

Orchestration and relationship and network capabilities: exploring the conceptual distinctions

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Abstract

The business literature on orchestration, network and relationship capabilities is diverse, but evident is that the latter two concepts are used in mixed ways. We conduct a search of the literature defining the three concepts. The study shows that researchers define relationship capability clearly, although ontologies vary, whereas network capability has mixed definitions according to a single or multiple firm focus. Network orchestration definitions vary according to the purpose attributed to the collective of firms. We discuss the theoretical issues and suggest directions for theoretical development. A key is to consider the meaning of a business network, because each ontological assumption changes the nature of what is a capability.

Keywords: capabilities, relationship capability, network capability, orchestration

Introduction

Relationship Capability (RC) and Network Capability (NC) are conceptually and practically entwined, when one considers an industrial network as composed of connected business relationships (Anderson et al. 1994). Thus, if a firm or a group of firms has a capability to develop and maintain or change or end business relationships, there is necessarily some capability in re-configuring, or orchestrating inside a network (Hara et al. 2015; Hurmelinna-Laukkanen and Nätti 2018). This premise relies on: (i) the definition of an industrial network, and (ii) whether managers understand how business relationships allow changing network position. For some managers neither premise holds (Czakoń and Kawa 2018). However, a review of RC and NC/Orchestration definitions and indicators from their first mention in the literature until 2017 suggests that conceptual issues require attention. We undertake a literature review of 51 papers including definitions and indicators to assess the theoretical issues and conclude with some thoughts to aid conceptual development.

The conceptual development of RC, NC and orchestration occurs across a range of literature with different ontological assumptions. Another issue is the center of capability, whether in the firm or with the managers between firms, while a third problem is the focus or foci of the intention – whether firm or multiple firms. Another consideration, evident in the industrial network literature, is the idea that not even one relationship can be ‘managed’ (Ford et al. 2017). We speculate that the dynamics of relationships and networks is a fifth issue that researchers have yet to contend with. In this paper we set out to make clearer distinctions between RC, NC and orchestration to explore what these might mean for future research. The paper is structured in the following manner. We explore the literature on capabilities and then we undertake an evaluation of RC and NC definitions and measurement indicators. Next we discuss orchestration literature. Finally, we summarize and make suggestions for future clarification of the concepts.

Relationship and network capability literature

The capability concept was initially developed within the Resource Based View (RBV) of the firm (Barney 2001; Peteraf 1993) and within the dynamic capabilities literature (Eisenhardt and Martin 2000; Teece et al. 1997). According to Peteraf and Barney (2003) the distinction between these two literatures is that the later extends the RBV to a dynamic setting. Teece (2007: 1319) characterizes dynamic capabilities as “the distinct skills, processes, procedures, organizational structures, decision rules, and disciplines, which undergird enterprise-level sensing, seizing, and reconfiguring capacities”. Here the

focus of capabilities is within the firm. However, Barney (2001) notes that some capabilities might be cooperative and based on trust. There has since been a gradual shift to understanding cooperative forms of RC and NC (Ritter et al. 2004).

But a preliminary appraisal of the literature also indicates that NC and RC are often emphasized equally or in a mixed way within each other's definitions. For example, Rodríguez-Díaz and Espino-Rodríguez (2006, 26) consider that RCs "can be defined as superior skill(s) to manage resources shared between companies." Contrastingly, Walter et al. (2006: 542) define NC as "a firm's ability to develop and utilize inter-organizational relationships to gain access to various resources held by other actors." While the first definition notes sharing a network of resources is a RC, the second is concerning a single firm's perspective of gaining access to a resource through individual relationships. Neither definition focuses exclusively on the phenomenon the author/s name. Apparent is that RC and NC are so practically entwined that theoretical division will either not be possible, or might set up a false distinction. But also evident is a need for improved clarity and further research.

The mixing of definitions is a continuing issue even in recent research (e.g. Parida and Örtqvist 2015). But if authors focused solely on RCs the mixing issue is less apparent (e.g. Pham et al. 2017). However, when a study combines NC and RC, not only is there a mix of definitions there is often a variation in viewpoint between single and multiple firms. For example, Mu et al. (2017, 188) define NC as "the ability of a firm to exploit its existing interfirm relationships and explore its existing interfirm relationships and explore new relationships with external entities in order 'to achieve resource (re)configurations and strategic competitive advantage as markets emerge, collide, split, evolve, and die. (Mu and Di Benedetto 2012, 5)'" Here the firm is in focus, but not alone, rather the issue of managing with other firms has come into view. Also apparent is how exploiting and exploring all possible relationships is needed to re-configure resources, but the network concept was left implied. However, including multiple firms in NC definitions is rare, and recent. From the earliest references to NC (Möller and Törrönen 2003; Ritter and Gemünden 2003) to the present there has been a continuing focus on a single firm's capability. Apparent and called for are NC definitions that include a broader focus on multiple connected firms.

In Table 1 are presented, in chronological order, quantitative empirical RC and NC papers which publish indicators. Table 1 displays that the RC and NC studies are distinguished only by the concepts of trust and commitment, which are focused solely within RC studies. If relationship maintaining and managing are considered similar, there are no other concepts which are purely NC or RC. Apparent is that considerable theoretical development, and a clarification of ontological matters, is needed to both distinguish RC and NC, and also how each articulates the other.

Orchestration literature

Recently the concept of orchestration raises the possibility of a multi-firm network capability. Dhanaraj and Parkhe (2006, 659) first introduce orchestration in an innovation network as a "hub firms ... activities to ensure the creation and extraction of value, without the benefit of hierarchical authority. Orchestration comprises knowledge mobility, innovation appropriability, and network stability." Importantly, Dhanaraj and Parkhe (2006, 659) "reject the view of network members as inert entities ... [and] embrace the essential player-structure duality present in networks." We interpret this to mean an ontology similar to that expounded in the industrial network literature (see, Möller and Halinen 2018). That is the network is comprised of actors in connected business relationship (Anderson et al. 1994). However, the connected relationships in an innovation context are purpose specific, and so what orchestration comprises is limited to technical functions and maintaining network stability, the innovating purpose thus sets up the ontology of the network.

As orchestration research has developed authors have sought to encompass multiple collaborating firms focusing on network change to advance innovation (Nambisan and Sawhney 2011; Ritala et al. 2012; Ryan et al. 2012). However, researcher approaches have differed, for example Nambisan and Sawhney (2011) are seeking to understand processes, while Ritala et al. (2012) look to realist coordination mechanisms. Nambisan and Sawhney (2011) find the processes of leveraging and managing coherence and appropriability, while Ritala et al. (2012) find orchestration involves communicating vision and building social capital. Ritala et al. (2012) also note a difference between management of a present network and orchestration for the future. The findings in each of these studies reflect the ontological presumptions of the network studied.

Table 1. Concepts applied in quantitative studies of relationship and network capability

Author/s (year)	NC/RC	Concepts									
		power exercising	trust	commitment	communication	knowledge-sharing	coordination	relationships initiating & developing	relationships maintaing	relationships managing	relationships enhancing & leveraging
Sivadas & Dwyer (2000)	RC		✓		✓		✓				
Jacob (2006)					✓						
Walter et al. (2006)					✓	✓	✓				
Wang & Zajac (2007)											
Paulraj et al. (2008)					✓						
Theoharakis et al. (2009)			✓		✓		✓		✓	✓	✓
Ngugi et al.(2010)											
Allred et al. (2011)											
Smirnova et al. (2011)						✓					
Mitrega et al. (2012)									✓		
Kohtamäki et al. (2013)						✓	✓	✓			
Donada et al. (2016)									✓		
Matanda et al. (2016)			✓		✓						
Obayi et al. (2017)							✓				
Pham et al. (2017)				✓	✓	✓			✓	✓	
Rapeeporn et al. (2017)							✓				
Mort & Weerawardena (2006)	NC										
Ziggers & Henseler (2009)	NC & RC				✓						
Mu & Di Benedetto (2012)	NC							✓	✓	✓	
Mu (2014)	NC							✓	✓		
Parida & Ortqvist (2015)	NC & RC				✓	✓	✓	✓			
Chen et al (2017)	NC					✓			✓	✓	
Mu et al. (2017)	NC							✓	✓	✓	
Parida et al. (2017)	NC				✓	✓	✓	✓			

Regarding the focus of orchestration, whether by a firms or firm, similar issues are found as with RC and NC. One finds orchestration focuses on multiple firm collaborations (e.g. Eloranta and Turunen 2016) or on lead or hub firms (e.g. Kano 2018; Perks et al. 2017). For example, Perks et al. (2017, 106) in a study of how lead firms mobilize business relationships found “four overarching network orchestration mechanisms in the value platform development context; envisioning, inducing innovativeness, legitimizing, and adjusting.” The one aspect that is common in managing a collective of firms, although the meaning may differ, is the role of business relationships.

More recently, one finds RC, NC and orchestration combined in studies. Schepis et al. (2018) venture the co-orchestration concept and ask for research “to recognize the dynamic capabilities and practices of other smaller firms participating in nets.” (op.cit. 124) While Möller and Halinen (2017) offer the NetFrame, whereby a NC is undertaken by influencing, orchestrating and managing amongst other firms to achieve network configurations. Möller and Halinen (2017) also note that RC and so NC must vary contingently according to different strategic nets, industries and technological change.

To conclude, there are multiple ontological viewpoints being taken to studies of RC, NC and network orchestration. Further, these concepts are necessarily conceptually and practically associated. In addition, the focus can be on lead or multiple firms and variation in contexts and purpose also impacts network re-configuration (see Table 1).

Table 1. An overview of 51 papers on orchestration, and relationship and network capability according to a firm or multiple firm activity source

	Relationship capability only	Network capability only	Relationship and Network capability	Orchestrate Network only	Network capability and Orchestrate network
Single firm focus	10papers	7 papers	3 papers	7 papers	8 papers
Multiple firm focus	4 papers	3 papers	3 papers	5 papers	1paper

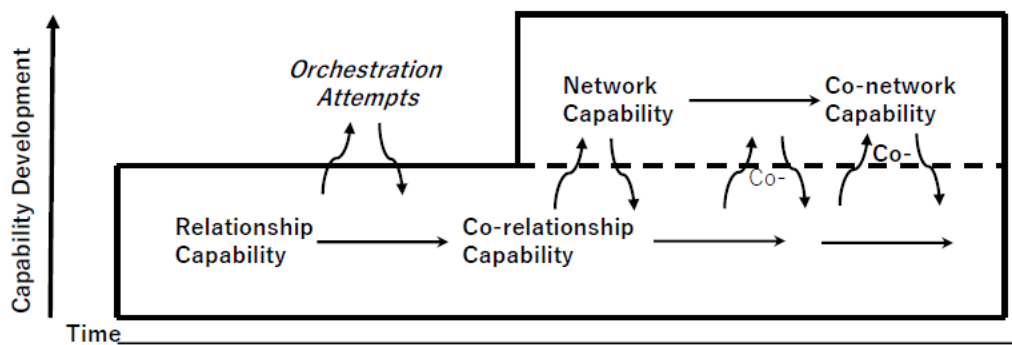
Discussion

There are a number of issues which deserve attention to further business network research. There is little doubt that further theoretical development is needed of the NC concept and the articulation with RC. Evident is that without RC the thought of a NC is impossible. However, the articulation between RC and NC remains to be addressed. For example, does a NC provide also a RC?

Clarity is also needed concerning NC and orchestration – is there a distinction between managing in a network and a lead firm orchestrating a future in a network (Ritala et al. 2012), or is it that all firms co-orchestrate (Schepis et al. 2018)? What seems clear from industrial network research is that no firm acts alone (Håkansson and Snehota 1989), which means needed is an elaboration of co-orchestration and co-network capability, assuming there is a difference. Further, since business relationships are the way to influence other firms (Håkansson and Snehota 1995), co-relationship capability is required. We present in Figure 1 a visualization of the RC/NC/orchestration processes. The dashed line in Figure 1 shows an unclear conceptual distinction between RC and NC, as each seems to be involved in the other in a social and interpretative manner.

In Figure 1 development is shown on both axis. The left vertical axis represents the conceptual and activity associated processes, whereby relationship capability develops to network capability for a firm in a business network. On the horizontal axis is shown the development of the co-orchestrating, co-relating and co-networking associated activities leading to a firms' co-relationship capability and a co-network capability. We have presumed that co-orchestration develops along both axes. Necessarily the limitations of a two-dimensional representation of these concepts means that the reversions, the discontinuous learning and changes from new events, and the ever needed new understandings are not presented.

Figure 1. Capabilities and orchestration in a business network setting



NB. Here development is idealised, whereas events lead to ever new developments, reversions, etc.

Also not shown in Figure 1 is the ontology presumed for the business network. If interaction in a business network is always future oriented (Medlin 2004), then the practicality of each re-configuration of a network is an open question. This would suggest that Möller and Halinen's (2017) view of different orchestration processes, and RC and NC's according to each variation of network context and purpose is an appropriate direction for future research. However, such research needs to have clearly elaborated the ontological presumptions of the network so that some translation of understandings is possible between researchers.

For the future, how RC and NC articulate remains a research issue. For example, Mitrega et al. (2012) proposed that different RCs combine in some different but non-specific, ways to present as an overall firm NC. Presumably, NC is conceptually or managerially of higher order and is a more complex capability. If managers undertake purposeful changes and reconfigurations in business relationships so as to gain and maintain a network position, rather than simply incrementally adjust without foresight, how does a developed NC change the ways managers (plural) organize relationships?

An alternative conceptualization of RC and NC articulation is that an understanding of a network logic (Håkansson and Snehota 1995) provides a way for many managers to shape their business relationships. This argument, based on institutional logics, is presented by Ojansivu and Medlin (2018) based on a case study of relationship and network change over 20 years. Under this articulation the interdependent

RC of many managers is seen to support or frustrate the changing configuration, with each new temporal expression of a network providing greater or lesser support for the interests of the actor (Medlin and Törnroos 2014). This approach is aligned with what Möller and Halinen (2017) term the cognitive perspective. However, this articulation does not address the managerial means for enacting a NC, nor importantly for how a developed co-NC changes the ways relationships are managed.

One reason for the mixing of RC and NC definitions inside each other in past research is the issue of how to deal with managing in a relationship *and* in a network (Ritter et al. 2004). The focus of many studies is from an external realist viewpoint and from the perspective that a firm is the holder of a capability. The alternative approach, the one taken by many industrial marketing studies based on case studies, is that managing in many relationships enables managing within a network (Ford et al. 2017; Ritter and Geersbro 2011). Here the focus of RC and NC is centered in managerial skills and abilities across and in-between business relationships. For Ford et al. (2017) this means managing the interfaces between firms. Evident is the multi-actor character of the managing process (Araujo et al. 2003). Also apparent is that the articulation between RC and NC is concerned with inter-temporal dependencies as well as resource and activity interdependencies. However, further theoretical clarification is needed concerning these interdependencies. Are the interdependencies between business relationships, as in IMP literature (Anderson et al. 1994), or between firms as in market understandings? What does this ontological difference mean for theory development?

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