

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.¹ This may very roughly correlate with the importance of alliances in the practice of business in the modern economy.² 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

¹ 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.

² A 2014 survey by United Nations University (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 impact³). This empirical fact is also corroborated in an analysis of biopharmaceutical R&D alliances by Choi and Contractor (2016).

Is Transaction Cost Economics (TCE) in retreat or are deals becoming less complex?⁴ 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

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

⁴ 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 conference⁵ 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

⁵ 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, & Quatraro, 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

only after a period of time – after operating the alliance – that partner companies establish more detailed coordination mechanisms to address operational needs. Coordination problems cannot be resolved in full *ex ante* (Schreiner, Kale, & Corsten, 2009).

The authors describe a Catalan Health Service called AISBE (Àrea Integral de Salut Barcelona Esquerra), an alliance created in 2005 in response to the inefficiency and fragmentation of the public health-care service, where a number of providers initially underserved the population's health-care needs in a rather uncoordinated fashion. The chapter provides a useful case study of how coordination can be improved – a progression from individual skill sets, to routines, to knowledge components known to subsets of alliance personnel, to an overall coordination scheme comprising collective knowledge shared by all (Andreu & Sieber, 1999).

The authors propose a generalizable research agenda to examine, in other alliance settings, which learning paths, routines, knowledge pieces, coordination schemes, and control constructs work best, or how coordination schemes that are useful in one alliance may be redeployed in others in order to broaden our understanding of alliance management capability (e.g., Wang & Rajagopalan, 2015) working from the microfoundational level of alliance coordination.

Poppo, Schloemer, and Rogers in Chapter 9 address the socio-psychological foundations of alliance cooperation. Much of past alliance research has flowed along two broad streams: (i) “structure” (the composition of agreements and governance mechanisms, e.g., Makadok & Coff, 2009; Oxley, 1997) and (ii) “relationships” (focusing on trust, coordination, forbearance, and so on, e.g., Gulati, Lavie, & Singh, 2009; Poppo & Zenger, 2002). But the underlying *means* by which alliance success can be achieved, or fostered, has been insufficiently treated in the literature.

This chapter lays out a process by which a shared alliance group identity can be developed. It describes the critical role of top managers occupying leadership roles in continuously emphasizing the importance of the alliance, its goals and purpose, and endorsing the group of managers who

constitute and run the alliance (Gavetti, 2005). The second leadership role is encouraging and monitoring interaction processes between managers from the alliance partners for the performance of joint tasks, and highlighting alliance-group identity (instead of loyalty to the executive's home company). The third observation or recommendation of the chapter is to establish basic norms for attendance and timeliness at joint meetings and minimize interpersonal conflict.

The overall goal is to create behavioral and relational norms whereby the number of issues that inevitably arise in alliances – issues which cannot be covered by contract specification or structure – can be harmoniously handled through these relational norms (Macneil, 1977).

Chapter 10 by Cui tackles an ongoing central dilemma in alliance relationships, namely the leakage or osmosis of knowledge and capability from one partner to another. Individual managers feel the tension between loyalty to their home company (i.e., competition) and loyalty to the alliance or joint project (i.e., cooperation) (Das & Teng, 2000; Park & Ungson, 2001). Sharing of knowledge generally promotes the interest and success of the alliance but could also diminish the value and future contribution of one of the partners. This divided loyalty results in ambivalence and role conflict in the minds of operational-level alliance managers (Raza-Ullah, Bengtsson, & Kock, 2014). This psychological tension is worse when knowledge is tacit (Orlikowski, 2002).

While Chapter 3 by Chi and Seth covers theoretical modeling and game theoretic treatment of alliances, they note in passing that psychologists would be useful members of a strategy or negotiations team because they can provide inputs into microfoundational processes in running an alliance, as well as in modeling that assumes bounded rationality, and that incorporates assumptions about how the other side will react to developments based on their culture or nationality.

Interpartner Trust and Culture

The alliance literature has long addressed issues of trust and cultural differences, which can be the root

of creative tensions, as well as sources of conflict that lead to an individual alliance's demise. Other research posits that alliances allow firms to skirt or diminish the cultural integration challenges presented by international M&A in the first place (e.g., Kogut & Singh, 1988). Conflicts of various types represent an important theme in earlier alliance research (Shenkar & Zeira, 1992) and it would be important to provide renewed emphasis on conflict during the evolution and termination of alliances. In particular, future research may well devote more attention to dispute resolution mechanisms (e.g., alternative dispute resolution mechanisms, or ADRs such as arbitration or mediation). Partners can adopt these remedies to conflicts at the outset or employ them *ex post*, and research might consider their relation to specific private ordering mechanisms (e.g., administrative committees with casting votes, veto rights in boards of directors), which are becoming increasingly sophisticated and tailored to particular types of disputes that emerge between collaborators. Whether and how partners address incipient disputes before they occasion the termination of the relationship, or lead to litigation, would be worth investigating. This is another example where corporate practice has outstripped scholarly research.

Chapter 24 by Shenkar is a critical review of the way in which cultural variables have been used in strategic management studies, especially in examining alliances. He is critical of the plethora of studies that operationalize the cross-cultural variable by gross, aggregate, or macro measures such as "cultural distance" that he considers inadequate to capture the nuances needed in alliance research, since alliances are a confluence of distinct cultures at the national, corporate, and professional levels. Shenkar cites several avenues for needed further research. For example, in international partnerships which of the two national cultures are better for meeting the alliance's objectives (Killing, 1982)? The author cites a further complexity relating to the role of bicultural managers. Leung, Wang, and Smith (2001) as well as Salk and Shenkar (2001) found that bicultural managers were not necessarily more effective in cross-border alliances than their single-culture counterparts. Cultural differences are more often seen as

obstacles, but they can actually confer benefits on an alliance. Exploration of possible benefits of cultural differences could provide a fruitful field for research (Stahl & Tung, 2015).

Ertug, Cuypers, Noorderhaven, and Bensaou in Chapter 23 address the perceived satisfaction or assessment of overall JV performance, which has been widely studied using psychometric measures (e.g., Ariño, 2003; Geringer & Hebert, 1991; Krishnan, Martin, & Noorderhaven, 2006). However, in international joint ventures (IJVs) such perceptions are further complicated by how managers preconceive or rate the culture of their alliance partner nation, in general, as well as the personnel of their partner that they interact with. The authors describe this as "presumptive trust" that tracks managers' general preconceptions or stereotypes, categorizing the country of their IJV partner. On the other hand, "reflective trust" is based on actual prior experience with a partner (Ertug et al., 2013). Their study gathered data from managers of forty-five IJVs, from twelve different focal groups. Satisfaction with IJV performance was correlated with reflective trust, or the actual past experience with a particular partner. However, the study's interesting finding was that, *ceteris paribus*, high levels of presumptive trust, based on preconceived high expectations of the other partner's home nation, was negatively associated with satisfaction. In short, excessively high expectations regarding a partner's country may have led to deflated hopes and lower satisfaction levels in IJVs.

Distribution of Benefits and Costs Accruing to Each Partner

A research area that has received very little attention is the determinants of the actual *ex post* distribution of benefits and costs accruing to each partner. To determine the level of overall performance or satisfaction derived from an alliance relationship is complicated enough a question. But each partner, after all, is ultimately interested in their *share* – the capture of *their share of the benefits* versus *their costs*. There are very few papers tackling the question of the net

appropriation of each partner, with exceptions such as Adegbesan and Higgins (2010), Contractor and Woodley (2015), and Dyer, Singh, and Kale (2008). Luo (2009) tackled the issue of “procedural justice” in IJVs and found large gaps in perceptions of fairness of outcomes between Chinese and foreign partners. This connects with Hennart’s reconsideration of Transaction Cost Theory (Chapter 4) further eroding the notion that an EJV aligns incentives, in the sense that the shareholding percentages will constitute a reasonably fair allocation of benefits and costs devolving on each partner.

Academics have been slow to grasp a fact (long known to practitioners) that alliances are not necessarily single-strategic-purpose creations. Instead, increasingly, many alliances encompass a bundle of objectives (Contractor & Reuer, 2014). A single alliance could be (i) an equity joint venture, (ii) with a side licensing agreement between the EJV and one of the principals, and also (iii) have yet another supply chain agreement between the EJV (as buyer or seller of components or finished goods) and one of the principals. The trade-offs between equity share (α), running royalty (r), per-unit supply chain profit markup (m), and front-end lump sum payment (L) are nonlinear and non-zero-sum (Contractor & Ra, 2000) – which complicates *ex ante* negotiations, and results, *ex post*, in a distribution of rewards, costs, and risks that can be dramatically different from the nominal EJV shareholding percentages.

Moreover, there is virtually no research on the behavioral implications of the multiple compensation channels – or how the postformation incentives for shirking, opportunism, and engagement vary depend on the four channels of compensation (α , r , m , and L) faced by each partner. Even simple modeling shows, for example, that emphasis on the licensing royalty portion of the compensation bundle produces a larger sales optimum, than is desired if a partner draws only on the dividends or equity share of the bundle (see the appendix to Contractor & Woodley, 2015). Hence, there is an in-built potential structural disagreement about end-product market expansion between the partner that earns a share of EJV profits versus the other that earns a share of EJV profits plus the royalties. Similar “structural” conflict potential also exists

over the transfer price markup when the alliance buys or sells to one of its principals (Contractor & Reuer, 2014).

Conclusion: Where the Alliance Field Goes Next

The starting premise of this volume, and the conference that led to its development, was that considerable theoretical, empirical, and methodological progress has been made in alliance research over the past three decades. The alliance literature has theoretical foundations that are without a doubt much sounder today than in the 1980s. This literature has since drawn upon multiple traditions within the economics discipline as well as the sociology field, for instance. The quality of data and its level of detail is much higher today. Methods are more sophisticated. For instance, there is widespread appreciation of sample selection concerns that might afflict studies focusing on realized alliances or deals of a particular type, as well as how endogeneity concerns might amplify or attenuate relationships of interest between alliance investment or governance decisions and various outcomes (e.g., innovation, knowledge transfers, etc.). Less attention has been given to certain methodologies than others (e.g., agent-based modeling), but it is hard not to marvel at the progress and insights that have been made.

At the same time, we would challenge the conclusion that the literature is “mature” in the sense that there no longer remains considerable scope for meaningful advances. On the contrary, this introductory essay, and other chapters, have identified many areas which cry out for additional research on issues that are fundamental to an understanding of alliances.

We need to know much more about the individuals, teams, and leaders involved in collaborations. Today we have a much keener understanding of the micro-analytics of alliances in terms of contracts and governance, but considerably less is known about the human dimensions of collaborations. We find it especially striking that scholars in organizational behavior, psychology, and human resource management haven’t leapt into the alliance literature

to contribute as it has taken off. The questions are as interesting as they are understudied, and here we merely provide a few examples, as scholars outside this research tradition: What types of leadership are appropriate for what types of alliances? Should leaders and styles of leadership change during the course of alliance contracting, execution, evolution, and eventual termination? How do alliance teams that span organizations differ from other types of teams, such as virtual teams? What happens to the careers of alliance managers after a stint in a collaborative agreement? How are, or should, they be compensated and rewarded? What is the relationship between the mobility of technical or managerial personnel and alliances? What is the role of personality traits, values, or cognitive styles for alliance managers? In short, a pressing need exists to do research on the microfoundations of collaboration.

Greater attention is also needed on the informal aspects of alliances in the context of “incomplete contracts.” The initial alliance contract is written by a limited set of individuals who are boundedly rational and likely prone to any number of decision biases, whereas the subsequent operation of the alliance draws on much larger interpersonal networks within firms as well as external to the firm, comprising individual managers, executives, and technical personnel. Moreover, both networks are intertwined. A more behaviorally informed research agenda on alliances needs to draw upon new theories from psychology and behavioral economics. This emphasis could help account for socio-cognitive factors that have been neglected in alliance studies and lead to more realistic behavioral assumptions in future research. Moves in such directions might also use the null hypothesis provided by more rational models of agents setting up and managing collaborative agreements. A distinguishing feature of alliance research and the many conferences on the topic over the years is the field’s embrace of a multidisciplinary approach, and such research opportunities would continue this tradition in exciting new directions.

As stated earlier, it has only been in recent years that the actual texts of alliance agreements have been available to researchers. This provides an opportunity for fine-grained analysis not available in the past. Research, for example, could look at a

virtually neglected issue: the fact that many alliances are a “bundle” of arrangements, and interpartner compensation channels, comprising an EJV (share of profits “ α ”), a side agreement for technology licensing (one partner or the EJV pays a royalty “ r ” to the other), and some also include a supply chain arrangement (e.g., the active pharmaceutical ingredient sold with a profit markup “ m ” to the other ally or EJV). Apart from Contractor and Ra (2000) which was a simulation model, there has been no investigation of the ex ante trade-offs between profit share α , royalty rate r , and transfer price profit markup m , to say nothing about implication of different mixes of α , r , and m , on the ex post behaviors of the allies.

The topic of ex post alliance dynamics or termination is an interesting and important one, albeit one that has often been raised in calls for research over the years. This likely reflects the fact that these topics are more difficult to theorize upon and study with traditional research techniques. The recombination of firms in the M&A market and bundling and rebundling of capabilities and people (e.g., scientists) suggests a need to divest alliances, switch partners, and make adjustments along with changes occurring in internal activities. Governance and broader changes within alliances coupled with changes outside the alliance itself (e.g., in firms’ competitive positions, clusters, and industry structures) are both at work. Unpacking these contingencies and choices underlying alliance evolution appears to be especially challenging.

As alliance research examines multiple dimensions of formal governance, relational supports, and other factors that might shape the efficiency of alliances (e.g., firm capabilities and technology), it would be worthwhile to examine potential trade-offs between these determinants of alliance success, potential interactions, and boundary conditions. Research in such directions could lead to a better appreciation of the equifinality of these aspects of alliance governance and management using a configurational approach as well as models that accommodate multiple levels of analysis at once. For instance, qualitative comparative analyses, ethnographic research, hierarchical models, and simulations are research methods that could be valuable for such research that must contend with

multiple elements that interact, and do so over time.

As a final example of a broad theme for future studies, research on alliances might increasingly adopt an “inside out” rather than “outside in” perspective. That is to say, much research over the years has examined how many factors within partners, industries, clusters, etc. influence alliances (e.g., motives, entry mode choices, governance, management, performance, and so forth). Considerably less has done the opposite – taken alliances as the “independent variable” and studied how alliances influence other business phenomena of interest to scholars in international business and strategic management. This approach therefore takes the opposite perspective in asking how alliances influence postmerger integration, resources the firms obtain via other means (such as venture capital or IPOs), the emergence of new strategies and structures, and so on. This inside-out perspective holds considerable promise in connecting alliance research with other streams of work in strategic management and international business that have hitherto not been joined. It therefore would build greater bridges between the alliance literature and the core of these fields as well as the frontier topics that are developing in them.

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APPENDIX TO CHAPTER 1

The Organization of the Book and an Overview of the Chapters in this Volume

To give readers a quick overview of the contents and organization of this book, this appendix contains extended summaries of each chapter. These extended summaries are intended to give a more substantive picture of the contents, as well as highlight the future research directions suggested by each chapter, in a manner that 200-word abstracts cannot cover. The introductory chapter by the editors, and contributions in the eleven parts of this volume are also guideposts to future research themes that the alliance field may fruitfully explore.

Part I: Theory and Future Directions in Alliance Research

Chapter 1: Frontiers of Alliance Research

Contractor & Reuer

The opening chapter is a comprehensive review of the important strands of research on corporate alliances. It identifies many subjects for further research in a field where several questions remain unanswered, or only partially investigated – subjects which represent fruitful areas for academic research. This review is intended as a valuable guide for researchers.

“Alliances” are defined here as any cooperative undertaking (for specific strategic goals, between two or more companies) between the extremes of spot contracts and merger. This includes equity joint ventures, contractual alliances, and networks as organizational forms.

The alliance field is far from mature partially because the actual texts of agreements have only become available to scholars in recent years. Now scholars can probe the anatomy of alliance agreements in fine detail not hitherto available. For the first fifteen years of the field, scholars had to be content with summaries or abstracts from news-collating services, or from survey responses, or from direct contact with companies, which did not necessarily result in reliably comprehensive

samples. Hence, only broad-brush categorizations (such as equity joint ventures versus nonequity) were possible.

The opening chapter also provides an overview of this volume which is organized into eleven parts, each representing a subfield.

Chapter 2: Understanding Contracting Behavior: The Role of Power

Raveendhran, Xing, & Mayer

This chapter identifies a neglected research area, namely the role of relative power between the parties in an alliance, which affects contract design, the likelihood of contract breaches, and how later breaches can be handled. Specifically, following on recent literature (e.g., Weber, Mayer, & Macher, 2011) the authors suggest a greater focus on behaviors and cognition as they apply to power relationships in alliances.

Property rights theory focuses on the allocation and exercise of rights in alliance relationships, whereas Transaction Cost Economics (TCE) is more concerned with safeguards against what one of the partners may consider a breach or opportunism by the other. Moreover, TCE does not explicitly treat the power imbalance between contracting parties (Williamson, 1991a, 1991b, 1995). The authors note that in an alliance agreement, “safeguards themselves are crafted and negotiated ex ante by parties having different levels of power.”

The chapter draws from venerable but useful past works. Emerson (1962) indicated that power stems from (i) the value the other contracting party places on expected outcomes, as well as (ii) alternatives available to each negotiating party – neither of which apply symmetrically or equally to each of the parties. French and Raven (1959) suggest that there are five sources of power:

- (1) reward power (e.g., the lure of future business that one partner offers the other or to the joint venture);
- (2) coercive power (e.g., the power to punish or sanction the misbehaving partner);
- (3) legitimate power (or legal enforcement strength);

- (4) expert power (e.g., one party holds proprietary technology, knowhow, or patents the other desires);
- (5) referent power (i.e., the prestige, brand, or reputation and network connections one partner would make available to the other).

The chapter lays out a theory foundation on which needed empirical work can be done, examining how asymmetrical power relationships affect contract design (e.g., the length of the agreement, the numbers of contingencies or real options in it), the likelihood of contract breach, and the likelihood of restoration of the alliance after a breach and the means of its restoration.

Chapter 3: Rationality in Theoretical Modeling of Collaborative Ventures

Chi & Seth

This chapter comprises a comprehensive review of an area of alliance research into which only a few scholars venture, but one that can yield many new insights. It covers the mathematical modeling and simulations of alliance negotiations and management that the authors group into four types: (i) standard optimization models, (ii) game theoretic models, (iii) real option models, and (iv) agent-based models.

Standard optimization models assume that the alliance partners seek to maximize their own profits (or net present value) and/or joint profits, subject to an overall constraint such as market size and growth, regulatory restrictions, or input limits. For example, alliances may have multiple types of payments between the partners, including running royalties, profit-sharing, and supply chain markups. Optimization models show how varying the mix of payment types, as well as the planned time horizon of the alliance, affects each partner's profits as well as post-negotiation behaviors such as shirking, opportunism, termination, or renegotiation (Contractor & Ra, 2000). Similar modeling has been done using the lenses of property rights (Grossman & Hart, 1986; Hart & Moore, 1990). Generally, standard optimization models assume perfect rationality on the part of alliance negotiators, which may either be a too stringent or an unrealistic assumption.

Game theory models (originally developed by Nash, 1951; von Neumann and Morgenstern, 1945) are usually multiperiod or sequential iterations of move and countermove by each of the alliance partners. Such modeling can target a joint objective or selfish individual partner objectives. The modeling can allow for perfect memory of past moves or imperfect recollection and can be cooperative (based on binding commitments) or non-cooperative. The authors conclude that “game-theoretic models that are most applicable to the study of alliances tend to assume a noncooperative positive-sum game with imperfect and incomplete information.” For example, Chi (1996) illustrated a (Nash equilibrium) negotiation game between two partners under imperfect input measurements, building on Contractor’s (1985) joint venture optimization modeling.

Real option models imply a strong assumption, or at least a degree of rationality and foresight, as to possible future contingencies that may occur in an alliance. In the extreme case, this modeling assumes that each negotiator can envisage the complete evolutionary path of the relationship and is able to assign probabilities to each decision point in the future. Such models can quickly become too complicated to analyze without simulations or contingencies such as whether divestiture or abandonment is economically sensible (Chi & McGuire, 1996), or how the value of an option depends on the growth of each partners’ capabilities (Chi, 2000), or how changing partner behaviors alter the total value of the alliance (Chi & Seth, 2009).

Agent-based models assume that alliance personnel or negotiators are both selfish as well as shortsighted in the sense that they can see only a few moves or contingencies ahead into the future. There have only been few publications based on these assumptions, for example (Aggarwal, Siggelkow, & Singh, 2011) or Martynov and Chi (2015) who show how asymmetry in partner interdependence alters decision-making.

As a managerial prescription, the authors assert that modeling and simulations could be very useful to companies, to refine the negotiation and management of alliances. If firms can combine their executive negotiators with

mathematicians, computer simulation experts, and psychologists, that could greatly improve the crafting of each alliance agreement and its success. Psychologists would be useful members of a strategy or negotiations team because they can provide inputs into the modeling that ranges from limited rationality to partial or bounded rationality, and provide assumptions about how the other side will react to developments based on their culture or nationality.

For scholars, the authors mention three potentially fruitful avenues for further research. First, they suggest use of a relatively recent methodology developed by Yuliy Sannikov, who won the 2015 Fischer Black Prize and the 2016 John Bates Clark Medal in economics (e.g., Sannikov, 2007, 2008; Sannikov & DeMarzo, 2006). Their second suggestion for future research is cross-checking the recommendations of modeling with actual empirical observation of alliances. Their third is for greater use of psychological and behavioral assumptions in the models and simulations.

Chapter 4: The Transaction Cost Theory of Equity Joint Ventures: Past, Present and Future

Hennart

In this chapter Hennart revisits his 1988 article (Hennart, 1988), one of the first to outline the necessary and sufficient conditions for equity joint ventures (EJVs). The author identifies the main theoretical contributions of the article, updates the argument, outlines its implications, responds to possible objections, and suggests areas for further research.

A firm that wants to perform a task can either do it itself or contract with another firm. A EJV is a governance structure where a firm chooses (i) to perform the task itself (integration) rather than contract for it, and (ii) to perform it with one or more other firms (joint integration). Transaction Cost Theory explains that firms will integrate when the markets for what they seek are inefficient, due to small number conditions and information asymmetry (Hennart, 1982). Joint integration occurs in two cases: when two or more firms need

to vertically integrate into an activity, but the minimum efficient scale of that activity is larger than what they need (scale EJVs); and when they need to pool complementary resources and the markets for these resources are inefficient (link EJVs).

Under what conditions can joint integration (i.e., EJVs) be superior to contracts? Hennart argues that the main difference between the two is that in contracts cooperating firms are paid *ex ante*, while in EJVs they are rewarded *ex post* from what is left after all *ex ante* contracts have been settled, i.e. from the profits of the venture – the residual; this is efficient when it is difficult to define and measure precisely *ex ante* what the cooperating parties must contribute and how much they should be paid. Instead the parties can agree *ex ante* on a rough division of the *ex post* rewards (the equity shares). That division is not meant to precisely reward their yet unknown contribution, but instead to motivate them to contribute to the project.

The chapter outlines some of the theoretical implications of the 1988 model. First, it provides a theoretical definition of EJVs: EJVs are residual-sharing agreements, alongside partial acquisitions, partnerships, sharecropping, and production sharing. This in contrast to most other authors who have clung to the legal – and a-theoretical – definition of EJVs as separate legal entities jointly owned by parents. Second, Hennart illustrates how the model can be made dynamic. He also shows how the potential problems of EJVs (free riding, goal conflict, holdup, spillovers) derive from their very advantages. For example, the vague *ex ante* definition of parent contributions, which is useful if they are then difficult to define, makes it also possible to free ride *ex post*. Understanding the fundamental source of EJV problems is crucial to distinguish those which are specific to EJVs from those inherent in any form of cooperation. Fourth, the model has implications for the analysis of modes of entry: high transaction costs in the market for the intangible the entrant seeks to exploit are not a sufficient condition for choosing wholly owned affiliates over EJVs. The entrant must also be able to access the complementary inputs it needs to operate in the target market. If it is unable to access them on efficient markets, it will need to joint venture with

the local firms that control them. The crucial variable explaining ownership modes is therefore the efficiency of the market for complementary inputs in the target country (Hennart, Sheng, & Pimenta, 2015).

Hennart concludes with a plea to go beyond the division of equity and to look at other aspects of EJV structure, for example at how EJV contracts deal with goal conflicts, free riding, holdups, and spillovers; and whether the predictions of the model as to which structures are efficient can account for EJV performance and survival.

Chapter 5: Using Alliances to Test Core Theories of Strategic and International Management: The Case of the Resource-Based View

Martin & Park

This chapter is a theory essay about how alliances can be used to test the assumptions and predictions of the resource-based view (RBV), whose core proposition is to specify conditions under which certain types of firm-specific resources lead to enhanced performance (e.g., Barney, 2001; Hoopes, Madsen, & Walker, 2003). But to actually test the RBV is difficult. The authors identify three methodological problems: (i) the problem in identifying key resources (Makadok, 1999), (ii) measuring these resources (Collis, 1991), and (iii) disentangling the effect of added resources on performance from changes in the external economic environment.

The chapter proposes, however, that alliances provide a natural experiment with fewer methodological issues, by tracking the marginal resource contributions from an alliance leading to subsequent marginal effects on performance. The authors acknowledge that methodological problems will remain (albeit they will be fewer in the alliance context than in more broad-based studies). However, when an alliance is undertaken or formed, it is rather easier to identify and measure its revenue enhancement and/or cost reduction potential, and the rareness and inimitability of resources brought in, compared with other broader studies such as mergers and acquisitions, and product or international diversification.

Part II: Alliances in the Context of Rapid Technological Change and Disruptions

Chapter 6: Responding to Digital Disruption through Alliances

Doz & De Roover

The authors tackle an interesting question: How should alliances 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 should 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 the governance clauses, rather than being specific, should focus more on building trust, transparency, and fairness – in brief, a greater emphasis on process rather than structure.

Companies facing digital disruption should emphasize rapid-response capabilities, and be far more willing to be flexible, since the future is opaque. Hence, an alliance designed with low exit barriers, a greater tolerance for failure, a loose organization, and a recognition that the value appropriation/value contribution balance for each partner can rapidly shift over time, is needed. In all alliances, but particularly those facing a more nebulous industry future, the question of how the net benefits of the partnership are distributed over the allies, becomes a key issue (Contractor & Woodley, 2015). This also requires leadership that is diplomatic, disinterested, and willing to build trust by conceding points so that the other ally derives a satisfactory net benefit from participation in the collaboration.

Chapter 7: Performance Differences of Jointly Owned Firms in the US Electronics Sector

Harrigan

In rapidly growing sectors like electronics, whose end applications also are very diverse (for example, the same software may be applicable in household appliances, but also in military hardware and automobiles) collaborations – across and within sectors – are especially useful, or imperative for rapid market introduction and competitive advantage. The long-standing argument in favor of interfirm cooperation is that synergistic combination of resources from more than one firm extends overall scope and capability beyond what each single company can muster on its own (Contractor & Lorange, 1988; Doz & Hamel, 1998; Harrigan, 1988).

If such strategic success is indeed the result, then we should be able to find data that prove that joint venture firms (JVs) are more profitable than comparable single-owner organizations (Li et al., 2008). (In contractual alliances, while they outnumber JVs, the contribution of the alliance to overall profitability is subsumed in each firm's overall profits and therefore cannot be measured.) However, recently, we do have data available on the profitability of JVs which we can compare with single-owner companies in the same sector.

The author assembled 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 JVs should also be manifested in more intense patenting by JVs compared with single-owner firms (Harrigan, 1988).

The study's results confirm 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.

The author implicitly raises a question deserving of further research. 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." Is the implication of this statement that the principals in these joint ventures contributed assets that were not recorded as assets of the JV firm itself? As opposed to contractual alliances, JVs are intended to be of long duration, and the cooperating principals would be motivated to voluntarily contribute assets such as personnel, laboratories, equipment, and expertise from their individual resources, without necessarily recording them as contributions or assets of the JV itself. If so, the ROA measure for JVs could indeed be higher because the denominator of the ROA ratio is lower. This is an intriguing question warranting further investigation.

Part III: Microfoundational Processes and Coordination between Partners

Chapter 8: Learning to Coordinate in Alliances: Toward a Microfoundation Framework

Andreu & Ariño

This chapter provides a novel perspective on alliances by proposing that coordination protocols, at the micromanagement, or daily operational levels of a collaboration, are critical to success and to realizing the alliance's full potential. Previous studies have focused on 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). However, insufficient attention has been paid by scholars to the microfoundation level of alliance coordination (Gulati, Wohlgezogen, & Zhelyazkov, 2012).

The authors propose that the basic outlines of task coordination and division of labor may be laid out at the start of an alliance (Gerwin, 2004). However, these are typically preliminary and incomplete. It is only after a period of time, after operating the alliance, that partner companies establish more detailed coordination mechanisms to address operational needs. Coordination

problems cannot be resolved in full ex ante (Schreiner, Kale, & Corsten, 2009).

The chapter presents a useful progression from individual skill sets in alliance personnel, to routines that sequence or coordinate activities of individuals, to knowledge components that are known to subsets of alliance personnel, to an overall coordination scheme comprising collective knowledge shared by all personnel whose capabilities and routines are to be combined (Andreu & Sieber, 1999).

The authors present the case of AISBE (Àrea Integral de Salut Barcelona Esquerra) in the Catalan Health Service, an alliance created in 2005 in response to the inefficiency and fragmentation of the public health-care service, when a number of providers underserved the population's health-care needs in a rather uncoordinated fashion. The alliance was aimed at better utilization of health-care assets, reduction of patient wait-times, and greater coverage.

From the case study, the authors propose a generalizable research agenda to examine, in other alliance settings, which learning paths, routines, knowledge pieces, coordination schemes, and control constructs work best. Another area of research the authors propose is documenting the actual process of learning and mutual adjustment, which yields coordination schemes for various types of interdependencies, and in general, how coordination schemes that are useful in one alliance may be redeployed in others, in order to broaden our understanding of alliance management capability (e.g., Wang & Rajagopalan, 2015) at the microfoundation level of alliance coordination.

Chapter 9: Social Psychological Foundations of Alliance Cooperation: The Role of Identity and Identification in Shared Alliance Interest

Poppo, Schloemer, & Rogers

Two broad streams in alliance studies relate to "structure" (the composition of agreements and governance mechanisms, e.g., Makadok & Coff, 2009; Oxley, 1997) and "relationships" (focusing on trust, coordination, forbearance and so on, e.g., Gulati, Lavie, & Singh, 2009; Poppo & Zenger,

2002). A good relationship between the allies that transforms the self-interest of managers and their identification with their own firm into an equally strong identification with the alliance (Ashforth, Harrison, & Corley, 2008; Cooper & Thatcher, 2010), is a desirable goal or end. But the means by which that end can be achieved, or fostered, has been insufficiently treated in the literature.

This chapter lays out a process by which a shared alliance group identity can be developed. It describes the critical role of top managers occupying leadership roles, who need to continuously emphasize the importance of the alliance, its goals and purpose, and endorse the group of managers who constitute and run the alliance (Gavetti, 2005). Second, alliance leaders need to encourage and monitor processes of interactions between managers from the alliance partners for joint tasks, while highlighting alliance group identity. The third observation or recommendation of the chapter is to establish basic norms for joint meetings and minimize interpersonal conflict. The leadership of the alliance may encourage the sharing of tacit knowledge, when appropriate, so as to create a climate conducive to joint problem-solving and even joint development of intellectual assets in the alliance.

The overall goal is to foster behavioral and relational norms whereby the number of issues that inevitably arise in alliances – issues which cannot be covered by contract specification or structure – can be harmoniously handled through these relational norms (Macneil, 1977). When this is done, alliance performance is enhanced, which provides a feedback loop leading to further reinforcement for the development of the relationship.

Chapter 10: A Multilevel Framework of Alliance Management: The Paradox of Cooperation

Cui

This chapter tackles an ongoing central dilemma in alliance relationships, namely the leakage or osmosis of knowledge and capability from one partner to another. This can ultimately alter the balance of contributions made by each ally, as well as their bargaining “power balance,” resulting in the

perception that one partner is not contributing enough, or is not needed anymore.

The author takes a microfoundation approach, focusing on the role of individual managers as the interface between dyadic allies, or as network agents (Berends, Van Burg, & Van Raaij, 2011; Moliterno & Mahony, 2011; Paruchuri, 2010). Individual managers feel the tension between loyalty to their home company (i.e., competition) and loyalty to the alliance or joint project (i.e., cooperation) (Das & Teng, 2000; Park & Ungson, 2001). This psychological tension results in ambivalence and role conflict in the minds of alliance managers (Raza-Ullah, Bengtsson, & Kock, 2014), which influence their problem-solving ability during the collaborative process. The tension is worse when knowledge is ambiguous (Orlikowski, 2002). It is less felt or severe for senior alliance managers than for operational managers, and also less intense if managers are prepped in advance, or are schooled about this inevitable issue that occurs in alliances.

The author further integrates these individual-level dynamics with organizational-level mechanisms to develop a multilevel framework that illustrates how the behaviors of individual managers may contribute to alliance-level outcomes and how they are influenced by organizational-level factors.

Part IV: Alliance Management Capability

Chapter 11: The Evolution of Alliance Capability in Large Organizations: The Case of Alliance Management

Dhanaraj, Lyles, & Steensma

Alliances are a crucial part of business, especially in rapidly changing high technology areas such as biopharmaceuticals. For such companies, alliance management capabilities are a crucial portion of the overall dynamic capabilities of the firm. Kale, Singh, and Perlmutter (2000) showed that organizations with a corporate office of alliance management (OAM) had superior alliance outcomes and performance.

This chapter covers a case study of a large pharmaceutical company that initially did not have significant alliances. In the early 1990s, Lambda-Zeta

had very little focus on alliances and was generally perceived as weak in alliance capability. Prospective partners found them unattractive. Creating a corporate OAM, with clout and legitimacy conferred by top management enabled this company to be one of the most successful in the pharmaceutical business.

Managing alliances over several therapeutic (product) areas with partners from many nations and subsector backgrounds poses a challenge to any firm's internal processes, especially when the rate of technical change is high. Each alliance demands new work procedures with initially unfamiliar partners. But alliances are critical in this business.

The focal firm, being a large multinational spread over various several therapeutic areas, nations, and business groups, faces the danger of knowledge being compartmentalized into silos or "honeycombs" (Szulanski, 1996). On the other hand, each alliance covers a specific developmental, production, or marketing task (Miner, Bassoff, & Moorman, 2001). Knowledge needs to flow across the partner firms, horizontally across the focal firm's functional groups, as well as vertically. Flow-management, intermediating or brokering, and coordination tasks across organizational units are best handled by an OAM. Given sufficient clout and mandate by top management, the OAM also acts as a change agent and knowledge catalyst in the entire organization.

An OAM also acts as a repository of dynamic capability memory. In this company, as in large pharmaceuticals, drug development cycles can take over a decade (a long cycle) while at the same time alliances may be more specific and short term. Choi and Contractor (2016) show how over the prolonged drug development cycle, a firm may have one partner for basic development, another for Phase I and II trials, and perhaps yet another partner for the mass trials in Phase III covering thousands of subjects in many nations. The OAM has to coordinate and carry corporate capability memory over both the long cycle as well as the shorter cycles of each alliance.

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. This is a dynamic capability according to Prieto and Easterby-Smith (2006). In this case study, the OAM disseminated knowledge by organizing formal seminars, discussion groups, and show-case 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 or memory for routines (Nelson & Winter, 1982), through its databases, as well as seminars, lunches, and meetings.

An OAM also functions as a setter of strategic and operational standards for all of the company's alliances, and then as a monitor of each alliance's processes and performance (Argote, 1999; Argyris & Schon, 1978).

Finally, the dynamic capability development role of an OAM cannot work without it being seen throughout the company as a change agent authorized by the highest levels of the company. CEOs of this company used internal forums and speeches to legitimize the role of the OAM.

Chapter 12: Strategic Animation in Global Professional Services: A Case for Virtual Integration Processes in Network Organizations

Koza & Tallman

Among the varieties of international collaborations are 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 or other considerations. This is useful in cases where the client is a multinational company requiring services in other foreign nations where the referring firm has weak or no representation themselves, or where the standards and accounting systems of the other nation are different, or where nationalism or protectionism biases service jobs toward local providers.

Nexia International, incorporated in Holland, has 120 affiliates or members worldwide, and functions in ways similar to Ouchi's (1979) clans. An International Council has democratic representation from each member firm, whether small or large. Each firm operates independently within its own country. International referrals and sharing of accounting knowledge and innovations are the principal incentives for membership.

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 – 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 personal links that keep each member accounting firm within the network – as long as the benefits to each network member firm exceed the costs of its membership. The authors describe the delicate central management of the network as “Strategic Animation” which provides incentives and a common purpose to all members, and encourages innovations which are then shared across the network (Tallman & Koza, 2016).

The Executive Director, who travels 70 percent of his time, is a key actor facilitating communication, transfer of knowledge, and handling of 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.

Chapter 13: The Organizational Design of the Alliance Management System: A Contingency Perspective

Hoffmann, Knoll, & Wörner

Despite the usually high rate of alliance instability and failure, some firms continuously outperform their peers in managing interfirm collaborative relationships. These firms are said to have developed superior alliance capabilities (AC) (Kale & Singh, 2009). To rectify existing shortcomings in the field of AC research, the authors introduce the concept of the alliance management system (AMS). This framework organizes and regulates a company's alliance management activities and is comprised of “institutions,” “processes,” and “tools.” The actual configuration, described along the four design parameters of “centralization,” “specialization,” “standardization,” and “formalization,” is proposed to be contingent upon a set of firm-internal and firm-external factors. The authors deployed the developed framework to analyze the alliance management practices of eight large European corporations, each possessing a substantial number of alliances. While each of the eight firms studied had implemented dedicated units or positions, standardized processes, and developed formalized tools for alliance management, the specific configuration of the AMS varied greatly among the companies. These variations could be attributed to specific contingency factors and interdependencies among the individual design parameters. The configuration of a company's AMS ultimately determines its AC.

The study's findings suggest three avenues for future research. First, owed to the cross-sectional research design, no intertemporal developments of the AMS could be observed. One would expect, however, that the design of the AMS systematically changes over time and as a response to accumulated alliance experience. Future studies should therefore deploy longitudinal research designs to explore these developments. Second, insights into the relationship between configurational choices of the AMS and firm performance are needed. Third, even though the authors were able to identify consistent relationship patterns between design choices and contingency factors, external validity

of the multiple case study approach is limited. The authors therefore call for quantitative studies to validate the developed propositions.

Part V: Alliance Scope

Chapter 14: Alliance Scope: Theoretical and Empirical Perspectives

Lioukas & Reuer

Until recently, the examination of alliance scope was limited to few studies that, for the most part, treated functional scope in alliance agreements as affecting opportunism such as knowledge spillovers.

Overall, the field seems to have a consensus that the broader the functional scope of an alliance, the greater the likelihood of opportunism. In particular, empirical evidence converges on the core idea that a partner's ability to misappropriate knowledge increases in alliances with broader functional scope. The chapter's review of the subject, however, shows a more nuanced and complex situation. It identifies questions for future research that defines scope not only in functional terms, but also in terms of geographical and product scope (e.g., Jiang & Li, 2009; Li et al., 2008; Oxley & Sampson, 2004). Moreover, there are different types of opportunism in alliances. The theory development and propositions in the chapter suggest that a broader alliance scope could also increase incentives for cooperation, mutual gain, and may reduce opportunistic behavior in certain circumstances. It also identifies key contingency factors that may shape the relationship between alliance scope and different types of opportunism.

The authors 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)."

Finally, how the definition of scope in an alliance agreement affects value creation and the distribution of shares of the net benefits over the

partners, is an almost unexplored area. Only a few studies such as Jiang and Li (2009) and Oxley and Sampson (2004) have suggested that a broader alliance scope can allow the development of superior products in less time, in a joint R&D context.

Since the magnitude of alliance scope can influence both value creation as well as negative aspects such as shirking and opportunism, exploration of the net effect of alliance scope in different contexts can be a useful area for further studies.

Chapter 15: The Effect of Alliance Scope on Knowledge Flows

Giura, Hasan, & Kumar

In R&D alliances, a sensitive but key question for negotiators is how narrowly or broadly they should define the technological scope of the agreement (Somaya, Kim, & Vonortas, 2011). 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).

In this chapter the authors examined how post-formation knowledge flows in 667 R&D partnerships were affected by the scope of their agreement. In their empirical work with data drawn from the SDC (Securities Data Company) database, they counted patent citations across the partner firms, ten years before, and ten years after the alliance – distinguishing between citations that fell within the alliance scope as well as those that fell outside the alliance definition. After Mowery, Oxley, and Silverman (1996), the authors hypothesize an increase in patent cross-citations after alliance formation, within the defined technological scope of the alliance. They also measure the pre-formation technological overlap between the partner firms and the alliance experience of each.

For the average alliance dyad, the results show a tenfold increase in knowledge flows within the alliance scope definition, with prior alliance experience, and technology overlap increasing within-alliance-scope flows even more. Spillovers outside the defined scope occurred in less than 25 percent of cases, supporting the hypotheses. This shows that negotiators can indeed contractually

delimit the interactions across the boundaries of their firms and constrain them to agreed-upon technical domains. However, when knowledge flows did occur outside the alliance scope, they occurred in a big or impactful way.

This is not to claim that the delineation of alliance scope in each agreement was optimal. Ex ante, that is, at the time of writing the initial agreement, the scope may be defined too narrowly and only after the alliance is under way, and the scientists of the partners begin to collaborate and appreciate each other's capabilities, would it become apparent that a change is needed. This is an area deserving further research.

Part VI: Alliance Portfolios and Multilateral Alliances

Chapter 16: Technology Alliance Portfolios and Radical Innovation: The Role of Different Alliance Portfolio Information Processing Mechanisms

Faems, Neyens, Duysters, & Janssens

In sectors with rapidly changing technologies, firms seek complementarities not only from individual alliance relationships, but also assemble “portfolios” of alliances. The 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 the larger the portfolio, the harder is the information processing task of the focal firm.

The authors analyzed survey data from 116 high technology firms and first statistically tested the overarching hypothesis that the relationship between radical innovation performance and alliance portfolio diversity will be inverted U shaped. (Their results only supported a positive linear relationship, or the left half of an inverted U). Second, the study statistically tested how the radical

innovation performance and diversity relationship is moderated by two types of information processing mechanisms, personal and impersonal (Daft & Lengel, 1986; Tushman & Nadler, 1978). The number of personal alliance portfolio information processing mechanisms in the focal firm has no significant effect. However, the number of impersonal information processing mechanisms *negatively* moderated the relationship between alliance portfolio diversity and radical innovation performance.

Chapter 17: Multilateral Alliances: A Review and Research Agenda

Li, Reuer, Yu, & Wu

Previous surveys suggest that multilateral alliances – as opposed to dyadic alliances – constitute 27–55 percent of all alliances. Yet, multilateral alliances have received little scholarly scrutiny. This chapter provides an extremely useful 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 government structures, and performance outcomes. The chapter comprehensively surveys relevant literature since 1995.

The authors define a multilateral alliance narrowly as a collaboration agreement between more than two partners. They exclude loose or implicit networks, consortia, or “portfolios” of alliances held by a single firm, focusing on actively managed multilateral alliances. 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).

Along the temporal line of alliance formation and management, this chapter reviews three themes of research on multilateral alliances. The first is what the strategy drivers for multilateral alliances are. A small number of articles examined important antecedents specifically for multilateral

(versus bilateral) alliances including strategic needs and social opportunities. Yet, accompanying the small number of studies on the antecedents of multilateral alliances is the difficulty in integration of insights because the comparison baseline can be different.

The second theme is the governance structure and relationship management of multilateral alliances. While multilateral alliances enjoy the benefits of a larger resource set and complementarities, their management and governance is also more complicated because opportunism may be more difficult to detect and collectively sanction in the absence of a clear central authority, especially in net- versus chain-based alliances (Das & Teng, 2002; Li et al., 2012). This is partially remedied by having an equity joint venture governance, said to be more prevalent in the former type.

The third theme is the outcomes of multilateral alliances. 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 chapter raises a number of relatively unexplored questions, and therefore proposes a necessary and useful research agenda in a relatively neglected subfield of alliance studies.

Part VII: Multimarket and Multinational Alliances

Chapter 18: Multimarket Competition and Alliance Formation

Amir, Lavie, & Hashai

The association between competition and cooperation has been drawing increasing attention. In this chapter, the authors consider both explicit cooperation via alliances and implicit cooperation via multimarket competition (MMC). MMC refers to the case where the same set of firms compete across

several product markets. As MMC increases, direct rival firms encounter each other more frequently, they can monitor each other's moves better, and retaliate more quickly (Yu & Cannella, 2007). Consequently, past research has suggested that MMC rivals will tend to develop mutual forbearance and avoid making competitive moves against each other, which is considered a form of implicit cooperation (Jayachandran, Gimeno, & Varadarajan, 1999).

This chapter examines how firms engage in explicit cooperation with the aim of reducing competitive pressure associated with MMC. Such explicit cooperation entails forming horizontal alliances – formal relationships that can lower the severity of competitive moves by rivals (Tong & Reuer, 2010). In some cases, an alliance can strengthen rivalry against other firms which are not taking part in the alliance (Silverman & Baum, 2002), so that alliances can be formed with partners other than the MMC rival.

The firm's propensity to form horizontal alliances (dependent variable) is associated with the intensity of MMC (explanatory variable), while firm size serves as a moderating variable. The authors hypothesize that the number of horizontal alliances formed will increase with greater MMC in attempt to reduce the competitive pressure imposed by MMC rivals. However, beyond a certain threshold of MMC the tendency to form horizontal alliances is expected to decline because at such a high level of MMC, mutual forbearance institutes implicit cooperation (Baum & Korn, 1999) that substitutes for the need to engage in explicit cooperation via alliances. The implicit cooperation is more efficient because rival firms are more interlocked, can observe each other's moves and technologies even better, and the consequences of opportunistic behavior associated with alliances become more severe. Hence, beyond a threshold level of MMC, implicit and informal cooperation substitutes for alliance formation. This leads to an inverted-U-shaped (or "diminishing returns" type of) association between horizontal alliance formation and the intensity of MMC. Nevertheless, large firms can rely on their internal assets to deter rivals, and thus engage in unilateral deterrence rather than mutual deterrence. This can

weaken the effect of MMC on alliance formation given that the firm need not resort to either implicit or explicit cooperation in order to cope with competitive pressure (Fuentelsaz & Gomez, 2006). Therefore, the larger a focal firm, the weaker the association between MMC and the formation of horizontal alliances. The analysis of 242 US-based publicly traded firms in the prepackaged software industry over the 1990–2001 period, confirms both hypotheses.

Chapter 19: Profitability of Joint Ventures Abroad: Explaining a New Empirical Puzzle

Gomes-Casseres, Jenkins, & Záborský

The chapter explores an empirical pattern that has gone unnoticed: US multinationals' joint ventures abroad have historically been less profitable than their wholly owned ventures. Majority-owned affiliates in manufacturing earned about a 6 percent return on assets (ROA) from the 1970s to the 1990s, compared to 4 percent for minority-owned affiliates. This pattern held across most industries and regions, though the size of this "JV profitability gap" varied. Surprisingly, since the 2000s, this profitability gap narrowed and even reversed itself in some years, regions, and sectors.

To explain these patterns, the authors argue that both the ownership structure and the profitability of a foreign venture are determined by resources that the multinational brings to the host country and that the gap shows the revealed competitive advantage of US multinationals vis-à-vis local firms. They use current strategy and FDI theory, especially the "asset bundling" lens of competitive advantage (Gomes-Casseres, 2015). In this view, the choice between wholly owned affiliate and joint venture depends not only on the assets held by the MNC but also on the assets of its potential partners in the host country (Hennart, 2009).

The authors extend this research by considering how profitability and ownership structure of a foreign venture result from the resources contributed by the MNC parent and a potential local partner. They develop a theory of profitability, ownership structure, and competitiveness of foreign affiliates that can explain the empirical patterns observed. This explanation combines elements from three

strands of the literature that have developed separately: (i) the economics of project investment, (ii) the theory of the multinational enterprise, and (iii) the resource-based view of the firm.

The authors also consider several alternative explanations, including possible effects of subsidiary size, subsidiary growth rate, host country tax rates, host country policies toward foreign direct investment (FDI), and nondividend payments. Their initial tests suggest that none of these factors explains the profitability gap, though they may contribute to the pattern.

This research uses data from the US Bureau of Economic Analysis (BEA) on FDI by American multinationals. The finding of the higher ROA of majority-owned ventures is consistent with the resource-based view of the firm (its antecedents in Penrose, 1959) and the theory of the firm by Coase (1937). The authors advocate that future research should better integrate the resource-based and transaction-costs views of the firm.

The chapter raises important questions for further research in FDI studies, strategy, and the theory of the firm. And it raises the question of why the ROA gap has closed or reversed after the 2000s. Could it be that the US technological leadership position is being eroded and that local firms are now far more capable than before the 1990s? This is an intriguing and important question for future research.

Chapter 20: Think Globally, Act Cooperatively: Entrepreneurial Partnering between INVs and MNEs

Prashantham & Madhok

This chapter draws attention to alliances between highly asymmetric partners: new ventures and large multinationals. From the point of view of the former, such alliances could facilitate their internationalization process. This chapter examines the nature of engagement between international new ventures (INVs) and multinational enterprises (MNEs) based on an in-depth examination of three longitudinal cases covering a period of three years each in the Bangalore software industry between 2002 and 2011. The following two questions are asked: (i) *How do new ventures engage*

with multinationals in the pursuit of internationalization opportunities? (ii) How is this process influenced by the state of the local milieu?

Two core arguments are made. First, addressing the first, and primary, question, the authors analyzed the entrepreneurial actions that the INV undertook at the INV–MNE interface to deepen its engagement with the MNE in its pursuit of internationalization *and* the corresponding actions of the MNE. In describing three types of INV–MNE partnering – passive, active, and cocreation – the study identifies the importance of a coalignment between the partnering actions of the two actors – MNE and INV – as well as the “effortful” nature of their engagement. Here, given the asymmetrical relations between the two, the burden of such effortful agency lies much more on the smaller partner, on the basis of which they are able to elicit corresponding reciprocal actions by the MNE. The cases in this chapter capture how such agency is manifested in micro-level or behavioral characteristics of the entrepreneurs, such as proactiveness, innovativeness, and risk-taking.

Second, the authors demonstrate that the domestic milieu considerably shapes the innovative capacity and extent of entrepreneurial behaviors of firms: a less sophisticated milieu would be more “barren” in terms of the extent and nature of INV–MNE engagement than a more fertile milieu. Collaboration between multinationals and Bangalore start-ups began with low-end and low-cost software development, followed by them being formally inducted – in the latter cases when the level of innovation increased – into the partner networks of MNEs such as Qualcomm and Microsoft. This gave the Indian new ventures access to the multinational partner’s software platforms and tools, as well as access to diverse knowledge and selling opportunities with the thousands of partners in the multinational giant’s network. The study highlights the coevolution of actors and milieu (Saxenian, 2006): effectively, how a milieu evolves at the macro level is both shaped by as well as shapes the nature of linkages among the actors at a more micro level.

Future research could usefully build on this study by examining the performance outcomes of differing alignments between new venture and

large corporations’ partnering actions across multiple industry sectors, not just the information technology industry which was the context of this study. There is also scope to examine the evolution of a single alliance over a longer period and investigate the trajectory of a new venture in terms of its innovation and internationalization (or more generally, growth) outcomes. Attention could also be paid to the internal organizational dynamics within the MNE in terms of how it engages with new ventures; for instance, it is more likely that a subsidiary would be able to engage more freely in the local milieu when it focuses more on local responsiveness than global integration.

Part VIII: Innovation Networks and Alliances

Chapter 21: Increasing Knowledge Complexity and Informal Networks in the Information Age

Cantwell & Salmon

This chapter presents 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 headquarters plus 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 formal and informal relationships need to be concurrently managed. Since a multinational company’s relationships are often temporary, and vary by function (i.e., which portion of the value chain) or product type, strength of the relationship, as well as geography, it is difficult to even construct a fixed network map (Bathelt & Glückler, 2017).

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, & Quatraro, 2010; Cano-Kollman et al., 2016). The wider the range of network partners, both geographically as well as by product area, the greater the risks (Grant, 1996; Katila & Ahuja, 2002).

Management of the multinational firm is difficult. It has to balance (i.e., decide where to devote managerial attention and resources) between the equally compelling demands of knowledge creation and knowledge “exploitation” in geographies and cultures around the world (Cantwell & Mudambi, 2011). At the same time, it needs its employees to act as bridges or brokers between internal processes and knowledge, and the loose external network (Vanhaverbeke, Cloudt, & Van de Vrande, 2008). The authors propose that future research be focused on “the mutual relationship and interactions among formalized closed and informal open relationships.”

Chapter 22: Characteristics of Innovation-Driven Interfirm Alliances, 1957–2006: Analysis and Research Directions

Frankort & Hagedoorn

Drawing on data from the Cooperative Agreements and Technology Indicators (CATI) data repository, the study analyzes historical trends over a fifty-year period from 1957 to 2006, covering 14,377 innovation-driven (or R&D) alliances, in several sectors. The authors indicate that other alliance data repositories such as SDC (Securities Data Company) or Cortelis Deals Intelligence (formerly RECAP) show trends similar to theirs, but their data only substantially cover the last twenty-five years, or half the CATI database time interval.

The authors usefully classify innovation-driven alliances into five categories:

- Three nonequity types such as a *research and development contract* (RDC), or a *joint development agreement* (JDA) in which arm’s-length firms collaborate but work independently, or a

joint research pact (JRP) in which the allies share laboratories and facilities.

- Two equity-based types such as a *joint venture* (JV) or a *research corporation* (RC) in which a new firm is created that is jointly owned by the principals.

The historical analysis reveals fundamental shifts that deserve further research as to their causes. The left side of the value chain, or R&D, was historically considered a difficult area for forming alliances, especially given the greater degree of uncertainty in high technology sectors. Yet, the share of alliances in high-tech sectors has grown substantially.

Historically, JVs were the dominant form of alliance organization until the end of the 1970s. The most striking trend has been the vast increase in nonequity or contractual alliances that today comprise some 90 percent of the 14,377 sample, while since 2001 equity alliances have been below 10 percent. The study’s modeling shows that alliances over time became progressively less likely to be equity based. What are the causes of this fundamental shift?

What has mitigated or moderated the earlier arguments of Transaction Cost Theory (Williamson, 1991a)? With contractual alliances dominating today, even in the least certain and least predictable part of the value chain (R&D), and in sectors such as Information Technology and Biopharmaceuticals, why is the notion of “contract incompleteness” (Hart & Moore, 1999) in seeming retreat? The authors offer some hypotheses. Especially in alliances in which outcomes are uncertain, firms value the flexibility (reversibility) that nonequity arrangements provide, as opposed to the much higher and less-reversible commitment of a JV (Santoro & McGill, 2005). Contracts have substituted for hierarchy. If over the past fifty years negotiators and lawyers have become more experienced in writing more detailed clauses with real options provisions, that could be another hypothesis for why nonequity arrangements have supplanted JVs (Ryall & Sampson, 2009).

Institutions worldwide have also changed. Intellectual property protection is considerably better in many nations (Park, 2008) obviating the need

to form JVs that tie down a partner's commitments, in order to reduce opportunism. (The share of international alliances are reported by the authors to be roughly half.) A hypothesized reduction in antitrust scrutiny may also explain the growth of alliances, as well as the increased share of contractual alliances. Finally, the sources of knowledge needed to produce complex products have proliferated beyond the ken of even large firms. At the same time, the end-application, or marketing of blended products such as "nutraceuticals" that combine the pharmaceutical and food sectors catalyzes many cross-sector alliances.

These substantial trends or shifts over the past half-century cry out for scholarly explanations.

Part IX: Fostering Trust and the Impact of Culture

Chapter 23: The Double-Edged Sword of High Expectations: Presumptive Trust, Reflective Trust, and Satisfaction in International Joint Ventures

Ertug, Cuypers, Noorderhaven, & Bensaou

Trust between partners has been shown to be an important factor leading to positive outcomes of international joint ventures (IJVs). However, the effects of trust on IJV outcomes depend on certain conditions (Krishnan, Martin, & Noorderhaven, 2006), and are not necessarily always positive (Gargiulo & Ertug, 2006). We theorize that a high level of trust early on in a collaboration is typically not "reflective trust," i.e., trust that is based on first-hand experiences with the other partner (Ertug et al., 2013). Instead, such trust at early stages will likely be "presumptive trust," grounded in either category-based trust that relates to the type of partner (e.g., the other partner's home country in our case), or on the general tendency to trust in the focal partner's home country. We argue that such presumptive trust is more likely to lead to expectations that are subsequently not met during the collaboration, which would lead to lower satisfaction with the IJV.

The study gathered data from 131 IJVs with parents from different home countries. Reflective trust, i.e., trust that is based on actual prior

experience with a particular partner, was found to be related positively to satisfaction with IJV performance. However, the study's interesting finding was that, *ceteris paribus*, high levels of presumptive trust that is based on preconceived high expectations on the basis of the other partner's home country, was negatively associated with satisfaction. Likewise, presumptive trust based on a high general propensity to trust in the focal partner's home country was also negatively related to satisfaction with the IJV. In short, high expectations regarding a partner may lead to deflated hopes and lower satisfaction levels in IJVs.

Chapter 24: Culture and Cross-Border Alliances: Unholy Matrimony

Shenkar

The chapter is a critical review of the way in which cultural variables have been used in strategic management studies, especially in examining alliances. Shenkar is critical of the plethora of studies that operationalize the cross-cultural variable by gross, aggregate measures such as "cultural distance" that he considers inadequate to capture the nuances needed in alliance research, since alliances are a confluence of distinct cultures at the national, corporate, and professional levels. The author cites a few papers he considers incisive and comprehensive, such as Ulijn, Duysters, and Fevre (2010), or Tekavčič et al. (2010), which treat national, corporate, and professional culture variables simultaneously.

In alliances where two or more corporate cultures meet, the questions of how the alliance-specific culture evolves has hardly been addressed except for a few studies such as Morosini (2006). In dyadic relationships how do the two corporate cultures blend? And in which direction, i.e., whose culture is more dominant?

The author cites several avenues for needed further research. For example, in international partnerships which of the two national cultures are better for meeting the alliance's objectives (Killing, 1982)? The author cites a further complexity relating to the role of bicultural managers. Leung, Wang, and Smith (2001) as well as Salk and Shenkar (2001) found that bicultural managers were not necessarily more effective in cross-border

alliances than their single-culture counterparts. Finally, cultural differences are more often seen as obstacles, but they can actually confer benefits on an alliance. Exploration of possible benefits of cultural differences could provide a fruitful field for research (Stahl & Tung, 2015).

Part X: The Evolution, Survival or Termination of Alliances

Chapter 25: Should I Stay or Should I Go Now? Integrating the Learning and Selection Views on Firms' Successive Make-or-Ally Decisions for Product Innovation

Mulotte, Ren, Dussauge, & Anand

The question addressed in this chapter is whether firms' collaborative experience leads them to collaborate again, or to switch to internal growth in their next endeavors (for the next model or generation of technology).

Choices: (i) Firms collaborate repeatedly or sequentially when their collaborative performance is satisfactory; or (ii) they 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.

Experience with alliances creates two types of learning. Product or sector specific learning is gained through repeated alliance experience with partners, as well as through interactions with customers, suppliers, and competitors. Alliance experience also augments capabilities in managing collaborations (Inkpen & Tsang, 2007; Schilke & Goerzen, 2010; Simonin, 1997). This can increase the likelihood of continuing with the same collaborators in future innovations. On the other hand, sector-specific knowledge gained and absorbed may be transferred to the firm's subsequent product developments or generations of technology – without the involvement of any alliance partner

(Castañer et al., 2014). As a result, in the latter scenario, alliance experience and learning reduces the value and likelihood of a subsequent collaboration in the next similar technical advance or model development.

The authors examine the aircraft industry over a fifty-year period and propose that the commercial outcome, success or failure, of a particular aircraft model will also influence the continued collaboration *versus* the go-it-alone choice for the next model of aircraft. *Ceteris paribus*, they posit that moderate commercial success is likely to 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 out on its own.

Chapter 26: Surviving Alliance Network Evolution during Industry Convergence: Observations and Future Research Directions

Prescott, Chaturvedi, & Hsu

Several previously distinct industries are converging. For example, the technology for computer chip fabrication is useful in producing solar panels since both involve sensing at the molecular level. Health care increasingly depends on microsensors, micromachines, or tiny implants, or gathering “big data” from populations and analyzing it through Artificial Intelligence methods. Such convergence has spurred the growth of alliances since even large companies lack internal knowledge that can span all the required fields (Contractor & Lorange, 2002).

This chapter asks a different question: How does the alliance network a firm is in, affect its survival, in the context of industry convergence or consolidation? How does the network evolve (Hsu & Prescott, 2017)? The telecommunications equipment industry that was blending with the computer networking industry was analyzed, using a sample of 419 firms that had 370 alliances. The chapter's conclusion is that firms that created a more diverse

alliance portfolio were more likely to survive, findings which support a weak version of network endogeneity (Gulati & Gargiulo, 1999).

Part XI: Public–Private Partnerships

Chapter 27: Pay to Play: Connecting University Research Funding to Licensing Outcomes

Bercovitz, Changoluisa, Feldman, & Modic

This chapter focuses on university research sponsored by companies. Such arrangements help universities get initial funding as well as earnings from later license royalties, gain insight into industry developments, keep faculty abreast of technology, and, in several instances, involve the university and/or the professors as shareholders or residual claimants in start-up firms. Firms gain knowledge, in general, by tapping into academic research which often is more fundamental or “blue sky” than in-company developmental efforts (Mowery & Ziedonis, 2015; Perkmann et al., 2013). R&D sponsored at universities may be less costly than research conducted by the companies themselves, and, being based on sequential or step-by-step contracts, a sponsored research project deemed unpromising at a certain stage is more easily terminated than in-house research.

On the other hand, critics of company-sponsored research voice concerns about corporate influence on, and the suppression of, academic knowledge flows, or how sponsoring firms may influence the direction of the R&D effort and appropriate for themselves valuable fruits of research that otherwise may be more broadly disseminated (Blumenthal et al., 1996; Huang & Murray, 2009; Welsh et al., 2008).

This chapter investigates a hypothesis based on a seemingly contrary finding to the critical voices. According to Wright et al. (2014) the ultimate exclusive licensee of knowledge produced through university research is not likely to be the original sponsor or funder, but rather other third party firms. This then raises the question as to why the original funders are not apparently “capturing” the fruits of their own sponsored research, at least in formal licensing agreements.

Bercovitz et al. empirically investigate this puzzle using 1987–2015 invention and technology transfer data from an R1 research university with a prominent medical school. They find that the original funders do sometimes appropriate the fruits of their sponsored research using formal agreements as licensees, or as equity partners in start-ups. However, if, as often occurs, there is a close ongoing relationship between the Principal Investigator (PI) professor and company executives (as evidenced by say joint technical publications) a subsequent license agreement between university and sponsoring firm is less likely because the company may have already “appropriated” the knowledge from the close ongoing interactions between the firm and university personnel. The authors’ investigations reveal that there is a persistent (over time) network relationship between a university and the same limited set of corporate sponsors. They describe this cozy, ongoing relationship between sponsoring companies and universities as an “insider’s game” where knowledge is exchanged/appropriated more often through ongoing contacts than through formal agreements. Alternative explanations for the original funder not becoming a licensee of the university could simply be that the funded R&D proves to be a dead end, or culminates in a development outside the interest, strategy, or product scope of the original sponsor. In such cases, why license from the university and pay royalties? The license then may go to another company in the network, the original sponsor already having earlier learnt what they need from their relationship as sponsor. Moreover, because of the close relationship between the PI and sponsoring firm, they have a chronological head start over any eventual licensee as future competitor.

“True outsiders” with no previous connection to the university became licensees in only 11 percent of corporate-funded innovations and in only 25 percent of R&D funded by the government, which also raises the question of the wider dissemination of government-sponsored research. But even in the cases where the innovations were licensed to firms “outside” the university-sponsoring company networks, most of the “outsider” licensees were granted to small start-ups that did not pose an immediate competitive threat.

Chapter 28: Multiple Partners in Public–Private Collaborations: Beyond the Dyadic Forms of Cooperation

Quélin

Public-private partnerships or collaborations between firms, governments, and nonprofits, to achieve a social end, are growing in number. First, the author describes the case of the Tirupur Water Project (in India) that improved the economy of a 4.5 million metropolitan area by fostering the growth of the existing textile industry. It also brought water and sanitation to the entire population. Three principal allies included a for-profit company known as Infrastructure Leasing & Financial Services Limited, the government of the State of Tamil Nadu, and a nonprofit association, the Tirupur Exporter Association.

Second, such hybrid cooperative forms with multiple partners are a subject of growing interest in the literature on organizational boundaries, design, and governance. The chapter covers issues

of hybrid governance, the social benefit logic, externalities, information asymmetries between the allies, sustainability, stability of the partnership and opportunism, as well as scalability. Finally, the chapter discusses four main issues to build up a core research stream on multipartner collaborations. The quality of governance, distribution of tasks, and relevance of safeguards, is key to understand whether the collaboration can last. This multiple partners collaboration sheds light on processes to combine the efforts of multiple partners, with *ex ante* incompatible objectives. However, these cooperations have the ability to create a collective rationality: it is the core nature of hybrid organizations. Moreover, the mobilization of partners' capabilities to set up such complex organizations is based on the accumulated experience for managing the duality of objectives. Untangling the mechanisms for creating and sharing value is an essential step to understand their reliability.