is probably some tension between the ability of formal

control mechanisms to maintain necessary levels of both partner control and partner cooperation over time. Thus, while a reliance on formal control mechanisms is agreeable to both parties in the beginning of their relationship, formal mechanisms do not deal with the strains in the relationship due to changing needs and expectations. As a result, these needs remain unmet and the relationship between the level of formal control and IJV performance becomes negative.

If a reliance on formal control should abate, then the partners face two options. They can relinquish partner control or they can attempt to maintain some measure of partner control via social control mechanisms. Our findings do provide some insight into this matter, in that the direct effect of social control is positive (although not significant for the foreign parent after entering the interaction terms). Thus, this provides some evidence that social controls are desirable. This also makes practical sense in that the social mechanisms serve to both create and reinforce norms, but also provide opportunities for problem resolution.

Given that the data are cross-sectional, other scenarios may also be inferred from these findings. For example, it is likely that poor IJV performance could lead to changes in control mechanisms. Indeed, in the event that IJVs do not meet the expectations of one or both partners, a likely response is the imposition of additional formal controls. This would be a natural response given the desire for greater control and the strain that poor performance is likely to place on emergent social controls. From our findings, it may appear that this could be an appropriate response in young IJVs. Indeed, the interplay between dimensions of trust and control is undoubtedly complex and dynamic. For example, it is not known how 'cranking up formal control' in response to poor performance could impede the formation of social controls. Thus, our interpretations are intended to speak more to the matter of fit between these elements (i.e., control, trust and performance) during stages of the relationship between IJV partners over causation.

The other primary finding in this study is that social controls and affect-based trust interact in predicting perceptions of IJV performance for both parents. This finding suggests that affect-based trust empowers social control mechanisms to work and supports Das and Teng's (1998) more general proposition that trust moderates the relationship between control and confidence in partner cooperation (thereby leading to improved alliance performance). Advancements in our theoretical understanding of trust and control relationships are likely to proceed more quickly if researchers are more specific in referring to the different bases of trust. Once again, however, the potential for a dynamic interplay between the fit between these elements and IJV performance is present. Indeed, it is quite likely that the formation of trust and social controls is influenced by successful IJV performance. Along this line, Hakansson (1990) found that the sharing of information promotes adaptation and that this success promotes trust. In a similar manner, we expect that IJV success would promote affect-based trust to further empower social controls. Thus, in conclusion, the effects among these constructs are likely to be non-recursive.

Altogether, these findings suggest that it would behoove the parties contemplating an IJV to place considerable emphasis on developing confidence in their mutual cooperative potential. This study provides evidence that effective formal control mechanisms created upon the legal formation of an IJV provide a useful framework for this to develop. The early months of an IJV appear to be critical ones as the dynamic of trust and control is played out in the pursuit of confidence

in partner cooperation. This implies that IJV partners reach a point in their relationship where their relationship is tested, and how they respond to these early challenges plays a large role in determining the IJV's outcome. It is also noted that these relationships are both dynamic and non-recursive (i.e., each influencing the other). Thus, early IJV successes are also likely to promote the formation of affect-based trust which will empower social controls to function and lead to even better IJV performance. The reverse is also likely true. Thus the stakes associated with finding the right fit among the dimensions of trust and control early on in the life of the IJV would appear to be high.

This is also supported from a transaction cost perspective; affect-based trust is reported to enhance information processing capabilities (Dooley and Fryxell, 1999; Leifer and Mills, 1996), thereby leading to improved capacity for strategic adaptation and for effectively resolving interpartner dissent. The important point here is that, as the IJV relationship matures, formal controls would go from the foreground to the background as primary transaction governance mechanisms. As previously mentioned, IJV success should reinforce this transition. It would appear that the preoccupation with formal control as a substitute for trust instead of establishing and nurturing social controls in the presence of affect-based trust may account for a large share of the poor reputation enjoyed by IJVs.

Limitations and Future Research

Obviously, these models explain only a modest amount of the total variation in IJV performance; alternatively stated, there is much left *unexplained*. Clearly, even though IJVs are a rather clearly delineated form of interorganizational network, there remains much heterogeneity among IJVs and in the contexts in which they are embedded. Power relationships, differences in management structures between the partners, historical events (financial crises or unexpected fluctuations of exchange rates), governmental intrusions, and competitor responses are some of the many factors that influence IJV performance. Thus, a study such as this one must pass over much of this richness in favour of empirical confirmation of a relatively small part of this greater picture. Clearly, both quantitative and qualitative approaches must compliment each other in trying to understand such a phenomenon.

The issue of representativeness is raised by the sampling frame of this study, which only looked at IJVs based in the USA (and involving a US partner). Thus, generalizing to other types of IJVs may be unwarranted. Certainly, since cultural elements can affect matters of control and trust, the relationships identified in this study may be different in IJVs between two Asian partners, for example. This appears to be a prime area for future research.

Other limitations of this research warrant comment. First, concerns with mono-method biases should loom high in a study that collects all of its data using surveys. Several aspects and precautions in this study serve to partially offset some of these concerns. First, whereas direct effects are especially prone to method bias, interactions (the type of relationships hypothesized here) are much less vulnerable to being spuriously linked by method (Kerlinger, 1986). Moreover, the use of multiple respondents and the high level of interrater reliabilities regarding the assessment of IJV performance and interpartner trust should also serve to mitigate concerns about these particular measures. While in most cases objective measures

are preferable to subjective ones, the measurement of IJV performance is such that objective measurement is very difficult. Fortunately, with some care, subjective measures appear adequate. Geringer and Hebert (1991), for example, assessed the reliability and comparability of the various IJV performance indicators and concluded that subjective indicators are acceptable in this context. The benefits of subjective IJV performance indicators have been advocated by other researchers as well (e.g., Ding, 1993; Killing, 1983; Schaan, 1983). Finally, a Harman's one-factor test was used to address the common-method variance issue (Schriesheim, 1979). Accordingly, a principle components factor analysis of the complete set of independent and dependent variables was conducted, with the first factor accounting for 26 per cent of the variance. This test would detect serious problems with mono-method bias, but would not appear to be sensitive to more modest influences. Additional limitations we should mention involve the matter of unmeasured variables and an inability to make causal inferences in the absence of adequate logical or theoretical arguments. Although our interpretations spoke primarily to the influences of trust and control on IJV performance, which was taken as our dependent variable, it is also likely that IJV performance will have reciprocal effects on trust and control.

In retrospect, this study should have controlled for at least two variables that were overlooked given the state of the literature at the time of data collection. First, some measure of prior partner experience should have been included as a control. Gulati (1995) found a relationship between trust levels and prior experience. We also should have controlled for IJV size rather than assuming IJV age would be a reasonable proxy. Regardless, it seems unlikely that the inclusion of such controls would have negated our findings.

Conclusion

In conclusion, this study examined an important phenomenon at a time of global expansion for most MNCs that has proven enigmatic for practitioners and researchers alike – IJV performance. IJV partners have long struggled with the dilemma of how to protect their investments while permitting the freedom to respond to local conditions in what are often highly turbulent competitive contexts. Researchers, on the other hand, have had their own difficulties with a broad range of issues that have, more often than not, led to equivocal findings. Certainly, the issue of trust and control in IJVs has proved to be challenging.

In this context, this study offers up empirical evidence that IJVs should be created in a framework of formal control mechanisms. Reasonable soon after formation, however, it seems likely that this framework has difficulty in accommodating contextual change and the evolving needs of both partners. Although the relationship between controls, trust and IJV performance is probably dynamic, non-recursive and dependent upon many contextual factors, at some point affect-based trust and social controls appear to become key elements in the successful long-term management of IJVs. Our speculation is that by capitalizing on reservoirs of affect-based trust, an exchange relationship becomes more resilient, flexible, and adaptable, and thus more sustainable. As a result, affect-based trust permits social control to ensure that each parent's expectations are addressed (i.e., control) and at the same time grants the IJV the flexibility to evolve within its rapidly changing strategic environment and the evolving needs of each parent.

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