Introduction

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Alliances involve two or more organizations working together under an incomplete contract to achieve some common objective. Thus, they are voluntary arrangements between organizations, typically involving the sharing and exchange of know-how, resources, and capabilities, and they can enable organizations to develop new resources and products or serve new markets. At least at the theoretical level, the heterogeneity of the resources held by firms and the diversity of their pursuits point at a virtually infinite set of possible cooperative arrangements. While some alliances are merely informal exchanges, others lead to equity sharing and the creation of joint ventures managed through complex governance mechanisms including a dedicated board of directors. As firms organize themselves to exploit this canvas of opportunities for collaboration with others, they often form portfolios of alliances and find themselves situated within a network of relationships. Clearly, while potentially appealing, alliances give rise to many risks and heightened managerial requirements, if they are going to have their intended impact on how firms compete.

Due to their theoretical and practical complexity, alliances have drawn a substantial amount of scholarly interest that has risen in recent years. Our primary goal is to offer audiences of academics, students, and professionals a useful synthesis of the state-of-the-art knowledge on the broad topic of alliances and networks. To do so, we have sought the expertise of many of the leading scholars in the field. These authors have agreed to share their knowledge by preparing succinct chapters that highlight the relevant concepts and empirical regularities, provide references to cutting-edge research in management and related disciplines, and offer a forward-looking perspective on critical issues for the management of alliances and networks.

Organization of the volume

Theoretical building blocks

The collection of essays is organized around seven major topical themes. In the first few chapters, the authors offer an overview of conceptual building blocks for understanding alliances. Harrigan begins by describing how strategic alliances have come to be an integral part of any strategist's arsenal for not only surviving the ever more dynamic competitive landscape, but more importantly for thriving in it. By offering a historical account of the field, and of how alliances have evolved, she argues that the incorporation of strategic alliances and networks into the field of strategic management represents an innovation comparable in stature only to the major technological disruptions across the industries alliances have come to be a part of. Subsequently, Doz explains how alliances operate as a conduit for organizational learning, describing fundamental motives for firms to partner with one another, as well as the barriers and key tradeoffs that make inter-organizational learning complex to manage. In his essay, Doz also elucidates that the management of successful learning alliances involves the establishment of a clear intent as well as clear learning agenda, and a special concern for the organizations to be aware of the shifting nature of bargaining power and undesirable knowledge spillovers that often occur during the process in which firms come to share know-how with one another.

Capron and Mitchell explain that alliances are comparable to mergers, acquisitions, and divestitures in the sense that they can function as a mechanism for firms to reconfigure not only their portfolios of resources and capabilities but in fact their entire businesses. The authors point out, however, that alliances are not a quick or easy substitute for these other approaches because their management involves specific challenges of their own. Their essay points to a fundamental notion that alliances, as well as other management practices, require a discriminating alignment between what firms are seeking, the governance complexities involved, and the coordination challenges affecting the process. Along these lines, Gambardella and Panico consider how distinct types of alliances are used in markets for technologies under different circumstances, differentiating between those arrangements which are used to acquire and transfer existing know-how (e.g., licensing) and those used to develop new innovations (e.g., research collaborations, such as joint ventures). Pointing to the tradeoffs that distinct alliance forms present in terms of the required incentives, the authors expose governance issues involved in the transfer of property rights as well as the exchange of know-how between partners.

Following this underlying principle, Chi and Seth suggest that a real options theoretical lens can help scholars and managers examine the value of flexibility that is either gained or lost due to such strategic decisions. Because economic value entails combining proprietary but complementary assets of the partner firms, especially in the face of considerable uncertainty about ultimate outcomes, the real options approach they introduce generates insights into how firms can forge and manage their collaborations, especially considering the benefits and costs of alliances. Kretschmer and Vanneste's chapter further emphasizes that the effective execution of alliances presents challenges regarding a fundamental distinction that many scholars and managers often confuse, between cooperation and coordination. The first, they explain, refers to the alignment of incentives, and the extent to which partners are willing to work together. Coordination in turn represents the alignment of actions so that partners who want to work together actually are able to effect their desired exchanges. The two are influenced by distinct forms of uncertainty, the former relating primarily to the shifting nature of behavior and intent, and the second more to the inherent complexities of the tasks involved. Such distinctions in turn have important implications for how firms design alliances, a topic considered in subsequent sections.

Partner selection and alliance investment decisions

In a second set of chapters, the authors describe how executives can select suitable partners and make alliance investment decisions. Li, Li, and Hitt offer an account of the challenges involved in selecting partners, and they offer a framework that both scholars and practitioners alike will find useful and straightforward towards that end. Their framework lays out the nuances of potential motivations to collaborate—for example, the existence of complementary assets and resource overlap across partners—while they also consider the distribution of power across parties in the alliance and other criteria shaping partner selection choices. Tallman in turn explains that alliances are at the heart of a firm's international expansion strategies. International collaborations offer an array of benefits vis-à-vis more traditional arrangements such as wholly owned subsidiaries, risk reduction, access to complementary technologies, co-optation or the blocking of competition, and also the ability to overcome government investment barriers. The decision of whether a firm enters a new market by forming an alliance or acquiring another firm is further examined by Stienstra and Martin. They agree that though alliances may offer a less risky entry mode, at a certain point distinct conditions may precipitate the alliance to end, and the partner to become an acquisition target. By focusing on the specific case of joint ventures, they explain that this transition from alliance to acquisition may occur through a joint venture

buyout, where one of the parent firms takes over the shares of the other in the joint venture (in which case both parent firms are still independent), or a full partner acquisition, when one of the parent firms buys the other parent company in its entirety. These processes regarding partner selection and investment processes, crucial as they are for the success of alliances, often occur within contexts that are far from stable. As Asgari and Singh explain, the dynamics of the external environment in shaping firms' behavior and performance can have an important impact on how alliances are formed and evolve. Alliances offer greater flexibility in changing environments because they are easier to form or disband than the alternatives of internal operations or mergers and acquisitions, so Asgari and Singh's contribution lies in outlining the pervasive effects of disturbances on alliances.

Contractual foundations of alliances

Our third part brings three chapters that outline formal contractual mechanisms that are typically involved in the governance of alliances. Mayer and Xing explain that contracts operate to align the expectations of the alliance partners and provide mechanisms to mitigate the risks of misbehavior during the exchange processes. Certainly, considering the multitude of alliance forms and objectives, there exists no one-size-fits-all rule for designing a suitable contract, but they outline common factors to be addressed that increase the prospects for success, such as those related to human nature, like the cognitive and rationality limits as well as some propensity for opportunism. They consider the implications of prior alliance experiences and the trade-offs present in the amount of detail that agents wish to lay out in the contract. These elements contribute to a well-known fact in alliance governance, in that such contracts are incomplete inasmuch as it is costly to identify all relevant contingencies and devise responses to them. Elfenbein, in fact, explains this in further detail, in the next chapter. Drawing from contract theory, he explains that all alliance agreements, no matter how well designed the contracts that govern them, are prone to unforeseen contingencies, such that alliance parties must necessarily acknowledge an inability to define in anticipation the outcomes or even the feasible future actions to address them. Hence, alliance parties come to face a tradeoff between dealing explicitly up front with these uncertainties and the growing cost of writing contracts, as well as the costs of enforcing them. The goal in contracting, this part concludes, is not necessarily to control every possible behavior or foresee every potential outcome through meticulous design, but rather to design a framework within which both parties can collaborate with a reasonable degree of good faith. Contractor and Choi suggest that parties need to consider how contracts should be responsive to considerations specific to their

own alliances, such as the know-how sought, as well as the gaps between the partners in relation to their technological, cultural, and human resources.

Relational and behavioral aspects of alliances

Coordinating the tasks pertinent to an alliance and putting in place appropriate incentives involves much more than the design of contractual provisions, however. In particular, parties may come to rely upon relational as well as behavioral aspects of collaborative agreements in the governance and on-going management of their partnerships. Dyer, Singh, and Hesterly for instance review and extend a conceptualization of alliances that has become an important paradigm for governing alliances, the relational view. Compared to two previously dominant paradigms in strategy, the industrial organization economics view (i.e., firms attain competitive advantages through their choice of industries to enter and competitive positioning) and the resource based view (i.e., firms earn an edge by leveraging resources and capabilities that are valuable, rare, and costly to imitate), the relational view posits that a firm's performance turns upon critical competencies that may span the boundaries of the organization, and are instead embedded in idiosyncratic interfirm routines. The relational view explains that relational rents accrue to organizations that integrate four key dimensions, including investments in complementary resources, deployment of relationship-specific assets, integration of both formal and informal governance mechanisms, as well as use of knowledge-sharing routines between the partners to effectively integrate their activities. The relational view, therefore, helps firms attain supernormal profits that are jointly generated in an exchange relationship that cannot be generated by either firm in isolation. Arslan and Ariño delve deeper into a key collaboration dilemma—the possibility that a partner may try and maximize its own benefits at the expense of its alliance partner. They go beyond the economic incentives that usually frame the conceptualization of alliance agreements, explaining that these collaborative endeavors also include a social character, insofar as cooperation is also influenced by the quality of partner interaction that emerges over long periods of time. The authors then highlight the nature of cooperation processes as well as their trajectories related to multiple interaction events over the course of the alliance.

In a similar vein, Poppo and Nguyen bring an insightful contrast between economics-based, or more transaction-oriented means of governing partnerships, and alliance mechanisms that instead are characterized by deeper levels of trust between the parties. They review extant literature on alliance governance as well as point out future directions on how trust and relational governance can be applied, in ways that take both the safeguarding of property

rights as well as the effective coordination of complex tasks into account. This distinction between economic and behavioral approaches to designing effective alliances also drives arguments by Mellewigt, Bruhs, and Keller. They emphasize how the individual actors, and their underlying unique characteristics, abilities, and motivations, as well as the unique and dynamic social interactions, can affect the process of forging and organizing alliances. Their chapter thus offers a systematic evaluation of whether and to what extent cognitive and socio-psychological factors affect these processes, arguing for a behavioral alliance strategy approach that considers realistic assumptions of human cognition, decision making, and social behavior. Wohlgezogen takes us further into a view of the shared artifacts between persons, as well as their values, norms, and assumptions, which are typically considered as crucial elements of organizational culture, but have only recently begun to be considered as facets shaping the emergence and evolution of alliances. Finally, Neumann and Zollo take a stakeholder perspective of alliances, suggesting that natural points of connection and common conceptual mechanisms exist across the stakeholder and alliance literatures that have not been developed as yet. They emphasize how alliance studies might be advanced by greater attention to developments in research on stakeholders and vice versa.

Alliance networks and portfolios

Beyond considering how organizations form, govern, and manage individual alliances, scholars in the field have examined how the totality of alliances in a given firm affords unique opportunities and challenges. It is natural to look at alliances at a dyadic or two-party level, but recognizing that these alliances interconnect to become part of a larger network suggests a wider view of these relationships is needed. In the first chapter in this part, Madhavan and Prescott synthesize the alliance networks literature, bringing out its broad lessons in light of recent studies and highlighting promising threads for future development. They approach the task in three areas: what is distinctive about the network perspective of alliances, what unique insights this perspective has delivered to the alliance field, and outstanding issues and promising lines of development. In the following chapter, Sytch focuses on the architecture of global networks and explains that the properties of the collective architecture as well as interaction dynamics affect the accessibility of knowledge, information, and other resources that may be available to actors locally through their direct connections. Thus, the interaction of a firm's ego-network structure vis-à-vis the global network of relationships in which a local network is situated affects the local availability of resources.

Hoffmann and Habasche explain that the structural configuration and relational dynamics of alliance portfolios involve active management and oversight by organizations. Looking at portfolios as the sum of all strategic alliances that a focal firm holds, the authors consider the challenges of integrating and coordinating multiple alliances that may be scattered across distinct functions of an organization, which themselves are at times dispersed and hard to coordinate. Although these alliances are often situated across distinct business units, the benefits that the firm seeks in terms of risk reduction, knowledge access and integration, as well as flexibility, are enhanced when the firm comes to realize that a more cohesive integration of its multiple alliances in a well-crafted portfolio is called for. Finally, Lavie explains that a firm's alliance portfolio configuration has important consequences for that firm's exploration as well as exploitation activities. Each of these activities, he explains, involves key tradeoffs that must be considered across the value chain functions related to each alliance, as well as the network position of the partner. Exploration and exploitation in an alliance portfolio context respectively define a firm's efforts to seek and generate new knowledge with new partners versus the firm's propensity to leverage existing know-how and experiences with current partners. In this chapter, the author explains that the extent to which a firm's alliances serve upstream or downstream value chain activities, or feature new versus recurrent partners, depends on the firm's overall goals related to its cooperative strategy.

Novel collaborative relationships

In our sixth part, scholars offer fresh perspectives on forms of alliances that have not received as much attention in the literature, and the contributions take up several important frontier research areas. Bremner, Eisenhardt, and Hannah explain that networks of alliances typically involve partnerships that may easily extend beyond the vertical and horizontal ties within single industry domains, and may in fact come to represent broader ecosystems. For example, a smartphone ecosystem may involve not only firms that develop and produce these devices, but also operating systems, application developers, telecommunication carriers, and so forth. Such ecosystems involve sets of firms in distinct positions that come to develop group-level co-specialization, so, as the authors explain, distinct networks come to take over specific tasks in an extended division of labor throughout the ecosystem. This implies that ecosystem partners often come from diverse industries, with conflicting timing, competitive pressures, and business models that complicate the way they interact with each other. Kivleniece, Cabral, Lazzarini, and Quélin consider how organizations come to interact and strike partnerships with public

entities, such as government and public agencies. Public–private partnerships have grown to be an ubiquitous type of collaboration, in a growing range of areas, such as sanitation, healthcare, education, public safety, defense, and infrastructure. Because agents on either side are subject to incentives and goals that are related to their status as public and private organizations, such partnerships are subject to a distinct set of managerial challenges that the authors outline and explain. Finally, Butter and Hagedoorn examine multi-firm alliances and some of the unique challenges associated with partnerships that involve more partners than the typical dyadic agreement. Because each of the firms can be limited in time, effort, and energy available for managing their simultaneous ties, this particular multi-firm alliance set-up generates unique complications for collaboration, particularly in highly dynamic technological contexts.

Consequences of inter-organizational collaboration

In our final part, we begin to outline important effects of collaborative agreements, both for alliance managers in regards to performance expectations, as well as scholars in regards to methodological issues involved in alliance research. Rivera-Santos and Dussauge begin by lamenting the fact that, notwithstanding the enthusiasm of alliance researchers and practitioners, the precise identification and measurement of performance outcomes has proved quite elusive over the years. Based on a systematic review of the literature, they identify several sources of problems to pinning down the performance consequences of alliances. The problem begins with the basic conceptualization of performance measurement in the alliance context. Complications also arise because of performance effects at different levels (e.g., the project level or the firm level, and contending with different outcomes for either partner). Difficulties also surface because of the use of distinct metrics and indicators of success or failure, and it can also be difficult to attribute performance to an alliance rather than other factors (e.g., environmental changes or firm-specific factors). Their review offers valuable insights, for both scholars and practitioners, regarding how to assess alliance performance. In the subsequent chapter, Stern takes a sociological point of view to argue that beyond the economic implications that alliance partners seek, there exist status outcomes which relate to the organization's alliance activities. Organizational status, he argues, is in fact a bi-directional feature of alliances: on the one hand it accrues to organizations that ally with other high-status organizations, but at the same time a firm's status also affects the likelihood the firm will be able to forge alliances to begin with. Hence, a firm's alliance activities shape the firm's status, but the status of the firm also shapes the firm's alliance activities.

Martinez, Oxley, and Silverman explain that the identification and measurement of the performance or other outcomes a firm accrues from its alliances is complicated by endogeneity issues. While the ultimate interest of scholars and practitioners lies in ascertaining the performance effects of strategic choices such as alliance formation, unobserved capabilities and prospects that are related to performance might also drive the formation of alliances in the first place. The authors take the opportunity to crystallize and identify problems in empirical studies of alliance organization and performance, and they offer thoughts on possible directions for future research in view of this methodological challenge in alliance scholarship. Finally, Kale and Singh consider the important topic of how firms can build capabilities to establish and manage partnerships. They review extant research on alliance capability building, and they distill insights regarding where such capabilities come from, what constituent factors shape these capabilities, and what performance consequences such capabilities bring to their firms.

As a collection, these chapters capture the complex phenomena related to alliances and networks, the varied theoretical perspectives that have been used and might be used to understand them, and the methodological challenges and opportunities that lie ahead for progress to be made. Alliances and networks are complex as they are neither market-based exchanges nor conventional organizations, as they blend features of both, and they can be examined at many different levels of analysis. Due to the complexity of alliances, understanding them requires some familiarity with multiple base disciplines, including several different strands of economics and sociology, among others. In the last decade, the alliance literature has become large, diverse, and increasingly specialized as a consequence. We hope that this guide provides interested readers with an introduction to this interesting body of literature. The contributions to this volume are written by accomplished scholars as well as new researchers from around the world, and they address some of the most important themes in this literature. In addition, each chapter provides many important and interesting references that enable interested readers to pursue each of the topics in this volume in greater depth.