

PART I

Theory and Future Directions  
in Alliance Research

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# Frontiers of Alliance Research

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## Introduction

The objective of this chapter (and this book) is to highlight areas where further research on corporate alliances is needed. Scholarly interest in alliances (agreements between two or more independent organizations working together under an “incomplete contract” in order to achieve some mutual benefit) has burgeoned in the last few decades. These partnerships have been studied in many different disciplines in the social sciences, in addition to many functional specialties within business schools, including marketing and to some extent in corporate finance. Within management, interest in alliances, and the contributions to understanding their rise and implications for firms, was first initiated in a significant way in international business studies. Early interest in this research stemmed from the cross-border character of the many collaborative agreements between multinational firms seeking market opportunities in emerging countries, many of which then had governmental policies suggesting or mandating a local partner. Today, of course, with the abandonment of socialist policies and the “sea change” in attitudes toward business in emerging nations, few such restrictions remain (Contractor, 2013). Alliances are today, for the most part, voluntary collaborations between two or more companies in advanced economies, driven by intrinsic strategy motivations. The few government mandates that remain in emerging countries are slowly disappearing.

In the field of strategic management, interest in alliances remains substantial, continues at a rapid clip, and is far from a mature field of research. Many fundamentally important research questions remain unanswered, however, and it is the objective of this volume to indicate where further investigation may be fruitfully undertaken. Submissions to the Strategic Management Division of the Academy of Management related to alliances and networks in

recent years have run in the 10–20 percent range of total submissions.<sup>1</sup> This may very roughly correlate with the importance of alliances in the practice of business in the modern economy.<sup>2</sup> Of course, this is a very rough estimate since the details of most collaboration agreements are proprietary information, and not always reported in public filings.

Early emphasis in scholarly studies of alliances focused on the motives that partner firms bring to them (e.g., Contractor & Lorange, 1988). This work, and the broader interest in alliances, was catalyzed by a 1986 Rutgers University conference organized by Contractor and Lorange. The current volume represents a compilation of recent thinking as well as potential research directions in a field of study that is far from mature some thirty years later. Early work emphasized four broad types of strategic intents behind alliance formation: (i) market growth opportunities, whether in a new geographic market or product market or even between direct rivals; (ii) obtaining efficiencies or reduced costs that would be otherwise unattainable, in particular by “going it alone”; (iii) reduced risk, as witnessed by early joint ventures in sectors such as oil exploration involving substantial capital outlays; and (iv) access to other firms’ knowledge and resources and the learning benefits that might accrue to collaborators as a consequence (Kogut, 1988). Some of the work on collaborations in the economics field gave more attention to the

<sup>1</sup> The inverted commas delimited term “strategic alliances” – by no means the only way of describing corporate alliances – yielded 233,000 entries in Google Scholar, and 4.2 million entries in Google, as of January 2018.

<sup>2</sup> A 2014 survey by United Nations University ([www.ama.net.org/training/articles/Strategic-Alliances.aspx](http://www.ama.net.org/training/articles/Strategic-Alliances.aspx)) found that “most companies expect the contribution of alliances to the value of the company to increase from the current rate of 19% to a rate of 47% in five years’ time.” Kale, Singh, and Bell (2009) reported that 80 percent of Fortune 1000 CEOs stated that alliances constituted 18–26 percent of their company research activities or revenues.

possibility that interfirm collaborations might be instruments of collusion, thereby softening, rather than strengthening, competition in industries (e.g., Berg & Friedman, 1981; Brodley, 1982), the latter being a key if implicit premise upon which strategic management and international business research on alliances is generally based.

### Contract Incompleteness

A second observation is important about continuing research on alliances: often the reasons that partner firms engage in alliances will change and diverge over time. A collaboration might fulfill the partners' initial aims for it, but unexpected contingencies unaccounted for in a contract often surface. Hart and Moore's (1990) paper – work which won Oliver Hart the Nobel Prize in 2016 – deals with “incomplete contracts,” or the notion that no negotiator or lawyer, however insightful, has the capacity to envisage all future contingencies that may arise between contracting parties because of unanticipated changes in the environment of business. This axiomatic notion also lies at the root of Transaction Cost Economics (Williamson, 1991a), and suggests an inherent limitation on the formation of alliances in uncertain environments wherein hierarchies or quasihierarchies such as equity joint venture (EJV) companies are supposed to function better than contractual, or nonequity alliances.

### Is Transaction Cost Economics in Retreat?

Paradoxically, as Chapter 22 by Frankort and Hagedoorn in this volume shows, EJVs used to be the dominant mode of collaboration in the 1980s, yet have today been displaced by contractual alliances which continue to grow in importance (occupying perhaps a 90 percent share of all alliances by number, though less so in terms of economic impact<sup>3</sup>). This empirical fact is also corroborated in an analysis of biopharmaceutical R&D alliances by Choi and Contractor (2016).

<sup>3</sup> Since EJVs typically entail a much larger resource commitment and market ambition than contractual alliances.

Is Transaction Cost Economics (TCE) in retreat or are deals becoming less complex?<sup>4</sup> Hierarchies are never going to disappear, and it is hard to see that such a change could be driven by deals becoming simple and generally suitable for contractual governance overall. However, the reasons for this historic shrinkage in the share of EJVs and the shift toward contract-based collaborations is a ripe area for research. Fears of “contract incompleteness” may tip an alliance structure toward an EJV, as opposed to a nonequity alliance, since EJVs were assumed to align the incentives and rewards of the partners better than in nonequity collaborations – an assumption that today is less tenable, as this chapter later shows. However, fears on the part of negotiators to opt for contractual alliances (because of underlying TCE theory and contract incompleteness considerations) are increasingly being assuaged in recent years: (i) as the rule of law and intellectual property (IP) protection has spread to more countries; (ii) as negotiators and lawyers may be getting more experienced at writing alliance agreements, and are getting better at visualizing future contingencies (see Part IV of this book on “Alliance Management Capability” as part of accumulated experience on the part of companies); (iii) as alliance agreements today include more detailed, complex clauses, consisting of real options, or triggers, or contingency clauses that specify a transfer of funds, or IP rights, or control, or ownership, from one ally to the other if certain events or “triggers” were to occur in the future (see Chapter 3 by Chi and Seth in this volume, as well as Argyres, Bercovitz, & Mayer, 2007; Ryall & Sampson, 2009); and (iv) the increased use, within contractual alliances, of administrative resolution mechanisms or joint steering committees to push out the coordinated adaptation limits of nonequity alliances (Reuer & Devarakonda, 2016). Future research may fruitfully investigate how overcoming such TCE fears enable parties to sign nonequity agreements without the drawbacks of EJVs such as high upfront resource commitments and lower reversibility of the arrangement – in short, acceptable levels of control, participation and value

<sup>4</sup> Alliances are concomitant to a larger trend whereby outsourcing has partially displaced vertical integration.

capture, without the drawbacks of substantial investment and ownership.

### **The Need to Probe the Anatomy of Alliance Agreements**

Why is the field of alliance research, thirty years after the Rutgers/Wharton conference<sup>5</sup> in 1986, still not a mature field? A significant explanation is that it is only relatively recently that the actual text of alliance agreements has begun to be available to scholars. For the first fifteen or twenty years there was an astonishing lack of scrutiny on the actual anatomy, or microfoundational details, of alliance agreements. Empirical work relied on surveys, or sketchy abstract descriptions from services like SDC (Securities Data Company), or news announcements. It was like doctors practicing medicine without knowing anatomy. Happily, today, because of greater disclosure requirements, the field is beginning to have access to the actual text of more agreements (contractual as well as EJV) which will enable finer analyses into alliance design and governance.

### **The Shifting Power Balance over the Life of an Alliance**

Another area for further research is the shifting power balance in the relationship between partners over the course of an alliance's life. Alliances are often viewed as temporary organizational forms, since a change in business conditions might occasion the renegotiation or termination of a partnership. Alternatively, as the contributions, capture of rewards, and assumption of risk accruing to each partner inevitably shift over the years, the partners' interests and power balance change, so one of the allies may no longer wish to continue in the relationship. A considerable body of research has considered the relational aspects of these agreements and how partners' expectations of future exchange might also promote

continuity between the partners, despite the fact that contracts supporting alliances are replete with gaps (e.g., Parkhe, 1993). Chapter 2 by Raveendhran, Xing, and Mayer decomposes power in alliances into five components: (i) Reward power (e.g., the lure of future business that one partner offers the other, or to the joint venture), (ii) Coercive power (e.g., the power to punish or sanction the misbehaving partner), (iii) Legitimacy power (or legal enforcement strength), (iv) Expert power (e.g., one party holds proprietary technology, knowhow, or patents the other desires) and (v) Referent power (i.e., the prestige, brand, or reputation and network connections one partner would make available to, or withhold from, the other). Which of these five components affects what stage of an alliance relationship, and how does this vary by sector and partner characteristics?

### **Renegotiation and Termination of Alliances**

Inevitably though, either because of a shift in the power/contribution/reward balance between the partners changing over time, or because of changes in the industry, most alliances are either renegotiated or terminated. This remains an incompletely explored area of scholarly investigation. The Prescott, Chaturvedi, and Hsu contribution in Chapter 26 asks how the network or coalition a company is in affects its survival, in the context of industry convergence or consolidation. Mulotte, Ren, Dussauge, and Anand (Chapter 25), traces fifty-year-long case studies in the aircraft industry. They suggest that (i) firms collaborate repeatedly or sequentially when their collaborative performance is satisfactory, or (ii) may choose to go-it-alone with internal development of subsequent models or generations of technology when (a) prior collaborative performance does not meet aspirations, or (b) if they believe that their learning from past collaborations has captured sufficient product-market knowledge that they can manage on their own in the business domain. *Ceteris paribus*, they posit that moderate commercial success is likely to

<sup>5</sup> The edited conference proceedings were published in a volume in 1988 (Contractor & Lorange, 1988).

induce continued collaboration. By contrast, the go-it-alone choice is more likely for subsequent innovations or models under two circumstances: (i) when the current development with a partner is a commercial failure, or (ii) when there is commercial success accompanied with learning, which makes the firm more confident of striking it out on its own.

### **Alliance Agreement Designs: Governance, Scope, and Safeguards in Alliance Agreements**

In recent years, scholarly work has devoted much more attention to the details of alliance design and governance, building upon and extending early work on broader topics such as collaboration motives and the root causes of why firms enter into alliances versus other forms of organizing (e.g., internal development, acquisitions, corporate venture capital, and so on). For instance, this work has paid considerable attention to the detailed contractual safeguards that partners might employ, in addition to the coordination function that the elaboration of a contract might fulfill (Faems et al., 2008; Reuer & Ariño, 2007). This work contrasts earlier research that relied heavily on announced alliances in publicly available data sources (like SDC), an approach to research that Contractor and Reuer (2014) compared to practicing medicine without the benefit of dissection.

Recent studies, based on the actual reading of the text of agreements, have delved into many new facets of alliance design, and this has yielded insights into how firms set up, structure, govern, and derive value from their collaborative agreements. For instance, contracts will specify the scope of the alliance in terms of the functional activities partners will perform in collaboration (so-called vertical scope) in addition to the products and geographic domains that fall within the scope of the collaboration – versus those that lie outside of the alliance proper and can remain subject to competition between the participating firms (Contractor & Ra, 2000).

There is relatively little insight on how and why the scope of an agreement is arrived at.

Future research can investigate how narrowly or broadly negotiators should define the technological, product, and territorial scope of the agreement (Somaya, Kim, & Vonortas, 2011), and the effect that the defined scope of the relationships has on future interactions, learning, and success. A narrow scope focuses the mission of the partnership. Too broad a scope, however, increases the likelihood of access to a firm's proprietary assets and unintended spillovers (Oxley & Sampson, 2004). Chapter 15 by Giura, Hasan, and Kumar examines how postformation knowledge flows in 667 R&D partnerships were affected by the scope of their agreement. Lioukas and Reuer, in Chapter 14, take a more nuanced position even regarding the type of scope in an alliance. They state, "Varying the product or geographic scope of an alliance may be more useful for addressing the incentives for certain types of opportunistic behavior (e.g., knowledge appropriation, shirking), whereas varying the functional or vertical scope may be more appropriate for other types of opportunism (e.g., distortion of transfer pricing)."

Partners also devote energies to contingency planning (Argyres et al., 2007), allocating decision rights across the partners (Adegbesan & Higgins, 2010; Lerner & Merges, 1998), negotiating detailed payment terms (Robinson & Stuart, 2007), engineering authority structures in nonequity alliances (Reuer & Devarakonda, 2016), and structuring boards of directors in joint ventures and minority equity partnerships (Cuypers et al., 2017; Devarakonda & Reuer, forthcoming; Reuer, Klijn, & Lioukas, 2014), to name a few. Given the importance of these decisions in designing alliances, it has been surprising that it wasn't until recently in the literature's development that significant research attention has been paid to them. Such anatomical research on the details of alliance design and governance is therefore very different from earlier research that emphasized broad-brush topics such as trends and motives for collaborations, broad distinctions between types of alliances such as equity and nonequity collaborations, and the use of coarse indicators for the allocation of control in collaborations such as partners' equity stakes in joint ventures.

## Multipartner Networks, Portfolios, and Multinational Operations

As the alliance literature has developed, it has paid more attention to a number of critical contextual factors that are at the root of alliance formation, and that carry important implications for their governance, management, and outcomes. Some early work began to examine the broader networks in which alliances are embedded (e.g., Walker, Kogut, & Shan, 1997) in addition to the relationships that occurred prior to, or are contemporaneous with, the focal collaboration between firms (Gulati, 1995; Ryall & Sampson, 2009).

The Faems, Neyens, Duysters, and Janssens contribution in Chapter 16 shows how in many sectors – especially those with rapidly changing technologies – firms seek complementarities not only from individual alliance relationships, but also assemble “portfolios” of alliances. Greater diversification in alliance portfolios provides not only a risk-balancing benefit, but also gives potential access to idiosyncratic knowledge and capabilities that can be tapped as the technology in the sector evolves over time (Parise & Casher, 2003; Wassmer & Dussauge, 2011). A larger portfolio positions a firm to take better advantage of evolving, or unexpected, technological trajectories in the industry. But, a larger portfolio also makes the information processing task of the focal firm harder.

Li, Reuer, Yu, and Wu in Chapter 17 ask why, despite surveys suggesting that multilateral alliances – as opposed to dyadic alliances – constitute 27–55 percent of all alliances, multilateral alliances have received little scholarly scrutiny. This chapter provides a review of the extant literature, highlights the need for further research, and identifies areas where there is little or no scholarly consensus on the strategic motivations for forming multilateral (as opposed to bilateral) alliances, their governance structures, and performance outcomes.

With more than two allies, the complexity of the arrangement escalates significantly – just as something raised to the power of three, or more, is far more complicated than the same raised to the power of two – and has distinct characteristics in alliance design as well as managing the relationships. This is

recognized in some game theory modeling (e.g., Dawes, 1980; Orbell & Dawes, 1981).

This chapter raises several relatively unexplored questions. What are the strategy drivers for multilateral alliances? Do multilateral alliances supersede bilateral arrangements when the project investment and competition risks are very high in relation to the capabilities and the risk appetite of individual firms? How are multilateral partners chosen and their contributions, risk, and rewards allocated?

Outcomes of multilateral alliances are harder to predict than in bilateral relationships (Heidl, Steensma, & Phelps, 2014). The capture of gains accruing to each partner, versus the contribution made by individual firms is an almost unexplored topic even in bilateral arrangements (Contractor & Woodley, 2015). In multilateral alliances the ex post benefit/cost trade-off for each participant is even more fraught. The longevity of multilateral versus bilateral alliances has been studied, but there is no consensus in the literature.

The Li, Reuer, Yu, and Wu chapter therefore proposes a necessary and useful research agenda in a relatively neglected subfield of alliance studies.

## Alliances in the Context of Multimarket and Multinational Competition

The roles of trust and cooperative routines that accumulate with ties between the collaborators have been subject to significant research. Surprisingly, less attention has been given to the competitive context of collaborations and the potential roles played by multimarket competition between collaborations, and localized competition in certain geographic locales and product markets.

The Amir, Lavie, and Hashai contribution in Chapter 18 proposes that, as the intensity of multimarket competition (the same set of firms competing across several country markets and product types) increases, direct rival firms encounter each other more frequently, and they can monitor each other's moves better and retaliate more quickly when needed (Yu & Cannella, 2007). With increased competitive pressure, past studies suggest that the competing firms are said to develop

implicit mutual forbearance (Jayachandran, Gimeno, & Varadarajan, 1999). The authors hypothesize that the number of horizontal alliances formed will increase with greater multimarket competition up to a point. However, beyond a certain level of alliance formation the further likelihood of alliance formation will decline because having achieved a threshold level of cooperation through alliances, the rival firms are more interlocked, can observe each other's moves and technology even better, and the consequences of opportunistic behavior can be even more severe. Hence, beyond a threshold level of alliances having been formed, implicit and informal future cooperation substitutes for alliance formation (Baum & Korn, 1999). Hence, the hypothesis of a 'diminishing returns' or an inverted-U-shaped relationship between horizontal alliance formation and the intensity of multimarket competition.

### Alliance Management Capabilities

While much alliance research has examined the macro contextual factors of interfirm collaboration, a separate and influential body of research has considered firms' internal development of alliance management capabilities and their potential implications for individual collaborative relationships. Alliances are embedded in the management capabilities, structures, and practices of the partners just as they are embedded in collaborative, competitive, and institutional environments. Alliance management capabilities (an accumulated firm-level competence) enable firms to be more sophisticated in their alliance designs, and they might also enable partners to cope with shortfalls in governance, trust, or other deficiencies in particular alliances. Several studies have paid attention to the accumulation of alliance experience, the use of dedicated alliance functions, and other tools and practices that can potentially enhance alliance performance (e.g., Kale, Dyer, & Singh, 2002). Less attention has been given to information technology capabilities and other supporting skills that can have a bearing on the boundary of the firm decisions and the efficiency of alliance governance. How to manage alliances (i.e., a single firm-

level capability), is different from another significant stream of research which focuses on learning that takes place within a dyadic transaction (e.g., learning from a partner or within an alliance) (e.g., Hamel, 1991; Mowery, Oxley, & Silverman, 1996). But often these streams have not been integrated together in existing studies to consider how they relate to one another. Moreover, a third and separate body of research investigates firms' alliance portfolios, with its emphasis on exploration and exploitation as well as the potential for ambidexterity in alliance management. This research illustrates a third avenue for learning (Lavie & Rosenkopf, 2006).

The Dhanaraj, Lyles, and Steensma contribution in Chapter 11 is a detailed case study of an office of alliance management (OAM) in a large pharmaceutical company. An OAM plays the role of brokering, synthesizing, and storing technical as well as alliance management capabilities over time (Verona & Ravasi, 2003). The OAM acts as an intermediary or broker, linking alliance partners, functional groups, and vertical layers of management within the large firm. The OAM also acts as a knowledge synthesizer and store for technologies. Before knowledge can be "stored" for future use, it needs to be "codified" or written, a function that Zollo and Winter (2002: 342) assert is a "relatively underemphasized element in the capability building picture." Codified knowledge can be more easily shared within the firm, and with subunits, foreign subsidiaries, and alliance partners. In this case study, the OAM disseminated knowledge by organizing formal seminars, discussion groups, and showcase events to illustrate the successful management of alliances within the company. Organizational capability resides not just in individuals, but also in routines, processes, corporate culture, and even physical geography (Walsh & Ungson, 1991). The OAM performs an institutional role, as a repository of memory and routines (Nelson & Winter, 1982), through its databases, as well as seminars, lunches, and meetings.

Chapter 12 by Koza and Tallman describes an alliance management capability, not at the firm level, but at a network level. They treat referral networks where professional firms, in fields such as accounting, will refer a potential client located

in another country to a member network partner, for a referral fee. Other benefits of association include learning from network connections about service innovations, or new standards and regulations, and in some cases about lobbying on behalf of the profession. In effect, these are voluntary associations, with very weak ties, that serve a common purpose. This is a relatively unexplored area worthy of further investigation since professional global networks are proliferating.

With few or no exit barriers what holds such a voluntary network together? There is neither any cross-ownership, nor are there any enforceable contracts – but only common rules and understandings. Using the case of an international accounting practice network called Nexia International, the authors describe methods, association rules, and trust-building interpersonal links that keep each member accounting firm within the network – presumably as long as the benefits to each network member firm are seen to exceed the costs of its membership. The delicate central management of the network provides incentives and a common purpose to all members. It encourages the sharing of innovations across the network (Tallman & Koza, 2016). The Executive Director, who travels 70 percent of the time, is a key actor facilitating communication, transfer of knowledge, and handling potential disputes. An annual conference of members reinforces social ties and interactions across the network. The case is a good example of how a geographically dispersed set of firms, with very weak ties and negligible exit barriers, nevertheless coheres as a functioning network with a common purpose.

### The Innovation Context

The innovation context and impact of R&D alliances is another important theme of the alliance literature throughout its development, one that has also seen substantial interest in recent years. It is well known that alliances are concentrated in high-tech sectors, and that there has been a significant increase in the use of nonequity alliances over equity agreements for such deals (e.g., Hagedoorn, 2002). That said, the alliance literature

has often not been well connected to the body of research on markets for technology and ideas, which has seen progress in recent years and has a strong affinity with alliance research. For instance, scholarship on “markets” for technology draws upon multiple strands of economic theory to understand when firms should compete, or go it alone, versus collaborate or engage in licensing agreements (e.g., Arora, Fosfuri, & Gambardella, 2001; Gans & Stern, 2003). Less attention has been given to the diversity of alliances as organizational forms and M&A as a transactional alternative. In these “markets” it is interesting to observe that some licensing agreements can be imposed by courts, or are settlements rather than the volitional, “collaborative” agreements that alliances are generally depicted to be. However, these agreements are often aggregated together with other high-tech partnerships in empirical alliance studies. Along similar lines, alliance agreements obtained through the acquisition of a technology venture might have different consequences than “home grown” technology partnerships formed for specific purposes as part of a coherent portfolio and alliance strategy for technology development and commercialization. Examining how alliances relate to the many different types of innovation as well as entrepreneurship appears to be important and potentially valuable, given the centrality of these streams of research to current developments in strategic management.

Alliance research over the years has also given attention to the institutional environments in which these collaborations are embedded such as intellectual property rights (e.g., Oxley, 1999) or the rate of change of technology. Chapter 6 by Doz and De Roover tackles an interesting question: How should alliances be formed when companies are facing the looming threat of digital disruption, be different from situations where disruption is less imminent? Based on their consulting work in helping European telecommunication companies form alliances to meet the threat of digital disruption, the authors offer some guidelines. They suggest that in conventional alliances the scope of the collaboration needs to be focused and specific, with a lengthy agreement that often describes a defined alliance management structure, or an alliance

management team with a quasihierarchy and detailed reporting requirements. By contrast, alliance agreements formed in the face of looming external digital threats cannot easily envisage the future, or the objectives and direction the industry will take. Therefore, they should be open-ended, broad, allowing much greater flexibility, and their governance clauses – rather than being specific – should focus more on building trust, transparency, and fairness.

Chapter 21 by Cantwell and Salmon is an insightful essay on how to apply or amend existing theories to the new landscape of cooperation based on flexible and temporary global networks. The multinational firm continues to have a (perhaps shrinking) core defined by subsidiaries and employees in various countries. But this is increasingly being accompanied by an outer constellation of transient network relationships with suppliers, buyers, and other network agents that go in and out of the constellation (Alcácer, Cantwell, & Piscitello, 2016). Both need to be concurrently managed.

Open innovation networks are deemed to be organizational forms better suited for the new wave of innovation (Chesbrough, 2003; Gassmann, Enkel, & Chesbrough, 2010; Laursen & Salter, 2006; Pénin, Hussler, & Burger-Helmchen, 2011). This is driven by the growing complexity of knowledge, whose management is becoming more complicated because product development and product design increasingly needs to draw from an expanding range of technical sources. Disparate knowledge domains then need to be recombined into innovations and complex new products (Antonelli, Krafft, & Quattraro, 2010; Contractor & Lorange, 2002; Cano-Kollman et al., 2016).

Harrigan, in Chapter 7, analyzed a sample of 542 US electronics firms, over the period 1992 through 2014, and tracked their returns on total assets (ROA). Rapid and radical innovations as a result of joint ventures (JVs) should also be manifested in more intense patenting by JVs compared with single-owner firms (Harrigan, 1988). The study's results show that JVs had higher EBITDA over the period of the study, and especially from 1999 through 2003, when single-owner firms in her sample showed negative returns. Average annual patent scores were also higher for JVs until 2012,

after which because of presumed spillovers, single-owner firms in the sector had comparable patenting intensity. She states that in JVs, “multiple sponsorship meant [not only] higher annual R&D outlays for jointly owned firms [but also] . . . access to sponsors' other resources.” If in forming a JV, the cooperating principals may voluntarily contribute assets – such as personnel, laboratories, equipment, and expertise from their individual company resources – without recording them as contributions or assets of the JV itself, the ROA measure for JVs could indeed be higher because the denominator of the ROA ratio is lower.

### **Microfoundational Processes in Alliances: The Role of Individuals, Teams, and Leaders in Collaborations**

A criticism of research on alliances, and the field of strategy in general, is that most theory and empirical work tackles issues at the firm or macro level, whereas decisions are actually made by individual managers. Hence, not taking into account the predilections, backgrounds, education, and leanings of key decision-makers in companies, misses an important explanation of strategic decisions. The criticism has been that the socio-psychological and behavioral underpinnings of strategy have been neglected. Insufficient attention has been paid by scholars to the microfoundation level of alliance management and coordination (Gulati, Wohlgezogen, & Zhelyazkov, 2012).

Andreu and Ariño in Chapter 8 focus on coordination protocols, at the micromanagement, or daily operational levels of a collaboration, which are critical to success and to realizing the alliance's full potential. Previous studies have focused on macro-level coordination mechanisms such as governance structures (e.g., Gulati & Singh, 1998; Zollo, Reuer, & Singh, 2002), interpartner routines (Schilke & Goerzen, 2010), and contract provisions (e.g., see a review of alliance contract research by Schepker et al., 2014). The authors propose that, at the start of a collaboration, only the basic outlines of task coordination and division of labor can be specified (Gerwin, 2004). However, these are typically preliminary and incomplete. It is