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STRUCTURING AND GOVERNING ALLIANCES: NEW DIRECTIONS FOR RESEARCH

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The purpose of this article is to identify a future research agenda relating to the structure and governance of international alliances. Despite emerging research that is being carried out on topics related to the structuring, management, and governance of domestic and international collaborations, much remains unknown and warrants future work. The new directions in alliance research partially stem from the recent greater availability of databases that contain actual contract details. We also relate some of the contributions of the articles in the special issue to the research agenda we are calling for. Copyright © 2014 Strategic Management Society.

INTRODUCTION

The new direction for alliance research lies in the analysis of agreement details as they relate to the structuring, governance, and functioning of collaborations. For too long, the field has been restricted to overly broad categories of collaborations such as 'equity versus non-equity' or 'relational versus contractual' without actually probing the details, anatomy, or agreement structure of the alliance. In part this was because agreement specifics were not easily available, and many popular databases like Securities Data Company (SDC) reported only sketchy summaries of alliances, based on public announcements, without agreement details. With such publicly available data, conducting alliance research was akin to practicing medicine without dissection. Moreover, such databases used to capture only a fraction of the actual number of collaborations formed (Schilling, 2009). Today, scholars are carrying out primary data collection and using richer data from secondary sources that have information on actual agreements, including Thomson Reuters' Recap and the U.K.'s Pharmaprojects.

The strategic drivers for interfirm cooperation, manifested in a variety of alliance arrangements including equity joint ventures (JVs), are well known and fall into four broad categories of motives: (1) market growth or revenue enhancement as a consequence of the cooperation; (2) efficiency or cost reduction; (3) sharing or reducing risk; and (4) access to knowledge or learning.[1] That alliances are often temporary arrangements that can terminate because the views of the partners will diverge over time—in part due to bounds on rationality and the lack of predictability of the future environment the alliance will encounter (Williamson, 1981)—is also

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[1] Early work such as Contractor and Lorange (1988) focused on the strategic rationales for forming alliances. Scholars later also began to focus on the relational aspects (e.g., Dyer and Singh, 1998) and trust (e.g., Das and Teng, 1998). Attention began to turn to contract details more recently, as exemplified in Poppo and Zenger (2002) and Reuer and Ariño (2007).

received academic wisdom. Nevertheless, when forming an alliance, negotiators almost inevitably conclude an agreement between the prospective partners, keeping in mind the 'shadow of the future' or future contingencies, to the extent they can be envisaged (Parkhe, 1993). The fact is that virtually all alliances—including equity JVs—have a legally drawn up agreement that governs the future relationship and activities of the joint operation. Academic studies focusing on trust (e.g., Das and Teng, 1998), or treating 'relational alliances,' or using secondary data sources that summarize announcements of JVs with no mention of side agreements between the JV partners, should not lead scholars to conclude that alliances formed with joint capital investments or memoranda of understanding alone are commonplace. Hence, it has been surprising that, until a few years ago, scant academic attention had been paid to the details of agreements as they relate to the post-formation governance of the alliance and the exchanges between the partners.

Recent work such as Reuer and Ariño (2007), Ryall and Sampson (2009), Adegbesan and Higgins (2010), Lumineau and Malhotra (2011), and Ariño *et al*. (2014) has begun to specifically examine contract provisions in greater detail. These provisions include criteria for the post-formation governance of the alliance, such as which partner will make which types of decisions (Lerner and Merges, 1998). Studies have examined finer details in agreements such as contingency planning clauses (Argyres, Bercovitz, and Mayer, 2007), procedures for decision making and the resolution of disagreements, and the appointment of key personnel (Robinson and Stuart, 2007; Ryall and Sampson, 2009). Certain safeguards, controls, and monitoring clauses exist in most alliance contracts (Faems *et al*., 2008). Coordination mechanisms (Lumineau and Malhotra, 2011) or mandatory information sharing and disclosure are specified in the alliance contract to forestall disagreements (Palay, 1984). As the essence of many alliances is the distribution of tasks between the partners, this is often specified *ex ante*. Call options exist in both equity as well as non-equity alliances. The contract can specify triggers, or thresholds, that give one party the right to buy a certain number of its partner's shares in a JV or the right to acquire exclusively for itself the intellectual property (IP) rights or technology developed by the other partner (or jointly) (e.g., Ziedonis, 2007). Termination clauses of many varieties occur in agreements whereby one of the allies can wind up their partnership. These detailed alliance design parameters considered in recent research are in sharp contrast to the large literature examining trends and motives for collaborations, discrete governance choices firms make (e.g., equity versus non-equity alliance decisions), and the usage of coarse indicators of control, monitoring, and incentives (e.g., equity stakes in JVs).

Alliance governance complexity

In the broadest sense, what determines the governance of an alliance, expressed in the level of detail, complexity, and length of alliance agreements? Moreover, what contract clauses are appropriate for different types of alliances? Broadly, this depends on four factors:

(1) the purview and mission of the alliance;
(2) deal-specific variables, or considerations intrinsic to the collaboration, such as the nature of the knowledge shared (Contractor and Ra, 2002), size of assets at stake and asset specificity, as well as agreement provisions;
(3) relational skills or alliance experience of the parties involved (Mayer and Argyres, 2004; Ryall and Sampson, 2009); and
(4) environmental variables that include institutional, market, and country considerations such as the level of IP protection, intensity of competition, and market and political uncertainty (Oxley, 1999).

Purview and mission of the alliance

The rubric 'alliances' necessarily includes a diverse set of cooperative activities that vary substantially by mission or task, by their degree of consequence to one or both allies, by size of investment (both financial and managerial), by the level of partner interactions once the alliance is in progress, and by the level of risk. Figure 1 gives merely examples of alliance types and is not intended as a hard and fast categorization or as exhaustive. At one end of the spectrum, a transfer of patent or IP rights between two pharmaceutical companies need not involve a very detailed agreement, especially if there is a lump-sum or one-time payment in cash or reciprocal rights (e.g., Hagedoorn and Hesen, 2007). The *ex post* interaction between the parties, commitment, and risk (apart from the opportunity cost on the part of a seller who misjudges the potential of the IP transferred, or buyer's remorse) can be low.

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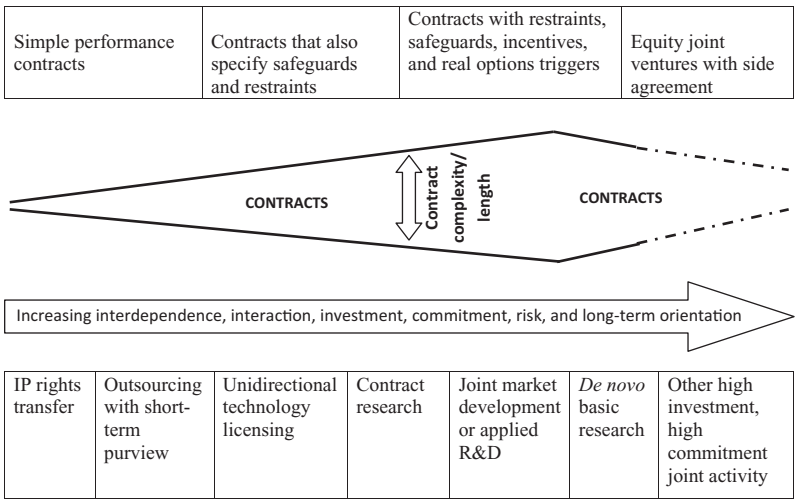

Figure 1. Complexity and length of contracts

Outsourcing or supply chain alliances are more complex when they entail ongoing technical interactions and interdependence between parties (Poppo and Zhou, forthcoming). Even within each type of alliance in Figure 1, there can be significant variation, of course. For example if, instead of a simple component, a critical component is being outsourced, it can result in a high level of dependence or, in the extreme case, result in a mutual hostage situation. If complex technology is involved in the outsourced component or service, the building of trust through repeated ties, or the strength of the relationship between the allies, will often be manifested in joint development and design of the key component for the next model or generation of technology (Dyer and Chu, 2003). Hence, the rank ordering of alliance types in Figure 1 should be taken here only as examples that illustrate the larger general proposition—that increasing commitment, investment, and interdependence are correlated with greater contract length and complexity.

As a second illustration, technology licenses can also entail interactions well beyond the date of signing of the agreement between the partners, for ongoing technical help, adaptation to a foreign market's needs, and new generations of technology over the years (Contractor, 1986). In some cases, the technology transfer is bidirectional (or a cross-licensing contract), in which case, the degree of interaction and commitment between the personnel of the two allies is more intense (Contractor, Woodley, and Piepenbrink, 2011), and the agreement between them more extensive.

In the examples in Figure 1, in moving from left to right, there are three underlying concerns affecting the structure and complexity of the alliance; these generally increase from left to right. The first is a safeguarding perspective stemming from transaction cost considerations like protecting against partner opportunism (e.g., hold-up, knowledge misappropriation, etc.). The second is the performance or efficiency perspective that results in contract clauses specifying, with greater clarity, the tasks and duties undertaken by each partner and the coordination of interface protocols between them. Such clauses can be thought of in terms of seeking to increase the overall size of the alliance 'pie,' perhaps through joint revenue enhancement or efficiencies that the alliance can bring. The third perspective that motivates alliance negotiators is the appropriation by each partner of a reasonable share of the alliance 'pie.' In other words, firms cooperate to create value in the collaboration and at once bargain over this value to capture a share of it. What *ex ante* or *ex post* variables determine the appropriation of net alliance benefits has received almost no attention in the alliance literature, with some exceptions being Dyer, Singh, and Kale (2008), Adegbesan and Higgins (2010), and Contractor and Woodley (forthcoming).

Under conditions of high investment, market risk, and technological uncertainty, the conventional academic wisdom is that equity JVs constitute the best alliance design—in part because the appropriation of net benefits from the alliance is presumed to be proportional to the JV shareholding split. But this is not so. First, after the JV is formed, the actual value of contributions made by each JV partner often turns out to deviate from what was expected when the shares were apportioned. In allocating shares, it is

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important to recognize as a starting point that JV partners do not, by any means, make homogeneous contributions. In return for being awarded shares, each partner may contribute a mix of cash, technology, tangible assets, and market access. Cash is easy to value. Tangible assets such as equipment and buildings are also assessable. However, it is more difficult to put a financial value on each JV partner's intangible contributions such as technology, reputation, relationships, or distribution systems. The *ex post* value of intangible contributions can, therefore, diverge from that anticipated during JV negotiations. This is a relatively unexplored area in alliance research.

Second, we often see that JVs (as well as non-equity alliances) have a side agreement wherein one party supplies a key input to another at a transfer price. This frequently assures that the capture of alliance value and the share of each partner's actual appropriation will not correlate (or only loosely correlate) with the nominal shareholding split. A classic example is provided by the Takeda-Abbott Labs joint venture, which was terminated in 2008 after 13 successful years selling a blockbuster drug trademarked Prevacid. A stomach treatment developed in Japan by Takeda, it could have been introduced by the large Japanese company by itself in the U.S. market. Instead, they chose to launch Prevacid in a 50/50 joint venture with Abbott Labs, a large U.S.-based pharmaceuticals company. Presumably, the six to 12 months quicker approval by the U.S. Food and Drug Administration (FDA) with assistance from Abbott meant speedier entry, which for blockbuster drugs is worth extra profits of up to $500 million dollars over just six months' time. That consideration, along with Abbott's more extensive U.S. market distribution, made sharing 50 percent of the JV's profits attractive for Takeda compared to the go-it-alone alternative. All went well for both partners until Takeda, who made the active pharmaceutical ingredient (API) in Japan and sold it to the JV, began to raise prices per kilogram for the API substantially (Brown, 2008). The implications are easy to fathom. Each transfer price increase means higher costs and lower profits for the U.S. venture. But the U.S. venture's profit or loss is shared by Takeda 50/50, while 100 percent of the profit markup on the supply of the API, from Japan to the U.S. venture, accrues to Takeda.

This example illustrates how, with such a side supply agreement, one JV partner can capture far more net benefits than the other, and certainly disproportionate to their nominal equity shares. Alliance agreements are often a bundle of rights (IP), knowledge transfer, market or territorial access, restraints, and mandates, as well as supply chain links on which one of the allies makes extra profit margins. Further academic research can fruitfully be directed to assessing the various ingredients in each agreement bundle, with a view to assessing each component's profit contribution, in addition to the sources of risk and implications of changes in market conditions and inter-partner bargaining power over time.

Another implicit proposition toward the far right in Figure 1 is that certain types of alliances can have less detailed contracts, despite the higher stakes, commitment, and involvement of the partners. For instance, joint R&D, such as innovation in photovoltaics (with the objective of developing a power generation market that is cost competitive with fossil fuels) is being conducted in private firm alliances as well as in coalitions involving universities and government research institutes (Chen *et al*., 2014). As the technological uncertainties are considerable, the shape of the final market is unknown, and the joint task of the alliance researchers is narrow in scope, fewer future contingencies and provisions are possible to envisage and write in such a contract.

In equity JVs, however, the scope of the alliance activities can indeed be wide-ranging. However, in JVs, the joint capital investment, sharing of personnel, and presumed better alignment of incentives (Dyer and Singh, 1998) can, to some extent, substitute for contract detail. No doubt, virtually all equity joint ventures also have a side agreement for operational, tax, and strategy reasons (Campbell and Reuer, 2001). However, it may be less detailed than some complex non-equity alliances, especially if the joint venture partners have prior ties and have developed a good working relationship. Poppo and Zenger's (2002) study suggests that relational governance does not necessarily lead to less contract complexity in information services contracts, and it would be interesting to examine the interplay of formal and relational governance mechanisms for other types of alliances and in other sectors. Woolthuis, Hillebrand, and Nooteboom (2005), for instance, suggest that trust and contracts can be both substitutes and complements in joint R&D.

Structuring the alliance at its initial formation

Research has not only examined a variety of clauses that serve different purposes, but has begun to

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Table 1. Variables that affect governance complexity

Deal-specific	Relational	Environmental
• Nature of knowledge — Complexity — Novelty — Imitability — Tacitness • Size of commitment — Financial investment — Personnel commitment • Asset specificity • Degree of interdependence • Core or peripheral business? • Partner opportunism — Likelihood — Consequences	• Dyadic relational quality — Trust — Past ties • Alliance experience • International experience	• IP protection and legal enforceability • Intensity of competition • Level of uncertainty — Technological — Market • Political risk • Industry norms and importance of reputation • Network embeddedness • Number of potential alliance partners

identify some of the antecedents of the complexity of alliance structures and governance. Table 1 classifies some of the main determinants of alliance designs based upon illustrative deal-specific, relational, and environmental variables. In the examples previously provided in Figure 1, risk (partner risk, market risk, and uncertainty in general) as well as inter-partner coordination needs increase from left to right. Hence, in general, contract complexity and length increases, but for different reasons. Safeguarding and termination clauses stem from transaction cost considerations. Real options clauses deal with value appropriation in the face of market and technical uncertainty. However, coordination clauses are designed to improve the performance and value of the alliance.

By 'deal-specific variables,' we mean the intrinsic nature of the technology or knowledge shared in the alliance, the size of the investments at stake, the degree of asset specificity (Williamson, 1991), and the consequences of opportunism to one or both allies, as well as whether the alliance is core or peripheral to the partners' main lines of business. Since the purpose of certain alliances is to synergistically develop dynamic capabilities (Chi and Seth, 2009), there will be a greater need for contractual provisions to ensure future coordination and interaction between the partners and protect the interests of each (Contractor and Ra, 2002; Parmigiani and Rivera-Santos, 2011). For example, the degree of tacitness is highest in R&D alliances; so Helm and Kloyer (2004) suggest that detailed and complex contracts are often required by such alliances. In uncertain situations, such as joint R&D, an equity JV may sometimes be preferred to ensure commitment by both parties and to observe, through daily interaction of engineers and managers, each other's behavior and joint work. However, even in a JV, the problems of shirking, utilization of the fruits of the R&D, IP rights, and other issues would need to be covered in a side agreement. Among the deal-specific variables, other things being equal, contract complexity is likely to be higher, the greater the asset specificity or assets dedicated to the alliance with limited alternative uses, the greater the irreversibility of the investment (Leiblein, 2003), the greater the interdependencies between the partners required to operate the alliance (Ren, Gray, and Kim, 2009), or the more core the alliance is to the business of a partner.

Contractor and Ra (2002) and Woolthuis *et al*. (2005) distinguish between the *likelihood* of opportunism and the *consequences* of opportunism. The consequences of opportunism may be severe, but if a selected partner's capability to misbehave is low, then opportunism is not of consequence. By the same token, a partner may be technologically capable and the institutional and cultural environment of the alliance may not offer much protection, but if the partner is trustworthy, opportunism is again of less consequence. When the partner is both capable and untrustworthy and the legal or institutional protection in the alliance nation is weak, then opportunism is to be considered a serious threat (Shah and Swaminathan, 2008).

The second set of variables (shown in Table 1) that affect governance complexity has to do with the

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relational capability and experience of a firm. This includes: (1) the dyadic relationship with a single partner; (2) accumulated alliance experience over all past partners; and (3) the experience of the firm in varying international institutional and cultural settings.

In a study of dyadic relationships, Woolthuis *et al*. (2005) indicate that trust is a more powerful explanation for good governance and alliance performance than contract provisions and detail. In fact, some earlier studies (e.g., Dyer and Singh, 1998; Malhotra and Murnighan, 2002) have suggested that contract complexity can be detrimental. Safeguarding and opportunity-limiting clauses can naturally be seen in a negative light and may hurt the relationship. Weber and Mayer (2011) note, however, that some contract clauses fall into a positive category they call 'promotion framing,' such as contractual provisions that enhance communication, joint work, and alliance performance and rewards. Recent work such as Mayer and Argyres (2004) and Ariño *et al*. (2014) concludes that the strength of the dyadic relationship is not inconsistent with governance and contract complexity—that, in fact, as partners become more familiar with each other, they understand relevant contingencies and are comfortable with more contract detail, especially when contract provisions involve greater specificity regarding task allocation and coordination. We have some ways to go before consensus is achieved on the implications of dyadic experience on contract length and complexity.

Past experience of a firm with alliances in general (as opposed to experience with a particular partner) can lead to better performance (Kale, Dyer, and Singh, 2002), especially if the firm has a department and employees dedicated to building and managing alliances. This is echoed in Hoang and Rothaermel (2005), who found that in big-pharma biotech alliances, R&D success correlated with the alliancing experience of the biotech partner (although not that of the big-pharma partner). Ryall and Sampson (2009) find that greater alliance experience leads to the drafting of more detailed contracts, but when a firm has concurrent alliances with the same partner, this tends to reduce contract length and complexity. Teng and Das (2008) hypothesize and find that greater accumulated alliance experience in a firm increases the marginal likelihood of non-equity alliances as opposed to JVs.

While international experience has appeared as a control or moderating variable in several alliance studies (e.g., Nakos, Brouthers, and Dimitratos, 2014), there is little research on the direct link between international experience of the firm *per se* and the complexity of the alliance arrangements it makes, as a dependent variable. Delios and Henisz (2000) found that greater international experience marginally increases the propensity of Japanese firms to invest in equity JVs when country risk is high in emerging nations. Clearly, international experience makes managers more alert to riskier or uncertain environments. However, the role of the international experience of a firm, as well as the role of technological and market uncertainty in influencing alliance structure, are relatively underresearched areas. In any event, uncertainty in the business environment is part of a set of exogenous variables we tackle next.

The environmental variables refer to the country and industry context in which the alliance operates. How does this affect alliance governance choices in terms of the choice between equity and contractual alliances, as well as the length and composition of the alliance agreement? Despite globalization, country differences persist and powerfully influence strategic decisions and outcomes (Tong *et al*., 2008). In recent years, the availability of improved country data has been a spur to researchers to include country-specific data and use 'differences' between the countries of alliance partners as explanatory variables. These can include measures for the level of IP protection, country by country (Ginarte and Park, 1997), as well as data banks tracking each nation's institutional and cultural factors (e.g., Berry, Guillén, and Zhou, 2010). For example, Ertug *et al*. (2013) show how the general level of trust, as an exogenous variable in each international JV partner's home country, influences partners' perceptions of each other's trustworthiness. We also have studies such as Oxley (1999) and Hagedoorn, Cloodt, and van Kranenburg (2005) that support the idea that the weaker the IP protection in the nation of the alliance, the greater the likelihood that an equity alliance will be chosen over a contractual alliance. Similarly, with lower legal protection and higher expropriation risk, the probabilities of an equity JV increase, *ceteris paribus* (Delios and Henisz, 2000). The underlying rationale is that the fear of losing control of technology, unintended spillovers, lack of legal enforceability, and political hazards make equity JVs a safer bet than non-equity alliances.

However, as a general hypothesis, the global business environment may be changing in several respects that favor contractual alliances over the

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equity JV alternative, at the margin. As an overall trend, worldwide enforcement of IP laws grows better each year. In any event, as Contractor and Ra (2002) propose, IP is only one component of a larger knowledge bundle transferred between partners. The bulk of corporate capability stems from unregistered routines, formulae, and trade secrets, they argue. Expropriation hazards have significantly diminished over the past 20 years, and arbitration clauses better protect the value of foreign assets. Another quiet trend that marginally promotes the transferability of knowledge in organizationally more distant contractual alliances (obviating the need for closer technical liaison in equity JVs) is the increasing codification of unregistered corporate capability (Contractor and Lorange, 2002). To the extent that tacit routines and knowledge formerly resident only in the thinking of engineers and systems analysts are being distilled into algorithms and written procedures in the company, such knowledge can more readily be transferred to and digested by a non-equity alliance partner. Global supply chain alliances that would have been considered too risky or unmanageable a decade ago—because of foreign exchange and political and international logistics risks—are now possible because of better operations research methodologies (Ding, Dong, and Kouvelis, 2007).

Post-formation governance and structural 'fault lines' in alliances

We know considerably less about the post-formation governance processes in alliances than about their set-up structures. All said and done, most alliances are seen as medium-term or transitional organizational forms. There are inescapable 'fault lines' in alliances that need further research. For example, a little-explored fact is that most alliance contracts involving transfer of technology or IP rights have a side licensing agreement, even between an equity JV and one of its principals in the capacity of a licensor. This is for obvious tax deductibility and IP protection reasons. But this creates a 'structural' problem because royalties are linked to revenue, while JV profits are drawn and shared from the bottom line. In these situations, two governance difficulties, or disagreements, crop up. When the market performance of the joint venture is well below, or well above, initial estimates at the time of alliance formation, the aggregate cash flows (dividends + royalties) that accrue to one partner deviates considerably from expectations. Second, in the typical equity cum license arrangement, the optimum price for the item sold by the alliance in the final product market is axiomatically different for the two partners. The profit-maximizing price point for each partner is different.

Yet another inescapable set of difficulties in alliances stems from two related factors. In many cases, new knowledge or capabilities are being transplanted, as a result of the alliance, into a new country market or into a new industry segment. This makes the financial valuation of the knowledge and capability contributed by at least one of the partners difficult to estimate (Luo, 2002). The frequent result is that the post-formation market performance, or even more importantly, the division of net value over the allies diverges from one partner's expectations. The *ex post* division of net value between the partners (its determinants and how the division of net value compares with expectations when the alliance was formed) requires study. To some extent, deviations in the alliance's market performance that result in an unanticipated capture of value by one partner can be partially ameliorated by writing more detailed contingency clauses in agreements. For example, a stepped royalty formula (as opposed to the very frequent flat royalty percentage) or adjustments in dividend payout shares, or limitations on the increase of transfer prices in the case of a side supply arrangement, can be negotiated. But both parties have to agree and not be put off by increasing contract complexity and length. Moreover, bounded rationality means that negotiators often fail to consider relevant future circumstances and alliance design options. But how contingency or other clauses influence *ex post* value creation and capture is an underresearched area deserving attention.

Research might also consider how tax and financial issues shape the value that alliances deliver *ex post*. The fact that royalty payments (from one ally to the other or from the JV acting as licensee to one of its principals as licensor) are allowable by most governments as a deductible expense is, in itself, a spur to construct an agreement that covers the distribution of payments between the partners (Grubert, 2012). In effect, a royalty stream is a cross-border remittance (from the JV acting as licensee to one of its principals acting as licensor) that can legally escape the corporate income tax that would have to be paid on JV profits in its country of location. Contracts also specify and govern the transfer of patent rights to more tax-advantaged country locations (Graetz and Doud, 2013). Thus, international tax planning

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appears to be intertwined with the governance and ongoing management of alliances in a way that is not yet fully recognized by academic studies.

Other inevitable strains in alliance relationships stem from the familiar and fundamental 'obsolescing bargain' concept. One partner contributes knowledge that is highly valued by the recipient at the time of forming the alliance. But once the knowledge has been received, digested, and utilized by one partner, they then do not need the knowledge-supplying partner anymore, and they consider ongoing payments or profit sharing as an obligation that does not yield any continuing benefit. This often happens when one partner provides the technology, while the other provides access to, and retains control of, a local market. While the 'obsolescing bargain' idea is an old one that has been applied to alliances (e.g., Inkpen and Beamish, 1997), a study of the shifting power balance between alliance partners over the course of their collaboration is a potentially fruitful area for research. In some joint ventures, strains build up because of the inescapable fact that the cash payout needs of the partners will diverge and they would then disagree over the retained earnings/dividend payout ratio. Or, in general, partners often differ in short- versus long-term orientations, a difference that may be more pronounced across cultures (Barkema and Vermeulen, 1997). Therefore, research is needed that carefully connects details of the alliance's structure and design to its ongoing management and governance as such dynamics unfold.

CONTRIBUTIONS AND A RESEARCH AGENDA

While summarizing below the articles appearing in this volume, we also point out some illustrative research challenges and opportunities to offer concrete examples that are suggestive of how much remains to be done as part of the research agenda we are hoping to advance. A synopsis of a future research agenda is indicated in Table 2. Each of the five articles appearing in this special issue touch upon some particular facet of structuring, managing, or governing international collaborations, and the articles as a group contribute by offering specificity and depth on important challenges firms face in developing and executing international collaborative agreements. As Williamson (1996: 3) has emphasized and this literature needs to deliver upon in

Table 2. Examples of where future alliance research is needed

- Antecedents and future governance roles of agreement clauses
  - Call options and triggers
  - Milestone payments
  - Side licensing agreements
  - Supply chain arrangement between partners and transfer pricing
  - Territory and product scope
- How the financial value of intangible partner contributions is calculated
  - Technology/IP
  - Brands
  - Reputation
  - Network
- Fairness and appropriation
  - Determinants of the division of net value over the partners
  - Contingent agreement clauses that promote greater fairness
    - Trigger mechanisms
    - Stepped royalty provisions
    - Milestone payments
  - Willingness to renegotiate based on relational capital
- Role of joint venture boards and committees (in JVs and contractual alliances)
  - Authority/hierarchy
  - Functioning of committees and subcommittees
  - Design of interfaces between the partners
  - Coordination mechanisms
  - Conflict resolution rules and mechanisms
- Incentivizing mechanisms
  - Structural (contractual clauses)
  - Socialization
  - Individual manager incentives and disincentives
- Role of experience in structuring and governing alliances
  - International experience
  - Alliancing experience
    - General
    - Dyadic
    - Role of separate alliance management departments
- Parent/partner firm perspectives and industry environment
  - Alliances as a means to a competitive end
  - How parents/partners
    - Monitor
    - Depute
    - View risk
    - Manage alliance portfolios as a whole
- Shifts in 'bargaining power' over the life of an alliance
- How international tax planning affects contractual structure
  - Deductibility of inter-partner royalty payments
  - IP rights allocation
  - Transfer pricing
- Structural 'fault lines' in alliances
  - Optimum pricing decisions
  - Retention versus payout decisions in JVs
  - Transfer pricing decisions

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order to advance theory and practice, 'the analytical action resides in the details of transactions and governance.' The articles in this special issue begin to make some headway on this 'action' for hybrid organizational forms involving interfirm collaboration.

The first article—*Equity structure of MNE affiliates and scope of their activities: distinguishing the incentive and control effects of ownership* (Chi and Zhao, 2014, this issue)—takes up an important issue that has affected alliance scholarship as well as the interpretation of findings within this corpus of research. Numerous studies over many decades have investigated various hybrid organizational governance arrangements (e.g., firms' equity versus non-equity alliance choices) or alliance design parameters (e.g., level of ownership) and their determinants, yet these studies face a challenge because such decisions have implications for partners' incentives as well as monitoring and control. For instance, when a firm opts for a joint venture rather than a contractual alliance, it obtains enhanced incentive alignment through the equity sharing that is established, and it also obtains greater monitoring and control through the establishment of a separate business entity (e.g., Pisano, 1989). When one considers the determinants of these choices, or their outcomes, it can become difficult to attribute the observed effects to the incentive alignment or administrative control properties of equity collaborations, which are the two key dimensions of governance (Williamson, 1991).

As a second example, providing a local partner with greater ownership enhances its incentives to make an affiliate successful, but at the same time often gives the local partner enhanced control, board seats, bargaining power, staffing discretion, etc. (e.g., Mjoen and Tallman 1997; Dhanaraj and Beamish, 2004; Barden, Steensma, and Lyles, 2005; Zhang *et al*., 2007; Beamish and Lupton, 2009; Li, Zhou, and Zajac, 2009; Chung and Beamish, 2010). For these reasons, the field's reliance on broad indicators of governance such as the equity split is very limiting, and advances in theory and practice will be made by studying the mechanisms of governance and their benefits and costs in more fine-grained terms.

Chi and Zhao (2014, this issue) examine how ownership structures are related to the scope of certain classes of activities that the parties undertake in collaboration. They seek to disentangle the incentive and control features of ownership by considering how the multinational enterprise (MNE) seeks to control key knowledge assets while it is also incentivized to provide knowledge to an affiliate in an emerging market. They do so by examining whether MNEs in the auto industry that have greater ownership over affiliates in China tend to reduce the scope of architectural design and engineering activities (e.g., advanced scientific research, product concept planning and development, specification of interface standards, systems-level engineering analysis and simulation, and new product prototyping and testing), which they suggest are prized knowledge assets at risk of misappropriation in collaborations. They also show that affiliate ownership by the MNE instead has a positive effect on the scope of other knowledge-related activities such as the localization of product design and manufacturing processes, marketing and sales, and support services (e.g., personnel training), consistent with the incentives provided by the MNE's ownership. These findings on the opposing implications of ownership for the scope of different types of knowledge activities are in accord with their suggestion that ownership confers both incentives and control to the MNE setting up an overseas affiliate.

We would encourage research in several directions that would help further unpack the administrative control and incentive dimensions of hybrid governance (Williamson, 1991). To begin, for alliances in general, vertical scope is a design parameter that itself has implications for control and incentives. On the one hand, limiting the scope of a collaboration can reduce a partner's ability to misappropriate knowledge and make it easier for a firm to monitor a collaborative agreement, specify access to resources and personnel, and safeguard against unintended exposure of tacit knowledge (e.g., Oxley and Sampson, 2004). On the other hand, broadening the economic scope of a collaborative agreement can reduce conflicts between partners by aligning their interests (e.g., Doz and Hamel, 1998; Khanna, 1998). Partners remain independent organizations, however, and sometimes even remain direct competitors outside a collaborative agreement. Hence, there can be limitations to the effectiveness of incentives for alliances (Kogut, 1989). Therefore, future research is needed on the incentive properties of various alliance design parameters, the benefits and limitations of the incentives partners can use in collaborative agreements, and how firms can govern some of the most challenging collaborations (e.g., in environments with weak institutions, between rivals, etc.).

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Research might also consider other ways that partners can build incentives into collaborative agreements. For instance, studies often consider the incentives provided by equity alliances (e.g., ownership), but there are also ways to build in incentives into non-equity alliances. Reciprocal contributions to partnerships can serve as mutual hostages that promote continuity of a relationship (e.g., Oxley, 1997). The length of collaboration negotiated into collaborative agreements, as well as whether or not the collaboration is open ended, has implications for the partners' expected future interactions and the likelihood of the collaboration being self-enforcing (e.g., Reuer and Ariño, 2007). In non-equity alliances, partners are also able to tie future contribution of resources to the achievement of certain technological or other milestones. It would also be valuable for future research to consider not only the incentives of the partnering organizations, but also the incentives of individual managers working for a joint venture, and it would appear there are rich opportunities to locate areas of connection between the large literatures on interfirm collaboration and corporate governance. While the later literature often works out of a principal-agent setup, the hazards are more complex in the case of joint ventures, since managers must be concerned with the interests of a collaboration as well as the interests of the parent firm, and differences in compensation practices and other management systems might affect employees and the management of the venture.

We also believe it is crucial to understand more deeply the administrative controls firms use in collaborative agreements. Two immediate research opportunities stand out. First, we find it striking that the joint venture's board of directors has long been mentioned in the core theories and applied research in the literature (e.g., Pisano, 1989; Balakrishnan and Koza, 1993) as well as more recent practice-oriented writings (e.g., Bamford, Ernst, and Fubini, 2004; Bamford and Ernst, 2005; Hewitt, 2005, Gibson Dunn, 2012), but scant empirical research attention has been devoted to joint venture boards. Coarse proxies of a firm's control such as equity stakes do not suffice, not only because they are related to other theoretical considerations such as incentives, as noted earlier, but because partners' representation on boards need not parallel their equity stakes. Moreover, partners can also negotiate voting rules (e.g., supramajority or unanimity) over classes of decisions, such that their control exceeds or falls short of the power suggested by their board representation. There are many other reasons why boards of joint ventures are important and interesting to investigate by alliance and corporate governance scholars, including some of the unique functions such boards can fulfill (e.g., private ordering, conflict resolution, coordination, etc.), their unique compositions (e.g., two classes of inside directors working for parent firms or the joint venture), and the special governance needs of joint ventures compared to unitary corporations (Reuer *et al*., 2011).

Second, it would be valuable to understand the rich administrative governance mechanisms firms can use to support non-equity alliances. For instance, firms can establish a dedicated structural interface, or steering committee, whose authority is delegated and bounded by the partners' contract. Such committees can help orchestrate coordinated adaptation (Williamson, 1991), infuse some of the authority often attributed to joint ventures into non-equity alliances, and provide elements of hierarchy in these alliances in order to expand the adaptive limits of contracts (Reuer and Devarakonda, 2014). This has several critical implications for the literature: (1) meaningful administrative controls are available to non-equity alliances, in addition to the incentives alluded to earlier; (2) some non-equity alliances are more 'hierarchical' than others; and (3) the broad taxonomies of alliances using the markets-hierarchies continuum might be reconsidered based on a more in-depth consideration of the authority structures firms develop in non-equity alliances. It would also be interesting to consider other mechanisms used to enhance coordination in non-equity alliances, such as teams, administrative interfaces with parents, dedicated alliance staff, reporting mechanisms and procedures, etc. (e.g., Hoetker and Mellewigt, 2009).

The second article in the special issue—*Distance costs and the degree of inter-partner involvement in international relational-based technology alliances* (van Kranenburg, Hagedoorn, and Lorenz-Orlean, 2014, this issue)—considers high-tech partnerships that are standard licensing agreements versus those that also include joint R&D, supply, manufacturing, and/or marketing activities versus equity alliances. They find that geographic distance prompts firms to use non-equity alliances involving the aforementioned functional activities over simple licensing agreements, and they suggest that the deeper inter-partner involvement in such relationships can be beneficial in promoting control and learning. They also report that collaboration with a partner from a

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country with weak protection of intellectual property leads firms to use equity alliances over non-equity alliances. Thus, the authors not only investigate different forms of hybrid organizational arrangements, but show that these choices along the governance continuum have unique determinants. Why this is the case and why certain discrete structural choices are not sensitive to the hazards presented by distance or appropriation would be interesting to pursue further.

This article also discusses how the alliances studied entail deep relationships between partners, and these alliances might also lead to greater controls and have implications for partners' incentives. This raises two broader issues for the literature going forward. First, it would be valuable to develop a comprehensive taxonomy of relational and formal governance mechanisms, as individual studies have considered specific governance mechanisms in isolation from others. It also appears that while previous literature has made a sharp distinction between formal versus relational governance mechanisms, it would appear that elements of both exist for certain governance mechanisms. For instance, Hoetker and Mellewigt (2009) classify steering committees as one of several relational governance mechanisms as they entail a social component, but as noted in the foregoing discussion, steering committees also have authority that is specified in the contract. As a result, these structures are also an instrument of formal governance, as are joint venture boards, whose authority is derived from ownership and the legal establishment of the business, yet serve as a venue for interactions between executives from parent firms as well as from the joint venture itself.

Second, as noted earlier, the alliance literature has been concerned with the question of whether relational and formal governance mechanisms work as complements or substitutes to one another (e.g., Poppo and Zenger, 2002), so it would be interesting to investigate the extent to which these structures substitute or complement other formal governance mechanisms (e.g., contingency planning, *ex post* contractual safeguards, etc.) or relational governance mechanisms. For the field, the benefit of moving beyond broad treatments of discrete governance structures for alliances will be a more elaborate and detailed understanding of the mechanisms of hybrid governance and their interactions.

In the third article in this special issue, *Configurations of governance structure, generic strategy, and firm size: opening the black box of value creation in international joint ventures* (Merchant, 2014, this issue), Merchant contributes to the research on alliance structuring and design by suggesting that the firm valuation effects of ownership structures for joint ventures will be contingent upon the generic strategy—cost leadership versus differentiation—for the venture. There is broad understanding that collaborations are investment vehicles to implement strategy, so the performance implications of alliances are bound to be highly contingent. This said, competitive strategy is conspicuous by its absence in many studies of international joint ventures. Difficulties naturally surround the measurement of strategy constructs, whether the parent firm's or the joint venture's, not to mention the measurement of an individual joint venture's contributions to strategy, yet this article indicates the importance of bringing competitive strategy and alignment considerations into studies of alliance governance and management.

Extending the message of this article more broadly, it also seems important for the field to renew attention to the competitive context and consequences of collaborative agreements. Whereas recent studies of collaborations often start with the implicit assumption that alliance are intended to enhance firm competitiveness and efficiency, perhaps due to a corollary assumption that alliances generally facilitate the transfer, creation, or co-specialization of knowledge assets, this was clearly not always the case in some of the field's earlier research. For example, early research considered the possibility that collaborations might attenuate competition through various means, including product-market collusion, preemption, or deterring investments in R&D (e.g., Berg and Friedman, 1981; Brodley, 1982; Pfeffer and Nowak, 1976; Stuckey, 1983; Contractor and Lorange, 1988; Kogut, 1988).

More recent studies have begun to consider how firms compete for the value they seek to create with a partner; how firms engage in coopetition, or simultaneously cooperate and compete; and how networks of alliances involving rivals emerge and evolve within industries. However, the literatures on competition and many streams of research on alliances seem to be developing independently from one another in recent years, and it would be interesting and valuable to integrate competitive strategy considerations into future studies of alliance structures, management, and governance to understand the interplay between cooperation and competition much better. For instance, fundamental questions such as the following might be given attention in

DOI: 10.1002/gsj.1082

future research: (1) when do start-up firms choose to do a vertical activity in-house (e.g., compete downstream) versus engage in various forms of alliances?; (2) how does rivalry between firms affect the formal and relational governance mechanisms they put to use and their efficiency?; (3) how do firms' outside options for resources from markets for partners or other factors markets (e.g., labor, capital, etc.) shape alliance governance and design?; (4) can overlap in different markets in which partners compete and the mutual forbearance it generates offer meaningful incentives to support the governance of a collaboration?; (5) how does a collaborative agreement, and the incentives it entails, shape entry by a partner into a firm's product market?; and (6) do the competitive dynamics between firms change as they seek to manage certain partnerships with each other or other rivals? The alliance literature has benefited enormously from a focus on vertical integration and boundary of the firm questions often associated with corporate strategy research, and many new and attractive research opportunities become apparent by considering potential connections between the developments in alliance research and competitive strategy topics such as these.

The fourth article in this special issue—*Innocents abroad: the hazards of international joint ventures with pyramidal group firms* (Perkins, Morck, and Yeung, 2014, this issue)—examines international joint ventures in Brazil and provides a detailed analysis of how the governance of pyramidal firms can imperil collaborative agreements. Like other studies in this issue, this research provides an example of how institutional factors play an important role in the structuring, management, and governance of collaborative agreements. In contrast to the earlier discussion, which emphasizes the governance of the *alliance itself*, this article emphasizes how the governance of a *parent firm* can have an impact on the collaborative agreement. The authors demonstrate how widely held, freestanding firms that lack familiarity with pyramidal groups can lose control over their joint ventures in Brazil. They also present illustrative cases that describe how foreign firms can have their wealth expropriated when partnering with firms in pyramidal groups.

This research points to a broader opportunity to consider how the governance of parent firms can have implications for alliances. There is some research that considers how parent firms' ownership or governance structures can have implications for the choice of alliances over alternative modes of market entry (Gulati and Westphal, 1999; Datta, Musteen, Herrmann, 2009; Musteen, Datta, and Herrmann, 2009), and it would be interesting to connect research on corporate governance to other streams of work on alliance management and governance. For instance, do agency problems within parent firms (beyond those identified by Perkins *et al*., 2014, this issue) contribute to problems in the management of joint ventures? How can emerging economy firms obtain certifications or engage in bonding to attract alliance partners, does this alter the governance of these collaborations, and when can alliances themselves serve these functions (e.g., Siegel, 2009)? Do changes in corporate governance practices and regulations in certain countries have consequences for the design and management of international collaborations? Do parent firms tend to replicate some of their governance practices in their joint ventures, and how do parent firms with different monitoring and incentive structures design collaborative agreements? How does a parent firm's ownership base (e.g., involvement by traditional or corporate venture capitalists or the government) potentially foster the efficiency of collaboration (e.g., reducing adverse selection risk through information intermediation and signaling) versus give rise to potential management challenges (e.g., goal conflicts, knowledge leakage, competition concerns, etc.)?

Like Perkins *et al*. (2014, this issue), the final article in this special issue—*Post-formation inter-partner equity transfers in international joint ventures: the role of experience* (Iriyama and Madhavan, 2014, this issue—considers the post-formation dynamics of international joint ventures. This article complements two of the other articles that focus on the initial ownership stakes of partners, and it does so by investigating the transfer of equity between the partners during the execution of the joint venture. Kogut's (1991) seminal application of real options theory to joint ventures suggested that a partner can exercise the option to expand when a favorable demand cue emerges and can hold the option open otherwise. Iriyama and Madhavan (2014, this issue) shift the unit of analysis from the joint venture to the parent firm level, enabling the authors to pursue the question of who acquires equity from whom, rather than whether or not equity is acquired by one of the partners. They argue that local partners will generally be in a better position to spot more (or worse) growth opportunities and act accordingly, but foreign partners can develop such abilities with experience accumulated in the host country.

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This article raises a set of interesting questions that might be pursued with primary data on the management of joint ventures. It would be valuable to understand how parent firms, whether local or foreign, actually monitor their collaborations and the markets in which they operate. What objective or qualitative data do they collect and process to judge joint ventures? When do they use output versus input or behavioral controls? What sources of uncertainty and cues do they attend to and how do they manage risk? Are expansion decisions in one location interdependent with decisions concerning other joint ventures in the firm's portfolio, and when do firms expand by setting up a separate plant or facility in a host country rather than acquiring equity from a partner to covert the venture to a wholly owned subsidiary? What roles do firms' IT resources and capabilities play in the management and governance of international collaborations?

A few decades after some of the earliest conferences devoted to international collaborations catalyzed academic interest in alliances (e.g., Contractor and Lorange, 1988), the topic of strategic alliances continues to attract a large fraction of submissions at the major conferences devoted to international business and strategic management.[2] While considerable progress has been made in terms of theory, understanding, and evidence during this period, we also believe that many research opportunities exist to delve deeper into the structuring, management, and governance of international collaborations to get at the action in these hybrid organizational forms (Williamson, 1991). The research we are calling for in this essay (and summarized in Table 2) suggests a need for novel data sources, new theories, and likely a more interdisciplinary approach to advance this literature in a meaningful way. It is our hope that this special issue has called attention to these research opportunities for the alliance literature, has made some initial progress, and has identified a number of interesting and valuable opportunities for pushing this research agenda forward.

[2] Prior to the 1986 Cooperative Strategies in International Business conference at Rutgers University, studies on alliances were almost entirely restricted to international business scholars, principally because host government mandates then required a local partner. After the publication of the conference proceedings in Contractor and Lorange (1988), where many of the contributors detailed the strategic rationales for interfirm collaboration (irrespective of the partners' country of origin), there followed a surge in academic interest as well as an explosive increase in the formation of alliances, both domestic and cross-border.

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