

# **REVIEW OF ALLIANCE CAPABILITIES**

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## **ABSTRACT**

This paper makes a systematic review of alliance capabilities and competencies. For the study, altogether 22 concepts were applied to find evidence on the antecedents, mechanisms and outcomes of network capabilities. Based on the literature search for the top tier (ABS3 and ABS4 level) journals on marketing, strategic management, organization, innovation, entrepreneurship, management and operations management, 53 journal articles that mainly study alliance capability or a similar phenomenon were found. The analysis concludes primary results from prior research, shortcomings, and as the most important theoretical contribution, suggestions for future research.

**Keywords:** Alliance capabilities, network capabilities, manufacturing companies, systematic review, resource-based view.

## **Competitive paper**

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## **INTRODUCTION**

The inter-organizational network literature concentrates on the characteristics, mechanisms, antecedents and effects of inter-organizational relationships. The organizational network approaches, such as IMP (Ford & Mouzas, 2010; Håkansson & Snehota, 2006; Havila & Wilkinson, 2002), and inter-organizational network (Dyer & Hatch, 2006; Kale & Singh, 2009) research have considered cross-boundary networks, relationships and alliances of particular relevance for company survival and success. Studies have suggested alliance development and management as an important capability that in some circumstances could provide opportunities for knowledge acquisition and exploitation, and explain value creation, innovation, survival and performance of a firm (Kohtamäki, Partanen, Parida, & Wincent, 2013; Walter, Auer, & Ritter, 2006). The present study concentrates on the definition and dimensions of alliance capability, the links and potential moderators and mediators between alliance capability and alliance performance. In this study, the concepts of alliance and network capabilities are utilized interchangeably without concentrating on the variety between dyadic and multilateral, nor horizontal and vertical alliances.

The current inter-organizational literature has been developing since the late 70's, and a vast amount of research, and multiple reviews on the dynamics of inter-organizational collaboration have been conducted (Barringer & Harrison, 2000; Khanna, Gulati, & Nohria, 1998; Majchrzak, Jarvenpaa, & Bagherzadeh, 2014; Möller, 2013; Parmigiani & Rivera-Santos, 2011; Street & Cameron, 2007; van der Vaart & van Donk, 2008). The explicit use of the concept of network capabilities can be traced back to Ritter's (1999)

work starting from the 90's and alliance capability back to late 90's (Dyer & Singh, 1998; Kale, Dyer, & Singh, 2002; Niesten & Jolink, 2015). Thus, the constructs of alliance and network capabilities can be considered as relatively young and still developing. Where the concept of alliance capabilities have began developing over 15 years ago, inter-organizational research is much older building on the ideas of Ronald Coase (1937) and increasing from the 70's until these days (Borgatti & Foster, 2003). Hence, empirical evidence on the alliance capability should already exist. The alliance capability literature has had 15 years to develop. A few reviews on the concept of alliance or network capability have been conducted (Kale & Singh, 2009; Niesten & Jolink, 2015; Wang & Rajagopalan, 2015). The existing reviews concentrate on the concept of alliance capability with an emphasis on managing horizontal alliances (Niesten & Jolink, 2015). The existing reviews provide good grounds to develop the current paper, which in contrast to prior reviews (Niesten & Jolink, 2015; Wang & Rajagopalan, 2015), concentrate on producing the contribution to Industrial Purchasing of Goods, so called IMP approach, which has been extending to cover value systems of industrial companies (Ford, 2011). Now may be a good time to conduct a review to integrate the existing research and provide suggestions for further IMP research and some new insights to alliance capability stream of research.

Theoretically, the present study intends to integrate knowledge of alliance capabilities and to provide suggestions for further research. To accomplish that goal, we address the following research question: Which are the antecedents, dimensions and outcomes of alliance capability for industrial companies? Altogether 22 concepts were applied to find evidence on the antecedents, dimensions and outcomes of alliance capabilities. As a result

of the review, alliance capabilities were defined as a reflection of three dimensions: Alliance management, alliance integration, and alliance learning capabilities. Thus, the present review contributes to the discussion about alliance capabilities by analyzing the most important theoretical contributions and suggestions for future research. From a managerial viewpoint, this study highlights key practices and activities, such as dedicated alliance function, alliance life-cycle management, and balanced management of both weak and strong ties, knowledge sharing and implementation. In addition, this study adds suggestions on the dimensions and development of alliance capabilities. The present study does not intend to cover the inter-organizational network literature in any way, but only the literature concentrating on the capabilities and competences needed for effective operation in alliances and networks.

## **METHODOLOGY**

The present study followed the guidelines of systematic review (Tranfield, Denyer, & Smart, 2003). Surprisingly, despite its obvious importance, fairly little empirical research can be found in the concept of alliance/network capability. We searched systematically the top tier (ABS3 and ABS4 level) journals from marketing, entrepreneurship, strategic management, organization, innovation and management, applying constructs of “network capability”, “network competence”, “relational capability” and “relational competence”, but were able to find only 76 articles (Harvey, Kelly, Morris, & Rowlinson, 2010). Searches were conducted based on article abstracts, as abstract can be considered including the most relevant concepts of the study. Moreover, reference lists were checked to make sure that our search included the important papers on the specific field. For the literature

search, we applied the following search terms, which should cover the field and be aligned with previously published reviews (Niesten & Jolink, 2015: 3):

"network competenc\*" OR "network capabilit\*" OR "relational capabilit\*" OR "relational competenc\*" OR "alliance capabilit\*" OR "alliance competenc\*" OR "relationship capabilit\*" OR "relationship competenc\*" OR "collaborat\* competenc\*" OR "collaborat\* capabilit\*" OR "CRM capabilit\*" OR "CRM competenc\*" OR "customer-relationship management capabilit\*" OR "customer-relationship management competenc\*" OR "customer relationship management capabilit\*" OR "customer relationship management competence\*" OR "supplier-relationship management capabilit\*" OR "supplier-relationship management competenc\*" OR "supplier relationship management capabilit\*" OR "supplier relationship management competenc\*". Table 1 describes the number of journal articles found from the journals. It is important to note, that the review focused on alliance capabilities, and not characteristics of alliances or networks. Thus, those papers that do not address capability in their abstract, were not included for the review. It is obvious, that this criteria discludes all the generic inter-organizational network literature. After abstract review, our final list of included 53 articles on alliance capabilities. In addition to these articles, previous reviews (Niesten & Jolink, 2015; Wang & Rajagopalan, 2015) and seminal inter-organizational network articles (Barringer & Harrison, 2000; Håkansson & Snehota, 2006; Khanna et al., 1998; Majchrzak et al., 2014; Möller, 2013; Parmigiani & Rivera-Santos, 2011) were utilized to contrast the findings.

**Table 1.** Illustrates on how the articles being found spreads into different fields of research, based on the ABS journal ranking categories.

Journals	Number of articles found based on abstract and title search	Deleted based on abstract review	Number of articles selected for the final review
Marketing	29	2	27
Organization	5	3	2
Strategy	12	0	12
Management	11	7	4
Innovation	3	1	2
Operations management	6	4	2
Entrepreneurship	9	5	4
Summary	76	22	53

## **INTER-ORGANIZATIONAL NETWORK LITERATURE**

For the background, theories that have been previously applied by the inter-organizational network studies can be identified. Inter-organizational networks have been analyzed from the perspectives of the Interaction approach (IMP school) (Håkansson & Snehota, 2006; Henneberg, Naudé, & Mouzas, 2010; Johnsen & Ford, 2006; Möller, 2013), Transaction cost approach (Coase, 1937; Rindfleisch & Heide, 1997; Williamson, 1975), Resource-based view and strategic capabilities (Das & Bing-Sheng, 2000), resource-dependency framework (Gulati & Sych, 2007; Heide & John, 1988; Pfeffer & Salancik, 1978), social exchange theory (Das & Teng, 2002; Heide & John, 1992), game theory (Chen, Chang, Huang, & Liao, 2006; Jarillo, 1993; Parkhe, 1993), and social capital approach (Granovetter, 1985; Jiang, Henneberg, & Naudé, 2011; Nahapiet & Ghoshal, 1998; Uzzi, 1997). All in all, inter-organizational network literature considers strategy and organization across firm-boundaries, suggesting that firms operate in inter-dependent value systems,

ecosystems and value networks, where “no business is an island” (Håkansson & Snehota, 2006: 256).

Studies apply a variety of concepts for vertical and horizontal dyadic relationships and multilateral networks between multiple partners. These concepts include supplier-customer relationships, buyer-seller relationships, strategic alliances, alliances, inter-organizational networks, strategic networks, value networks, and ecosystems. Typical for these studies is that they extend the unit of analysis from the firm to a relationship between two companies or a network of multiple companies, and consider the network as a more integrated form of collaboration than the market, but less integrated form than the hierarchy. Partnership represents a dyadic form of collaboration in contrast to network of multiple partners. Every company can be considered as a manager of its own network even if the power positions vary between companies and different network management practices can be used.

Here, no particular distinction is made between dyadic alliances or multilateral networks, nor vertical or horizontal alliances, but instead the focus is on the concept of alliance capability including dyadic and network level of analysis. Similar mechanisms hold importance in dyadic and network level contexts, with some obvious variety not in particular focus of this study.

For operative definition of a strategic alliance, we use the one from Kale and Singh (2009: 46; Gulati, 1995): *“A strategic alliance is a purposive relationship between two or more independent firms that involves the exchange, sharing, or co-development of resources or*

*capabilities to achieve mutually relevant benefits*". Alliance capabilities hold particular relevance to integrated alliances and business-relationships. Treatment of these dimensions in the analyzed studies is observed throughout the review.

## **DEFINITIONS OF ALLIANCE CAPABILITIES**

The literature on alliance capabilities does not have particularly long history. Articles found from the studied journals begin from late 90's. In fact, 29 out of 54 articles selected for this review were published between 2009 and 2014. Considering the short history of the concept of alliance capabilities, and relatively narrow scope and scale of empirical research theory development can be considered of being in relatively early stages. Broadly speaking, the literature is dominated by a few disciplines such as marketing, management and strategy. While 40 of the selected articles were published in journals in marketing, management and strategy, 27 were published in marketing journals (14 of these in Industrial Marketing Management).

Despite having its roots in a limited number of disciplines, the literature on alliance capabilities use various concepts to reference the phenomenon under analysis: alliance capability (Draulans, DeMan, & Volberda, 2003; Heimeriks & Duysters, 2007), alliance management capability (Rothaermel & Deeds, 2006), relational capability (Capaldo, 2007), alliance competence (Lambe, Spekman, & Hunt, 2002), network competence (Ritter & Gemünden, 2003; Ritter, Wilkinson, & Johnston, 2002), network capability (Katzy & Crowston, 2008; Kogut, 2000). Another labels are also used, but to a lesser extent. Some

examples are: cooperative competency (Sivadas & Dwyer, 2000) and relational competence (Geiger & Turley, 2006).

While the concept of relational competence was coined by Ritter in the late 90's, Lorenzoni and Lipparini (1999) have contemporaneously applied the comparable concept of relational capability. Later studies have used the concepts of alliance capability, alliance competency as well as alliance management capability as described and defined by the table 1. Where capability as a concept typically refers to combination of processes and resources, something that crosses actors, resource or competence can be defined more narrowly to include tools, brand, skills or such. Capabilities exist in combination of processes or activities and competencies or resources (Long & Vickers-Koch, 1995). This is not to say, that prior studies would accurately follow this definition, but that this might provide a workable definition. Table 2 provides a compilation of definitions utilized in the alliance capability literature.

**Table 2.** Concepts applied by the prior literature.

<b>Authors</b>	<b>Concept</b>	<b>Definition</b>
Ritter and Gemünden (2004)	Network competence	"Company's network competence, which captures the level of network management task performance and the network management qualifications possessed by the people handling a company's relationships." (p. 549)
Ritter and Gemünden (2003)	Network competence	"Ability to handle, use and exploit organizational relationships" (p. 745)
Kohtamäki, Partanen, Parida, et al. (2013)	Network capability	"...a firm's ability to develop and utilize inter-organizational relationships" (p. 1376)
McGrath and O'Toole (2013)	Network capability	"...a firm's ability to initiate, maintain, and utilize relationships to gain access to various resources held by other actors." (p. 1141)
Kale and Singh (2009)	Alliance capability	"...the firm's ability to manage each single alliance successfully." (p. 57)
Heimeriks and Duysters (2007)	Alliance capability	"Alliance capability is defined as a higher-order resource which is difficult to obtain or imitate and has the potential

		to enhance the performance of the firm's alliance portfolio." (p. 30)
Schreiner, Kale, and Corsten (2009)	Alliance management capability	"Alliance management capability to emphasize the constituent skills that are relevant to managing an alliance during the post-formation phase". (p. 1411)
Johnson, Sohi, and Grewal (2004)	Relational capability as knowledge stores	Relational capability "...is based on the creation of knowledge stores" (p. 21)
Smirnova, Naudé, Henneberg, Mouzas, and Kouchtch (2011)	Relational capability	"...measure a firm's ability to provide customized solutions for industrial customers" (p. 46)
Sivadas and Dwyer (2000)	Cooperative competency	"...derived from related concepts of mutual adjustment, absorptive capacity and relational capability is posited as the key factor affecting new product development success, regardless of whether it is an intra- or interfirm endeavor" (p. 21)
Swaminathan and Moorman (2009)	Marketing alliance capability	"...ability to extract greater levels of value from alliances over time" (p. 56)
Lambe et al. (2002)	Alliance competence	"...an organizational ability for finding, developing and managing alliances" (p. 143)
Capaldo (2007)	Relational capability as a 'dual network'	"...a network architecture wherein a small core of strong ties is integrated with a larger periphery of weak ties." (p. 586)
Gianni Lorenzoni and Lipparini (1999)	Relational capability	"The capability to interact with other companies." (p. 317)

The use of each of the abovementioned seems to be determined by the discipline in which the studies are developed. The terms alliance capability and alliance management capability are typically used in publications from management and strategy (Kale & Singh, 2007, 2009; Wang & Rajagopalan, 2015). In the field of marketing, scholars indistinctly utilize diverse labels such as relational capability (Capaldo, 2007; Jiang et al., 2011; Storey & Kocabasoglu-hillmer, 2013), network competence (Berghman, Matthyssens, & Vandenbempt, 2006; Ritter & Gemünden, 2003), network capability (Kohtamäki, Partanen, Parida, et al., 2013; McGrath & O'Toole, 2013), and relational competence. Marketing scholars have also used the concept of CRM capabilities when analyzing how

companies develop customer-facing routines (Kim & Kim, 2009; Morgan, Slotegraaf, & Vorhies, 2009; Orr, Bush, & Vorhies, 2011; Trainor, Andzulis, Rapp, & Agnihotri, 2014).

### DIMENSIONS AND PRACTICES OF ALLIANCE CAPABILITIES

Definitions of alliance capabilities give an insight to meaning of this phenomenon. Yet, an in-depth analysis needs to be conducted by analyzing the dimensionality of existing applied constructs (Table 3).

**Table 3.** Dimensions of alliance capability in prior studies.

Researchers	Definition	Dimensions
Draulans, deMan, and Volberda (2003)	<u>Capability (skill) to manage alliances successfully:</u> “...the ability to create successful alliances, based on learning about alliance management and leveraging alliance knowledge inside the company.” (p. 152, see also p. 153)	Alliance experience Alliance evaluation and cross-alliance evaluation Alliance training Use of alliance specialists
Heimeriks, Duysters, and Vanhaverbeke (2007)	<u>Alliance/alliance management capability</u> “...higher-order resource which is difficult to obtain or imitate and has the potential to enhance the performance of the firm’s alliance portfolio.” (p. 30)	Functions Tools Control and management processes External parties
Kale and Singh (2007)	<u>Relational capability</u> “...as alliance learning process = a process that involves articulation, codification, sharing, and internalization of alliance management know-how.” (p. 982)	Articulation Codification Sharing Internalization
Smirnova, Naudé, Henneberg, Mouzas, and Kouchtch (2011)	<u>Relational capability</u> “...measure a firm's ability to provide customized solutions for industrial customers.” (p. 46)	Relational competence (uni-dimensional construct)
Ritter and Gemünden (2004)	<u>Network competence</u> “...the ability to handle, use and exploit inter-organizational relationships.” (p. 745)	Network management task execution Network management qualifications (special qualifications and social qualifications)
Schreiner et al. (2009)	<u>Alliance management capability</u> “...the constituent skills that are relevant to managing an alliance during the post-formation phase.” (p. 1411)	Coordination Communication Bonding

Kandemir (2006)	<u>Alliance orientation</u> “...a firm’s skill portfolio of superior capabilities that help it scan its environments for partnering opportunities, coordinate its alliance strategies, and learn from its alliance experiences.” (p. 325)	Alliance scanning capability Alliance coordination capability Alliance learning capability
Lambe et al. (2002)	<u>Alliance competence</u> “...an organizational ability for finding, developing, and managing alliances.” (p. 142)	Alliance experience Alliance management development capability Partner identification propensity
Walter et al. (2006)	<u>Network capability</u> “...a firm’s ability to develop and utilize inter-organizational relationships.” (p. 541).	Coordination Relational skills Market knowledge Internal communication

Scholars seem to disagree in terms of the dimensions of alliance capabilities. Studies separate with regards to certain dimensions, some studies, more than others, putting emphasis on practices (Draulans et al., 2003), innovation (Berghman et al., 2006), and tools (Heimeriks et al., 2007).

Where studies do not provide unanimous agreement about the dimensions of alliance capabilities, based on the review, some common dimensions can be recognized to emerge. Quite a few studies seem to highlight dimensions such as 1) alliance management capability, 2) alliance integration capability, and 3) alliance learning capability.

### **Alliance management capabilities**

Multiple studies highlight the importance of alliance management capabilities. Where studies use variety of concepts, such as coordination, management and control, they all seem to reference to capabilities related to managing networks and alliances (Schreiner et al., 2009; Smirnova et al., 2011; Walter et al., 2006). Interestingly, the inter-organizational network literature seem to disagree about whether networks and alliances can be managed,

coordinated or facilitated. Studies agree on the importance of influencing on partners' behaviors for improvement in innovation and performance. Studies have identified some alliance management practices, such as 1) making alliance business case (Kale et al., 2002; Kale & Singh, 2009), 2) partner assessment and selection (Kale et al., 2002; Kale & Singh, 2009), 3) alliance negotiation and governance (Kale et al., 2002; Kale & Singh, 2009), 4) management processes (Pagano, 2009), 5) alliance life-cycle management practices (Kale et al., 2002; Kale & Singh, 2009), control and coordination capabilities (Bond III., Walker, Hutt, Reingen, & Bond, 2004; Pagano, 2009; Sivadas & Dwyer, 2000; Smirnova et al., 2011), 6) dedicated alliance function or the use of alliance specialists (Draulans et al., 2003; Kale et al., 2002; Kale & Singh, 2009), 7) Involvement of external parties (Pagano, 2009), 8) task execution (Ritter & Gemünden, 2004; Ritter, 1999), 9) alliance assessment and termination (Draulans et al., 2003; Kale et al., 2002; Kale & Singh, 2009), 10) dual network (Integrate strong ties with a larger number of weak ties) (Capaldo, 2007). Relatively many studies, particularly from the horizontal alliance literature (Draulans et al., 2003; Kale et al., 2002; Kale & Singh, 2009), highlight the role of dedicated alliance function, and alliance specialists to improve alliance management.

### **Alliance integration capabilities**

Secondly, studies note multiple different dimensions related to integration or depth of the alliance relationships. These dimensions include customer linking, trust, relational capital, dialogue and structures. These are also dimensions typically highlighted important in the inter-organizational network literature. This study coins this dimension as a alliance integration capability suggesting that firms need capacity to bring close suppliers and

customers by application of social and structural integration for improved relationship learning (Huikkola, Ylimäki, & Kohtamäki, 2013; Schreiner et al., 2009; Smirnova et al., 2011; Walter et al., 2006). Whereas, social integration references to open interaction, trust and feeling of shared vision, structural integration refers to relationship structures, such as integrated working practices, processes, and it-systems. Social and structural dimensions of integration have been found interplaying, and some scholars have suggested the importance of structures (Lorenzoni & Lipparini, 1999). Prior studies suggest practices for alliance integration such as 1) customer linking capability (Theoharakis, Sajtos, & Hooley, 2009), 2) communication (Paulraj, Lado, & Chen, 2008; Schreiner et al., 2009; Sivadas & Dwyer, 2000), 3) openness (Bond III. et al., 2004), 4) trust (Kohtamäki, Partanen, Parida, et al., 2013; Kohtamäki, Vesalainen, Henneberg, Naudé, & Ventresca, 2012; Lorenzoni & Lipparini, 1999; Sivadas & Dwyer, 2000), 5) dialogue (Morgan et al., 2009; Orr et al., 2011), 6) relational structures (Lorenzoni & Lipparini, 1999), 7) it-systems (Kim & Kim, 2009).

### **Alliance learning capabilities**

Where prior studies use concepts, such as alliance learning process, learning mechanisms and knowledge sharing, they link to broader concept, which this study coins as the dimensions of alliance learning capability (Huikkola et al., 2013; Kale & Singh, 2007; Walter et al., 2006). Huikkola et al. (2013) use the concept of joint learning underlining the unique nature of the alliance learning process, where two firms, beyond the firm boundaries, learn through a shared process of mutual interaction, as has been previously suggested by the IMP school of thought (Håkansson, Havila, & Pedersen, 1999). Firms

need alliance learning capability to create, share, make sense, and integrate knowledge with partners to facilitate network, relational and firm-level innovation and development. Studies see alliance experience, repeated alliances, and dedicated alliance function as important mechanisms to facilitate, or reflect alliance learning capabilities. Where it may be that alliance learning could be separated into multiple sub-dimensions, such as knowledge sharing, joint sensemaking and knowledge implementation, as has been done by the alliance learning literature, alliance capability literature mostly considers learning capability as a uni-dimensional component of alliance capability. Yet, multiple practices related to alliance learning capability can be identified from the literature, such as 1) alliance experience (Anand & Khanna, 2000; Capaldo, 2007; Draulans et al., 2003; Garrette, Castañer, & Dussauge, 2009; Kale et al., 2002; Kale & Singh, 2009; Spekman, Spear, & Kamauff, 2002; Wang & Zajac, 2007; Wittmann, Hunt, & Arnett, 2009), 2) alliance training (Draulans et al., 2003), 3) alliance manager development capability (Lambe et al., 2002), 4) knowledge articulation (Kale & Singh, 2007), 5) knowledge codification (Kale & Singh, 2007), 6) knowledge internationalization (Kale & Singh, 2007), 7) organizational memory and knowledge stores (Johnson et al., 2004), 8) institutionalizing mechanisms (Heimeriks & Duysters, 2007; Heimeriks, 2010; Kale & Singh, 2009; Lorenzoni & Lipparini, 1999), 9) ability to generate above normal returns over time from alliances (Swaminathan & Moorman, 2009).

## **ROLE OF ALLIANCE CAPABILITIES**

It became clear, that it is very difficult to generate precise understanding about the interaction between dimensions of alliance learning capabilities, as different studies vary

much with regards to their definitions (Johnson et al., 2004). Thus, researcher has to make interpretations and generalizations in order to create a generic and comprehensive understanding. Table 4 intends to describe the main findings related to alliance capability studies. In the table, we intend to make synthesis by including references after each result. To make a long story short, we have to make interpretations, without being able to use accurately same original concepts as applied in the prior studies.

Rare studies focus on the alliance capability as a full construct including multiple different dimensions. In those few studies, network competences were found explaining complementary and idiosyncratic resources as well as alliance success (Lambe et al., 2002). Further, alliance competence were found as an antecedent for competitive advantage and financial performance (Wittmann et al., 2009). In addition, Kohtamäki, Partanen, Parida, et al. (2013) found network capabilities positively moderating the link between industrial service offering and firm sales growth.

A number of studies considered alliance competence related to management or network coordination. Processes, tools, structures (e.g. dedicated alliance function, alliance specialists) were considered central characteristics of alliance management capabilities. These facilitate development of social capital (Kale et al., 2002; Kale & Singh, 2009).

Moreover, network management capabilities were found as a mediator between organizational characteristics and innovations performance (Ritter & Gemünden, 2003). Technology strategy were found requiring network competence to facilitate innovation

success (Ritter & Gemünden, 2004). The role of network competence was highlighted significant when seeking appropriate network position (Hagedoorn, Roijackers, Van Kranenburg, & Kranenburg, 2006; Kogut, 2000). Further, network management capabilities were found of importance for partner development (Kogut, 2000). Network capabilities were found relevant for customer satisfaction, as well as for financial performance and stock market returns. Structural capabilities, or organizational routines seem to be more important characteristic than pure experience (Kale et al., 2002), but experience have been found to facilitate development of alliance structures (Kale & Singh, 2007).

Some studies also see alliance capability as a capacity to create network or relational integration. These studies define alliance capability close to social capital, or relational capital (relational form of social capital), trust (Kogut, 2000; Lorenzoni & Lipparini, 1999), and strong ties (Capaldo, 2007). These studies may assume that development of alliance integration requires alliance capabilities. Smirnova et al. (2011) found customer orientation explaining relational capabilities, where Sivadas and Dwyer (2000) evidences formalization and trust explaining alliance capabilities. Studies in this stream have found alliance capabilities explaining relational performance, new product success, value creation and alliance portfolio performance (Heimeriks, 2010), organizational innovativeness and service responsiveness that further impact on customer and supplier performance (Theoharakis et al., 2009). Strong ties have been found facilitating exploitation, where as weak ties may enable exploration (Capaldo, 2007). Separation between alliance

capabilities and alliance characteristics seem to become difficult, when considering the alliance integration capability as a separate dimension.

Alliance learning capability was defined as the third dimension of alliance capability. Several dimensions have been found enabling improvement in alliance learning capabilities, such as prior alliance experience (Kale & Singh, 2009) with diverse partners (Al-Laham, Amburgey, & Bates, 2008), prior joint ventures (Anand & Khanna, 2000), and alliance function (Kale et al., 2002; Kale & Singh, 2007; Kogut, 2000; Lorenzoni & Lipparini, 1999). Alliance learning capability was found explaining customer value. Similarly, Kohtamäki, Partanen, Parida, et al. (2013) that network capability facilitates customer value creation and hence sales growth. Based on the review, alliance experience has been often used as a proxy for alliance learning capability. Alliance learning capability has been found facilitating alliance integration, likelihood of forming alliances (Garrette et al., 2009), above normal stock market gains, alliance portfolio performance (Heimeriks & Duysters, 2007; Heimeriks, 2010), and alliance success (Kale & Singh, 2007). Alliance capabilities were demonstrated mediating the link between alliance experience and alliance performance (Heimeriks & Duysters, 2007; Heimeriks, 2010).

**Table 4.** The different roles of alliance capabilities in models applied in prior studies.

<b>Dimension of alliance capability (according to definition of this study)</b>	<b>Concepts applied from alliance capability-related constructs</b>	<b>Role and effects of alliance capabilities (Authors)</b>
Alliance capability (full construct)	Network capability	Joint senior management commitment explains joint alliance competence Joint alliance competence explains joint alliance success, complementary resources, and idiosyncratic resources (Lambe et al., 2002)

	<p>Alliance competence</p> <p>Alliance capability</p>	<p>Explained by top management support, alliance competence positively impacts on positional advantage and financial performance (Wittmann et al., 2009)</p> <p>Network capability moderates the effect of service offering on firm sales growth (Kohtamäki, Partanen, Parida, et al., 2013).</p>
<p>Alliance management capability</p>	<p>Measurement for network management capability</p> <p>Customer relationship management capabilities</p>	<p>Network competence as a mediating variable between organizational factors and innovation performance (Ritter &amp; Gemünden, 2003)</p> <p>Network coordination as an important mechanism (Kogut, 2000; Wittmann et al., 2009),</p> <p>Managing portfolio of alliances require processes, tools, structures (e.g. dedicated alliance function, alliance specialists) and social (Kale et al., 2002; Kale &amp; Singh, 2009)</p> <p>IT capabilities may increase relational competencies of the sales person by adding value to the product or service (Geiger &amp; Turley, 2006)</p> <p>Alliance specialists benefit organizations (Kale et al., 2002), if the specialist is well integrated into practice (Draulans et al., 2003)</p> <p>Prior alliance experience facilitates creation of alliance function (Kale &amp; Singh, 2007).</p> <p>Strategy (technology) leads to network competence that facilitates innovation success (Ritter &amp; Gemünden, 2004)</p> <p>Companies can strategically position themselves to benefit (Hagedoorn et al., 2006)</p> <p>Supplier identification to customer's network is seen as an important mechanism (Kogut, 2000)</p> <p>Support by customer companies facilitate partner development (Kogut, 2000)</p> <p>Network capabilities improve customer satisfaction, but are less likely to be needed with highly capable employees (Orr et al., 2011).</p> <p>Customer satisfaction and retention may mediate the effect of network capabilities on supplier organizational performance (Kim &amp; Kim, 2009).</p> <p>Network capabilities facilitate improvement of profits (Morgan et al., 2009).</p> <p>A dedicated alliance function can facilitate abnormal stock market returns from alliances as is more important predictor than prior alliance experience (Kale et al., 2002).</p>
<p>Alliance integration capability</p>	<p>Relational capital</p> <p>Interaction</p> <p>Trust</p> <p>Commitment</p>	<p>Network capability explains relational quality and performance (Jiang et al., 2011; Kohtamäki, Partanen, &amp; Möller, 2013)</p> <p>Customer orientation explains relational capabilities (Smirnova et al., 2011)</p> <p>Formalization and trust effects on network capabilities (industry context moderates), where network capabilities facilitate new product success (Sivadas &amp; Dwyer, 2000)</p> <p>Trust as an important relational mechanism (Kogut, 2000; Lorenzoni &amp; Lipparini, 1999)</p> <p>Network integration impacts on value creation (potentially U-shaped impact), and on alliance portfolio performance (Heimeriks, 2010)</p> <p>Employee satisfaction explains network integration, which has a positive impact on organizational innovativeness and service responsiveness that further impact on customer and supplier performance (Theoharakis et al., 2009)</p> <p>Strong ties enable exploitation, where weak ties facilitate exploration (Capaldo, 2007)</p>
<p>Alliance learning capability</p>	<p>Relational information sharing</p> <p>Relational knowledge stores</p>	<p>Network learning capability explains ability to create customer value</p> <p>Importance of experience in alliance integration (Kale &amp; Singh, 2009)</p> <p>Combined alliance experience increases the likelihood of forming an alliance and on acquisition occurrence, but the effect is stronger for the former</p> <p>Joint ventures facilitate firm learning (Anand &amp; Khanna, 2000)</p> <p>Alliance experience with diverse partners increases learning from alliances and improves alliance capabilities (Al-Laham et al., 2008), and increases the likelihood of using alliance as a mechanism (Garrette et al., 2009)</p>

		<p>Alliance experience facilitates abnormal stock market gains from alliances  Alliance capabilities / institutionalizing mechanisms mediate between alliance experience and alliance performance, but alliance experience also has a direct effect to alliance / alliance portfolio performance (Heimeriks &amp; Duysters, 2007; Heimeriks, 2010)  Alliance function facilitates knowledge sharing and learning (Kale et al., 2002; Kale &amp; Singh, 2007; Kogut, 2000; Lorenzoni &amp; Lipparini, 1999), which facilitates alliance success (Kale &amp; Singh, 2007).</p>
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**METHODOLOGIES USED IN ALLIANCE CAPABILITY STUDIES**

From the 53 analyzed articles, 49 were empirical studies. These studies, included 34 quantitative, and 11 qualitative empirical data analysis. In addition, 4 studies included both, quantitative and qualitative methods. While there are exceptions (Al-Laham et al., 2008; Anand & Khanna, 2000; Smirnova et al., 2011; Wang & Zajac, 2007), the sample in the quantitative studies ranges from 100 to 300 observations. However, the mean sample is 190 about observations. Ten studies use relationships or alliances as the unit of analysis and only two use panel data (Anand & Khanna, 2000; Hagedoorn et al., 2006). Regarding the qualitative studies, the number of interviews ranges from 15-100, but the typical number is 20 interviews.

Thus, majority of the studies were using quantitative methodologies. While most of the studies applied linear regression analyses or structural equation modeling, scholars did not mostly report testing non-linear relationships, moderations, nor non-linear moderations, with rare exceptions (Kohtamäki, Partanen, Parida, et al., 2013). Relatively large proportion of studies seemed to apply indirect measures, and datasets from variety of databases. Relatively few papers applied survey methodologies. While most studies included a measure of performance as the dependent variable, 15 of them use objective

indicators of financial performance or firm growth. Examples of alternative dependent variables are: the new value creation capability (Berghman et al., 2006), the long-term orientation (Jiang et al., 2011), the relationship effectiveness and quality (Johnson et al., 2004), the innovation success (Ritter & Gemünden, 2003, 2004), the new product development performance (Sivadas & Dwyer, 2000), and the trust, relationship commitment and customer satisfaction (Storey & Kocabasoglu-Hillmer, 2013), among others. Finally, two of the studies used the network competence (or a similar term) as the dependent variable (Gammoh & Voss, 2013; Ritter, 1999).

On the other hand, 15 of the studies papers were qualitative in nature (11) or included qualitative methods (4). Qualitative studies draw on different theories and disciplines such as marketing, innovation, strategy and entrepreneurship. These studies use different labels, although the relational competence, relational capability and network capability are the most used.

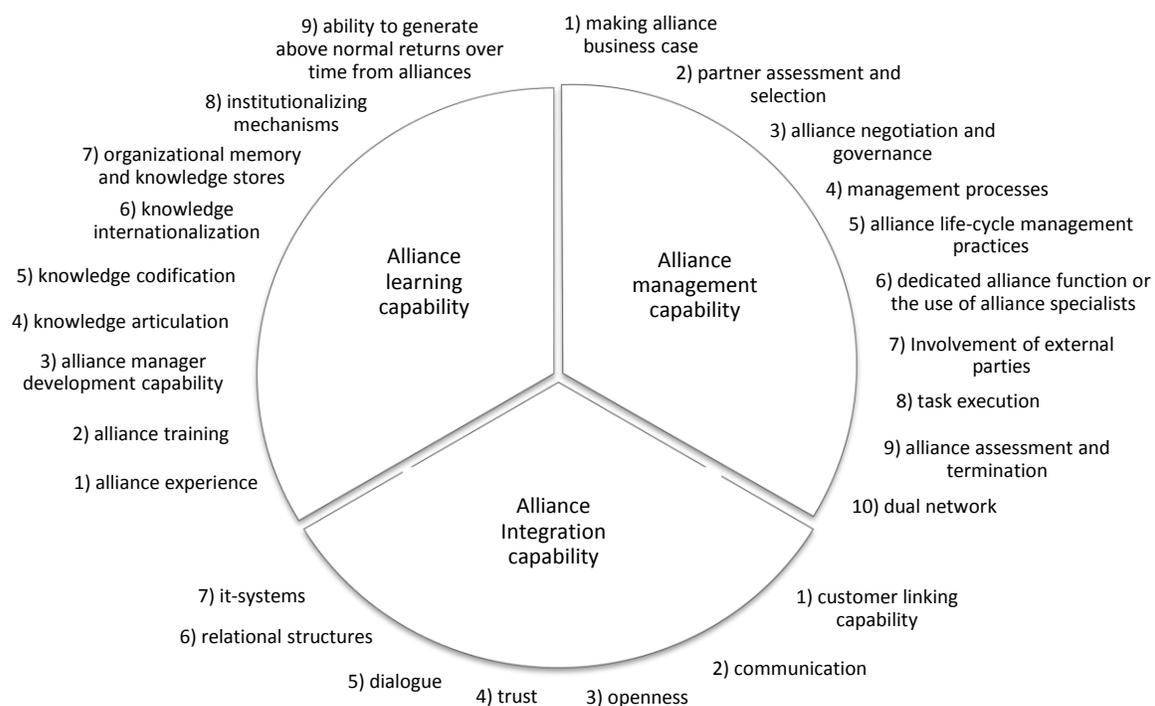
## **CONCLUSIONS**

### **Theoretical contribution**

The present study was set out to review the current, state-of-the-art literature on capabilities for operating in alliances effectively. In these times of spread and rapidly changing global economy, where firm boundaries become blurry, alliance capabilities are more important than ever. Alliance capabilities facilitate development of vertical and horizontal inter- and intra-organizational relationships to enable learning, customer value co-creation, co-innovation and performance within ecosystems. In many ecosystems, it is not only the integrator company that has to performance, but each firm within the ecosystem.

Reconfiguring of ecosystems to create competitive advantage has become a dynamic capability for variety of companies operating within different ecosystems. As management across firm boundaries is far from simple, companies need alliance capabilities to facilitate development within networks (Dyer & Hatch, 2004; Håkansson & Snehota, 2006; Möller & Rajala, 2007).

Based on the systematic literature review, this study decided to define alliance capability as the firm's competence and processes to manage, integrate and learn in networks effectively. This definition builds on a typical definition of strategic capabilities in the prior literature where strategic capabilities are often defined as the combination of competences and processes (Long & Vickers-Koch, 1995). This definition includes three important dimensions of alliance capabilities, which should influence on firm's capacity to co-innovate and increase performance within networks. Our definition is justified by the ones defining alliance capability as a dynamic capability that facilitate learning and renewal of companies (Niesten & Jolink, 2015). All in all, alliance capability underlines the firm's capacity to renew alliance structures according to the changes in the environment and strategy. Thus, building on the Chandler's (1962) classic and rightful statement, alliance structures should follow the company strategy, and alliance capabilities should facilitate this agility. The present study identified multiple practices for the identified dimensions of alliance capability, which are, in their richness, described in the figure 1.



**Figure 1.** Dimensions and practices of alliance capabilities based on the literature review.

Based on the existing literature, alliance capability is seen critical for success of strategic alliances, whether vertical or horizontal. Alliance capability is seen facilitating co-production and co-creation of value, co-innovation and co-development within networked ecosystems, thus being critical for network, relational, and firm-level performance. Alliance capability has been proven meaningful by application of quantitative, qualitative and case studies and an important antecedent of company performance. Vesalainen and Hakala (2014) highlights the importance of fit between alliance capabilities and the firm's capability architecture. Aligned with the idea of complementary resources (Makri, Hitt, & Lane, 2010), companies need other capabilities, such as solution sales, product-service bundling, and service technological capabilities to complement alliance capabilities.

Potentially, alliance capabilities, and its dimensions may have a U-shaped or J-shaped effect on performance. For instance, the effect of relational strength on new knowledge acquisition has been demonstrated being inversed U-shaped, while being negatively moderated by the relational capabilities (Lowik, Van Rossum, Kraaijenbrink, Groen, & Rossum, 2012). There is a reason to believe, that the effect of network capabilities on innovation or performance might be U- or J-shaped. These would suggest that the impact turns positive and significant after a certain threshold level, that is, certain capacity is needed to have a positive and significant impact.

In addition, alliance capabilities can play a role as a mediator and moderator of performance. For instance, when using alliance capability as a potentially moderating capability, when combined with strategic variables, such as scope of service offering, alliance capability has been found moderating positively the a non-linear effect of service offering on sales growth of solution providers (Kohtamäki, Partanen, Parida, et al., 2013). As it seems relatively rare that quantitative studies treat alliance capability as a moderator for the relationship between services (e.g. Service offering) and performance, or between other capability (e.g. Innovation capability), or orientation (e.g. Entrepreneurial orientation) and performance, further studies could consider these types of strategy-structure settings as potential for analysis. Aligned with the strategy-structure approach, alliance capability may interact with the firm strategy or other capabilities to generate performance effects.

The present study sees alliance capability as a shared variance between the dimensions. Thus, this study considers alliance capability as a latent dimension, measured as a shared variance between alliance management capability, alliance integration capability and alliance learning capability. This is to suggest that alliance capability should not be measured as a formative construct, but as a reflective one. In reflective measurement, the construct is measured as a shared variance between the dimensions, whereas the shared variance is considered reflecting the latent phenomenon which is in this case the alliance capability (Kandemir et al., 2006). Moreover, the single dimensions of alliance capability should be used for separate analysis, to study each dimension's separate effect on performance variables. Studies should be explicit in their definition and approach.

While enabling the required complex and trusting interactions, this operational view of alliance capabilities enables manufacturers moving toward offering industrial services to align service relationships for value co-creation (Smirnova et al., 2011). Industrial service research might find the concept of alliance capability useful (Kohtamäki, Partanen, Parida, et al., 2013). Moreover, the research on R&D collaboration could be furthered by separating the concepts of R&D services and relational capabilities.

### **Managerial contribution**

Alliance capability is central for companies operating within ecosystems, where complex technologies, and short product or service innovation cycles facilitate concentration on core competencies. In these ecosystems, alliance management, integration, and learning become particularly relevant. Managing alliances has been considered particularly challenging, as

the coordination takes place across organizational boundaries. Thus, alliance management requires dedicated personnel, and dedicated function (supplier development, alliance development, and key account management) to interact frequently with network partners, to increase trust, knowledge sharing, and learning. Studies suggest network or relational structures to facilitate interaction and learning across firm boundaries (Chang & Gotcher, 2007; Kohtamäki et al., 2012; Selnes & Sallis, 2003). Gaining managerial authority across organizational boundaries requires competence highly appreciated by the alliance partners, frequent interaction and trust, as well as ability to learn and absorb knowledge. Where taking initiative in terms of learning and innovation has been rarely emphasized, this study has decided to emphasize the dimension. Taking initiative requires entrepreneurial organization, and facilitates development within relationships and networks.

Alliance management may facilitate alliance integration. Alliance integration references the firm's ability to interact, develop trust and commitment with alliance partners. Interaction, trust and commitment are central for alliance learning capability enabling innovation and performance improvement.

Alliance learning capability is particularly relevant for firm innovations within networks. Capacity to innovate is built in interaction with network partners, within ecosystems, where companies intend to develop understanding about potential future products and product-service features. In these instances, interactions that takes place within networked ecosystems, firms try create, share, make sense, and integrate knowledge to find appropriate understanding of development needs. Thus, ability to share and acquire

knowledge in interaction with network partners becomes increasingly important. Acknowledging the vast knowledge asymmetries between actors in networked ecosystems, it is central, and particularly challenging, to jointly develop relevant understanding of future development needs.

### **Suggestions for future research in alliance capability research**

Previous studies offer suggestions for conducting future research. In addition to the need for replicating the existing studies in other industrial and cultural settings and the repeated calls for using larger samples and data sets, the reviewed studies also include some specific recommendations. From a theoretical perspective, scholars suggest that future research should analyze issues related to the partner selection and the alliance formation (Al-Laham et al., 2008; Sivadas & Dwyer, 2000; Wang & Zajac, 2007). Moreover, the role of governance (Blonska, Storey, Rozemeijer, Wetzels, & de Ruyter, 2013; Lew & Sinkovics, 2013; Wang & Zajac, 2007) and trust in alliance relationships (Jiang et al., 2011; Paulraj et al., 2008), and the processes of knowledge creation and management (Feller, Parhankangas, Smeds, & Jaatinen, 2013; Heimeriks & Duysters, 2007; Johnson et al., 2004; Lowik et al., 2012; Orr et al., 2011; Pagano, 2009; Schreiner et al., 2009) need further analysis.

Another set of recommendations is associated with methodological concerns. The reviewed studies call for alternative operationalizations for the concept of alliance capabilities (Lambe et al., 2002; Phan, Styles, & Patterson, 2005). This recommendation may not come as a surprise considering that measurement of alliance capabilities is in many cases based

on indirect measures or proxies. Whereas the measurement of this construct should be based on more fine-grained measures (Berghman et al., 2006; Kohtamäki, Partanen, Parida, et al., 2013; McGrath & O'Toole, 2013; Paulraj et al., 2008; Wang & Zajac, 2007), the measurement method could be developed through re-definition and by adding new measures. The used measurements could better grasp the three dimensions of 1) alliance management, 2) integration and 3) learning. We suggest that the concept is measured as a formative construct, that is, a shared variance between the dimensions.

Perhaps a meta-analysis combining the findings from prior studies could be conducted to analyze the linearity of the effect of alliance capabilities on performance. On the other hand, future studies could place greater emphasis on the role of different mediators and moderators (Berghman et al., 2006; McGrath & O'Toole, 2013) that interact with alliance capabilities (Kohtamäki, Partanen, Parida, et al., 2013; Sisodiya, Johnson, & Grégoire, 2013).

The literature could be enriched by studies and data emerging from variety of industry contexts, such as solution providers, software firms, or consulting companies. The evidence base of the field would benefit from empirical studies in different contexts that vary with regards to dynamism, hostility, and complexity. In addition, as relatively large proportion of alliance capability research uses SME data, empirical evidence from large companies might provide new knowledge. In addition, as alliance capabilities are culturally related, studies could present data from variety of cultural contexts.

Future research designs could include multiple respondents (Berghman et al., 2006; Gammoh & Voss, 2013; Lambe et al., 2002; Lew & Sinkovics, 2013; Paulraj et al., 2008; Theoharakis et al., 2009; Wittmann et al., 2009), longitudinal data (Jiang et al., 2011; Morgan et al., 2009; Orr et al., 2011), as well as dyadic data (Gammoh & Voss, 2013; Lew & Sinkovics, 2013; Theoharakis et al., 2009; Wittmann et al., 2009), while also allowing the partners to evaluate the focal company's level of network competence (Ritter & Gemünden, 2003).

Furthermore, studies suggest that qualitative methods could enable researchers to identify other factors affecting the characteristics and development of the alliance capability (Draulans et al., 2003; Kale & Singh, 2007; Kohtamäki, Partanen, Parida, et al., 2013; McGrath & O'Toole, 2013; Wang & Zajac, 2007). Finally, further emphasis is needed to develop and document tools for alliance capability development (Kale & Singh, 2009). This type of work could be covered by a specific special issue on the topic.

### **Limitations**

By no means, this literature review is complete, and it would be impossible to provide such. That much variety exists in the literature, definitions, dimensions and measures. The present study did not intend to make complete review on the analyzed studies, and all the constructs involved in them. Instead, we intended to grasp the issues involved the concept of alliance capabilities. Thus, this study does not make justice to all the findings in the prior studies. Yet, we hope that we are able to touch base with the main findings regarding the alliance capability concept.

In addition, the present study covers only those papers, that address alliance capability (or related constructs) challenges in their title, abstract or keywords. Papers, which touch network capabilities only within text are not included into these analyses. Where this does not make justice to all the important suggestions in the prior research, this decision was conducted to focus on those studies that explicitly were set out to study the issues related to alliance or network capabilities. Yet, despite the obvious limitations, this study provides valuable perspectives on the alliance capability literatures and sheds some light on the concept and its potential development prospects for the future research.

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