



Three Levels of Alliance Management

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ABSTRACT

Alliance management has been on the agenda of management scholars and corporations for many years now. In spite of the attention in the academic and management literature on many aspects of alliance management, track records of alliances are still poor. Most of the literature has been unable to unveil the secret ingredients of alliance success. Only very recently, authors have started to make significant progress in the area of alliance management. In this paper we argue that there are three main levels of analysis in alliance management literature. Moreover, we content that a dyadic or firm-level perspective is not sufficient to deal with the full dynamics of alliances. Successful alliance management, therefore, requires a profound understanding of all three levels of alliance management and their interaction: dyadic, firm-level and network-level management of alliances.

INTRODUCTION

Since the early 1980s, the vast increase in the number of newly established alliances induced many authors to refer to this development as the alliance revolution (Gomes-Casseres, 1996). Ever since, firms have continued to form alliances under pressure of ongoing globalization tendencies, radical technological change and deregulatory processes. More recent research suggests that alliances are accountable for a significant and growing part of firms' revenues (Harbison and Pekar, 1998). However, despite this marked increase in alliances, scholars continue to report very high failure rates, varying between 40 and 70% of all alliances (see for an overview Park and Ungson, 2001). In spite of the growing importance of alliances, alliance management is therefore found to be difficult and rarely effective.

Over the past decades, numerous scholars have investigated critical issues with respect to alliance management and performance. This has led to a vast amount of literature on the particular subject of alliances. Following Ring and Van de Ven (1994) and Takeishi (2001), we identify three levels of analysis: dyadic or alliance-level, firm-level and network-level. Scholars have generally researched these different levels separately with the majority of attention devoted to dyadic-level analyses (Anand and Vassolo, 2002). This paper aims to unravel the different levels and seeks to contribute to the apparent lack of a collective and coherent body of work on alliances (Parkhe, 1993). So far, we are not aware of any study that has devoted specific attention to these different levels or perspectives. In doing so, we hope to both contribute to the establishment of an integrated and coherent body of literature and facilitate more effective alliance management practices.

ALLIANCE LITERATURE

Strategic alliances can take many different forms. Although various different taxonomies of strategic alliances exist in the literature (see Harrigan, 1985; Contractor and Lorange, 1988), we choose to define alliances in terms of their organizational interdependence, as presented in Figure 1. In this paper, we consider all forms of cooperation, from licensing agreements to joint ventures.

Figure 1 Alliances defined

<u>Mode of cooperation</u>	<u>Organizational interdependence</u>
joint ventures research corporations joint R&D , such as research pacts and joint dev. agreements	Large
minority investment , minority and cross- holding	Medium
customer-supplier relations , R&D contract, co-production, co-makanship	
technology exchange agreements (mutual) , technology sharing, X-licensing, mutual second-sourcing	
one-directional agreements second-sourcing, licensing	Small

Source: Duysters and Hagedoorn, 2000.

An extensive literature review reveals that various theoretical frameworks have been applied to the field of alliance research (for an overview see Ireland et al., 2002). From these theoretical frameworks, three different stream of alliance research can be distilled. First of all, a vast amount of alliance research has been dedicated to investigating the significance of various factors influencing the dyadic relationship. As of the 1970s onwards, transaction cost theory has been implicitly and explicitly applied to understand why alliances were used as an

organizational form and how their governance structure was arranged (Poppo and Zenger, 2002). Treating markets and firms as alternate ways of coordination, transaction cost theory suggests that a firm's decision to enter an alliance should be centered around minimizing the sum of transaction costs and production costs (Coase, 1937; Williamson, 1975). Consequently, this stream posits that alliances are formed because the cost of specialization override the cost of coordination (Park, Ungson, 2001). The very nature of alliances causes problems as a result of dissimilarities in organizational processes and structures. Moreover, as in this stream of research firms are typically considered to be individual and self-fulfilling units (Williamson, 1975, 1991) and favor going alone over cooperative arrangements (Contractor and Lorange, 1988), alliances were seen as separate activities or business transaction entered to overcome market failure. Therefore, studies analyzed alliances from a dyadic or alliance-level perspective (Duysters et al., 1999a)¹. Typical issues under investigation are partner fit, complementarity, commitment and trust (e.g. Mohr and Spekman, 1994; Hutt et al., 2000). Typically, in these studies the alliance is the unit of analysis.

More recently, theories have emerged that seek to explain sustainable differences in alliance performance among firms (Kale and Singh, 1999). This second stream of alliance research points to reported fixed-firm effects that cannot be explained by traditional strategy theories. Typically, they analyze the influence of firm-specific factors on firm performance (see e.g. Amit and Schoemaker, 1993; Thomke and Kuemmerle, 2002)². Their main objective is to describe how firms can leverage firm performance by investing in resources, assets, micro-level mechanisms or capabilities (Sanchez, 2001). In doing so, these studies mainly refer to theories such as evolutionary economics (Nelson and Winter, 1982), organizational learning and knowledge-based view (Kogut and Zander, 1992; Conner and Prahalad, 1996; Grant, 1996; Lei, Slocum and Pitts, 1997), resource-based view (Wernerfelt, 1984; Das and Teng, 2000a), dynamic capabilities (Teece et al., 1997; Rindova and Kotha, 2001; King and Tucci, 2002; Oxtoby et al., 2002) and competence-based theory (Sanchez et al., 1996). These studies analyze the relationship between a firm's capabilities and its alliance performance. Rather than researching the performance antecedents at the dyadic level, this type of research focuses on the firm-level determinants of alliance performance. For instance, Kale et al. (2002) found a positively relationship between an alliance function and firm's long-term alliance performance.

¹ . As this paper does not aim to provide an extensive literature overview of dyadic factors and alliance management, we refer to Das and Teng (2000b).

Alongside these studies a third stream of research has developed that seeks to identify critical factors shaping cooperation in industries and strategic groups (Anderson et al., 1994; Gebrekidan and Awuah, 2002). These studies have provided strong empirical evidence which suggests that firms' cooperative performance is not solely based on relationship or firm-specific factors, but also on forces that surpass firm boundaries (e.g. Nohria and Eccles, 1992; Gomes-Casseres, 1996; Larsson et al., 1998). They argue that the network structure, in which dyadic relationships are embedded, influences business practice and performance (Madhavan et al., 1998; Gulati et al., 2000). They emphasize among others that social capital can yield distinct information advantages (Uzzi and Gillespie, 2002)³. Moreover, as an increasing amount of knowledge is developed outside a firm's boundaries, it is important for firms to be critically assess the skills and capabilities of their (potential) partners (Dyer, 2000; Andersson et al. 2002). Therefore, being incorporated in a network implies that firms have to be aware of the influence of engaging in a new alliance on its position in the network. Not only because existing ties with partner firms can influence their choice for future alliance partners, but also because current ties influence firm performance (Koka and Perscott, 2002). Overall, these studies underline the necessity for firms to create awareness of the dynamics in their network in order to not be merely subject to the network changes. Instead firms should try to be actively engaged in managing their network by on the one hand exploiting any potential advantage offered by their network position and on the other hand trying to explore new and attractive new partners. For instance, Granovetter (1982) compares the informational advantages provided by direct versus indirect linkages, suggesting that direct linkages tend to contain a higher level of common knowledge. Burt (1992) adds that a balance between network diversity and size can help optimize a firm's network structure.

Thus, over the past decades three stream of alliance research have emerged that each contribute in a distinct manner to our understanding of alliance management. Each stream focuses on a particular level: dyadic, firm and network or strategic group-level. First of all, the dyadic variables in the alliances which are essential to manage strategic business relationship in an optimal way and to handle dynamics in the individual alliance. Second, recently other scholars have proposed capabilities to increase the performance of alliances thereby paying attention to the role of experience organizational routines. Third, given the need to manage cooperative relationships in a larger context, other theories emphasized the need to incorporate social capital and its influence on network and alliance dynamics and performance.

² . See for an extensive comparison of traditional strategy literature and more recent theories Combs and Ketchen (1999) and Madhok (2002).

The next part of the paper will describe the characteristics of the different stream of alliance research and elaborate on their particular contributions to research on alliance management.

CONTRIBUTIONS OF DIFFERENT PERSPECTIVES

Having described the developments in the literature on alliances, this part will extend on the particular contributions of each of the perspectives to our understanding of alliance management. Table 1 provides an overview of the various theories and their contribution to the field of alliances.

Table 1 Three levels of alliance research

	Dyadic or alliance-level	Firm-level	Network-level
Theory	Transaction cost theory, industrial organization theory, relational contracting theory	Resource-based view, dynamic capability view, organizational learning.	Social capital theory, social embeddedness theory
Contributions	Value creation in alliances using success factors for individual alliances	Value creation in alliances using firm-level mechanisms	Value creation in alliances through optimization of alliance portfolio
Concepts under investigation	Trust, commitment, partner fit, complementarity.	Alliance department, VP of alliances, alliance database, alliance training, alliance metrics.	Industry structure, centrality, interblock relations, positioning, direct and indirect ties.
Examples	Geringer (1991); Medcof (1997); Das & Teng (2000a)	Das & Teng (2000b); Nault & Tyagi (2001); Kale et al. (2002).	Gulati (1998); Gulati et al. (2000); Das & Teng (2002); Uzzi & Gillespie (2002).

Building on more traditional theoretical perspectives such as transaction cost and industrial organization theory, the first stream of research analyzes alliances at the dyadic level. Related managerial studies use the alliance as their unit of analysis to investigate the role of

³ . For a recent and extensive overview see Special Issue Vol. 21(3) of Strategic Management Journal

behavioral and relational factors as well as governance issues that foster the optimization of value creation in individual alliances. Overall, the insights generated by these studies refer mainly to critical issues that might be able to overcome instabilities in the dyadic relationship. This has resulted in a extensive list of success factors. Duysters et al. (1999b) provide an extensive overview of success factors for alliances. The next table gives an overview of success factors in alliances that specify the critical issues at the dyadic level.

Table 2 Success factors at the dyadic level

Author Reasons for failure	Be am ish & De lio s	Lo ran ge & Ro os	Br out her s et al.	Sc hul er et al.	Ch ev alli er	Wi lde ma n & Ko k	Sta fflo rd	Do um a	Ma ljer s	Ad ark ar	Bl ee ke & Er nst	Ni ed erk off er	Kh an na et al.	Me dc of	Da cin & Hit t	Ka nte r
-Goals/strategy	■	■			■	■	■	■	■			■				
-Partner/partnership				■	■	■								■	■	■
-Strong-weak/weak-weak partner		■					■	■	■	■	■					
-Culture (nationality/corporate)					■	■	■		■			■				
-Trust				■	■	■			■		■					
-Love at first sight					■	■	■		■							■
-Geographic/operational overlap					■	■			■		■				■	
-Personnel			■	■	■							■				
-Commitment		■		■		■										■
-Expectations/time pressure							■				■	■			■	
-Alliance evolution (no recognition)				■	■						■		■			
-Incentives (asymmetric)		■												■		
-Complexity								■								
-Learning aspects (uneven)		■														
-Financial aspects																

Source: Duysters et al., 1999b.

These factors provide a number of contributions with respect to alliance management. First of all, they create awareness of the inherent complexity of alliance management. For instance, when reviewing the factors listed in table 2, it becomes apparent that soft or relational issues (e.g. trust and commitment) as well as hard or structural issues (e.g. strategic or goal fit and financial aspects) are important. Poppo and Zenger (2002) analyzed the interplay between the contract and relational governance and found that they represent complements rather than substitutes. This implies that both alliance partners should pay sound attention to contractual and relational issues alike.

Second, the success factors may induce a firm to consciously manage the entire development process of an alliance. By providing a list of critical issues, a firm can be more aware of all the pitfalls that can arise at certain moments (see e.g. Das and Teng, 2002; Dyer et al., 2001). For instance, aligning the objectives with a partner is likely to reduce early abandonment as a result of disagreement on the strategic intent of the alliance.

The second stream of alliance research analyzes the firm-level factors. Despite the contributions of research on dyadic factors, sub-optimal behavior may be fostered as firms only concentrate on dyadic factors, since they tend to ignore the factors that may contribute to for instance transferring learning into their internal organization. Considering alliances as stand-alone activities implies that we treat alliances as not being part of a firm's activities (Khanna et al., 1998). Recognizing the importance of firm-level factors on alliance performance, induced various scholars to study the way in which these capabilities should be build. Recently, therefore, organization's capabilities have proven to be a distinct source of rent generation in alliances (Anand and Khanna, 2000). Various scholars have empirically confirmed the positive relationship between alliance capabilities and alliance performance (Kale et al., 2002; Powell et al., 1996; Simonin, 1997; Sivadas and Dwyer, 2000). However, results are still scattered and little is known about the underlying process of capability development. A recent investigation by Duysters and Heimeriks (2002) has shown that successful alliance firms employ a significantly larger number of mechanisms than low performing alliance firms. From this study, it shows that a number of firm-level mechanisms such as having an alliance or an alliance database can significantly increase a firm's alliance performance. Consequently, firm-level mechanisms can play an important role in leveraging knowledge across a firm's alliances by considering alliances as a portfolio rather than a separate activity (Lorenzoni and Baden Fuller, 1995). However, firms should commit to a combination of mechanisms depending on the task at hand (Zollo and Winter, 2002) and the mechanisms chosen should fit its needs as learning and capability development are path dependent (Eisenhardt and Martin, 2000).

The contributions of this stream of alliance research is twofold. First, it emphasizes the need for firms to focus on internal aspect. In doing so, a firm will turn its attention to its own resources and capabilities to improve their alliance success. Firm-level mechanisms can help a firm manage its alliances by concentrating on the one hand on learning and knowledge development and on the other hand on governance and coordination in the firm itself. Mechanisms such as an alliance database or the intranet can be used to disperse alliance knowledge and experiences, thereby inducing the adoption of new or updated a firm's routines used in managing alliances. For instance, assigning a vice-president or an alliance

manager can ensure that alliances are governed in the correct way and responsibility and tasks are well coordinated within the firm. His experience can help other employees to adapt their behavior and act accordingly in a particular situation.

Second, as a consequence of the first contribution, by increasing a firm's awareness of its own resources and capabilities a firm may be less likely to point to its alliance partner(s) in case an alliance discontinues. Being more aware of its own role in the alliance, it may therefore be more apt to change its own routines by complementing existing or creating new mechanisms. For instance, if an alliance fails because the wrong partner selected, a firm may choose to use a partner selection program when selecting a partner for any future alliance. In this way, it may be better able to ensure the partner will be able to fulfill its role in the future alliance.

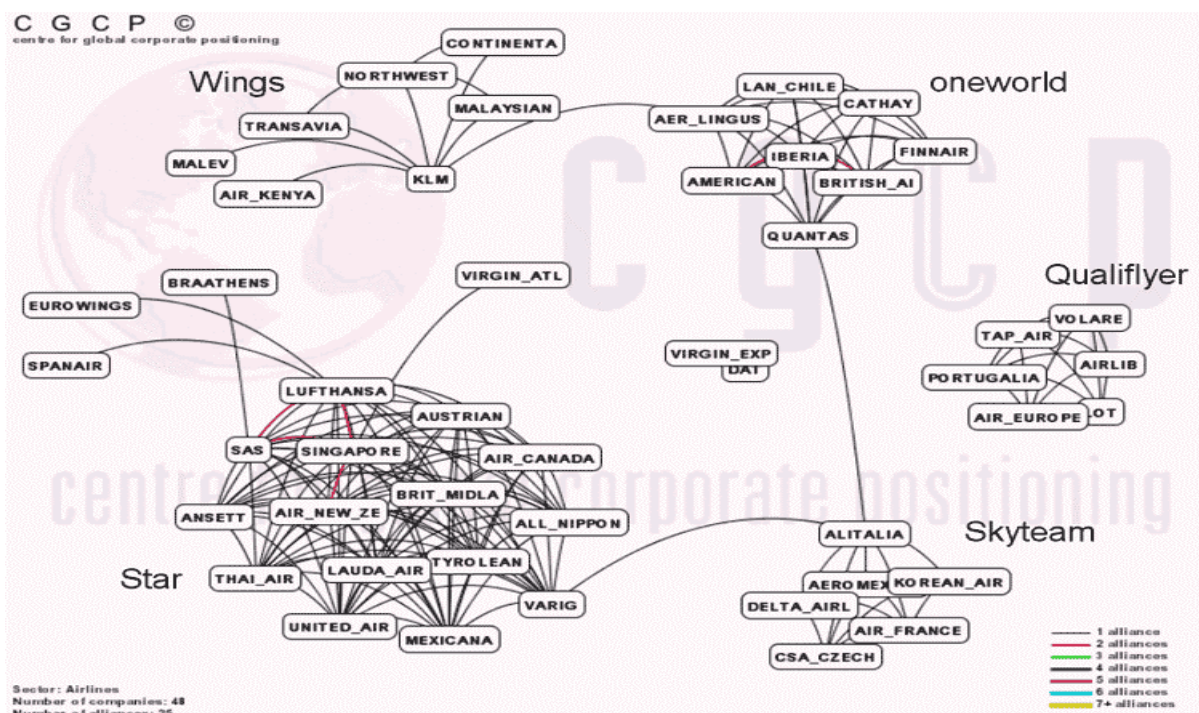
The third stream of alliance research analyzes the network level. In addition to firm-level factors to predict value creation in alliances, some scholars point to the need to analyze external network structures rather than dyadic or firm-level factors (Lorenzoni and Lipparini, 1999). Whereas traditional organizations preferred to go alone, recently firms start to cooperate at an increasing rate (Gomes-Casseres, 1996). As firms continue to ally, networks start to emerge. The pattern therefore shifts from often bilateral relations to a complete network of relations. Obviously, in our network era the number of external relations are increasing and their significance to organizations is constantly growing (Gebrekidan, Awuah, 2002).

Since firms can to some extent deliberately design the network structure in which they cooperate and compete, the ability to structure and position oneself can become a source of competitive advantage (Gulati et al., 2000). Networks take shape when partners ally with each other and new alliance opportunities arise when network members inform each other about their partners. Partners generally keep each other informed about the reputation of the organizations they work with and this may affect the creation of subsequent alliances (Dollinger et al., 1997). In this way an organization network is set up that enables the members to react promptly and adequately on a changing market, to realize innovations and to increase flexibility. Moreover, networks may prove a valuable way to enrich a firm endowments by facilitating competence development (Andersson et al., 2002).

Figure 1 clearly illustrates that a firm's alliance formation is dependent upon the network in which it is situated. Airlines are increasingly engaged in so-called group-based competitive processes. As in other industries, the airline industry is witnessing the formation of cohesive groups in alliance networks. These groups build up social capital among each other. Increased

social capital creates a basis of trust and intimacy among the participating companies. The development of trust among partner influences the nature of information exchanged (Uzzi, 1997). For future alliances partners, many firms seem to be engaged in and restricted to local search processes only. Firms tend to repeat existing ties instead of searching for new ones (Gulati, 1998). However, a network can also impose lock-in and lock-out effects on the companies involved. Switching from one group to another is not easy and is often considered as unethical behavior. Sunk costs involved in setting-up and managing existing alliance relationships prevents companies from moving swiftly among alliance partners.

Figure 2 Alliance network of the airline industry



Source: Centre for Global Corporate positioning, 2001.

A number of contributions to issue of alliance management are made by the third stream of alliance research. First of all, as illustrated in figure 1, firms should consciously consider both their position and structure of their network. Not only do these two factors determine to a great extent their informational advantages, they also determine future opportunities. The principle of path dependency also applies as a consequence of lock-in and lock-out effects.

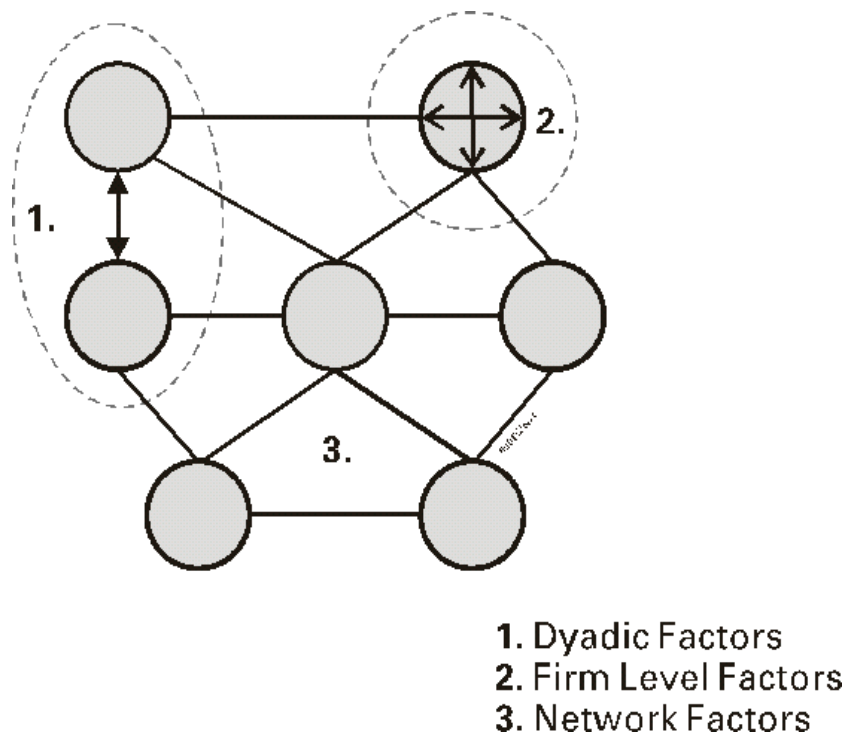
The second contribution is the fact that if firms optimally use their network, the range of competences available can increase (Uzzi and Gillespie, 2002). For instance, having a common knowledge-sharing process within a strategic group can provide this (sub-)network with distinct competences (Dyer and Nobeoka, 2000). This implies that competitive

advantage can be gained when firms ally to attain a common goal. More importantly, this requires alliances to be managed by a view that surpasses the dyadic level and takes serious notion of the potential advantages of a firm's network. Thus, increasingly networks determine the context in which alliances operate, requiring firms to not only get a better understanding of their alliance management practices, but also of controlling alliances in a network.

AN INTEGRATED FRAMEWORK

Having discussed the contributions of the three stream of alliance research and the concomitant levels of alliance management, this part presents the integrated framework wherein all three levels are linked. As mentioned in the former part, each stream of alliance research is conducive to understanding antecedents of alliance performance in its own way. However, rather than proposing any stream in particular, we propose to combine the three levels of alliance research. Figure 2 shows an integrated framework in which the three levels of alliance management are integrated.

Figure 3 An integrated framework



As shown in this figure, all three levels of alliance management are necessary in order for firms to be able to optimally manage their alliances. First, firms need to ensure to obtain a sufficient degree of “fit” with their individual partners at the dyadic level. The dyadic factors researched by the first stream of alliance research provides a vast list of critical issues. This is

represented in the figure by number 1 and the bold arrow referring to the interplay between the two firms in the network. Second, firms need to develop alliance capabilities within their own organization to successfully manage its alliances. This requires an understanding of the dispersion of alliance experience and knowledge to ensure learning, governance and coordination. Finally, firms should pay attention to the network in which they are embedded, as network positioning has become a major source of competitive advantage over the past decades.

Thus, for alliances to be managed in an optimally fashion, firms need to simultaneously pay attention to three levels of alliance management: dyadic, firm and network level. Furthermore, we reckon that alliance capabilities play an important role in managing the dyadic level as well as the network level. With respect to the dyadic level, we suggest that using an alliance manager can provide the managerial means to successfully execute alliances as this person is responsible for the alliance progress and its performance. Moreover, the use of a partner selection program can enhance the strategic and operational fit between companies. With respect to the network level, we posit that an alliance department which can coordinate the firm's entire alliance portfolio can manage the firm's network.

CONCLUSION AND DISCUSSION

This paper focuses at the developments in the literature on alliances. As many firms have a very poor track-record in the field of alliances their subsequent performance is very poor. In order to gain appropriate understanding of alliance management, three different streams of alliance research are identified each having different theoretical underpinnings. Thereafter the different stream of alliance research, their concomitant levels of analysis and their contributions are described.

In isolation, none of the streams of alliance research can provide us with a comprehensive understanding of alliance management. The first level referred to as dyadic factors that help optimize performance in individual alliances by investigating issues internal to the alliance. These factors refer to for instance to a sufficient degree of commitment, trust and partner fit. As this level treats alliances as separate undertaking and leave unmentioned how firms can develop alliance capabilities, the second level of alliance management researches the influence of firm-level mechanisms on performance. These mechanisms enable firms to develop routines which are based on their alliance experience and for instance help to disperse knowledge across the firm. Managing alliances at this level therefore allows firms to capitalize their experience across their entire alliance portfolio. The third level of alliance

management turns to the role of alliances in networks. This level of alliance management is especially to investigate the advantages of certain positions in a network. Moreover, it underlines the limitations of partner choice given the fact that the network structure and existing relationships are likely to impose the restrictions on future alliance possibilities. In the end, we acknowledge firms should manage alliances at three levels: dyadic, firm-level and network level. Only by paying attention to each level as presented in our integrated framework can the full complexity of alliance management be grasped.

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