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Strategic patterns in the development of network capability in new ventures

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Industrial Marketing Management

Abstract

This paper seeks to examine the strategic patterns in the development of network capability in new ventures. Every firm needs to build on their internal resources to survive and grow. In this respect, network capability development is important for new ventures to acquire and mobilize external resources and engage in interactive networked activities. Strategizing and new venture contexts are relatively new streams of research for the Industrial Marketing & Purchasing (IMP) group. Based on a longitudinal case study of two new ventures, our findings add to this largely emerging field suggesting that there are two viable pathways for strategizing for network capability development, emergent and deliberate. Further, the cases demonstrate nine patterns evident in the two strategy-making processes. Our paper adds to the growing body of literature that places interaction, relationships, and networks at the heart of strategy making and provides important insights for new ventures, which may lead to earlier and greater success for the firms.

Keywords: Network capability, Emergent strategizing, Deliberate strategizing, New Ventures, Industrial networks

1. Introduction

This paper examines the strategic patterns that arise in the development of network capability in new ventures. In doing so, we outline two potential strategic pathways, deliberate and emergent. Both pathways can lead to network capability over time as the new venture learns in interaction with its business partners. New ventures are not privileged with the full gamut of resources combinations required for their business (Ciabuschi, Perna, & Snehota, 2012; La Rocca, Ford, & Snehota, 2013). Network capability is an attractive strategic option for new venture resourcing to gain access to vital external resources through interaction in business networks. However, while extant literature exists in relation to new venture creation, we know little concerning the evolving processes in strategy making, particularly in relation to networks (Partanen & Möller, 2012). Business network research in a new firm context while rare is an emerging field of research (Ciabuschi et al., 2012; La Rocca et al., 2013). We seek to contribute to this stream of research by exploring interaction patterns in strategizing for network capability development. In doing so we do not assume network capability as inherent for the new venture. Nor do we commence with the 'born within' or social networking view (Ebbers, 2014; Slotte-Kock & Coviello, 2010). Rather we use a business or industrial network perspective (Håkansson & Snehota, 1995; Håkansson, Ford, Gadde, Snehota, & Waluszewski, 2009) to explore strategy making for network capability development through identifying patterns in interaction between the new venture and their surrounding business network.

We define network capability as the early stage development of the understanding, willingness and ability of the new venture to purposefully engage its business network of relationships to begin to gain access to, and mobilize, resources with other network actors. In this respect we focus on network capability as a strategic option comprising an ability to proactively use, in interaction, business networks to fulfill the growth and survival ambitions of the new firm. Network capability's importance as a strategy in the development of the new venture is clearly shown in prior research (Ciabuschi et al., 2012; Gadde, Hjelmgren, & Skarp, 2012; LaRocca & Snehota, 2014; Partanen, Chetty, & Rajala, 2014). New venture development is all about action (Davidsson, 2015; McMullen & Shepherd, 2006) and we have recently witnessed calls for research to take a more interactive perspective on new venture processes (Shepherd, 2015; Snehota, 2011). New venture capabilities can be captured in interaction patterns, and we take this view of the network capability strategizing of the new firm. That network capability as a strategy is realized when the firm exhibits a consistent pattern of behavior in its stream of activities in its business relationships and networks. While interaction based strategizing and new venture research is gaining attention in the business network literature (Baraldi, Baraldi, Brennan, Harrison, Tunisini, & Zolkiewski 2007; Harrison, Holmen, & Pedersen, 2010; La Rocca et al., 2013), strategy-making patterns in network capability development is not. In fact, we see an implicit assumption that new ventures have network capability (Mitrega, Forkmann, Ramos, & Henneberg, 2012; Walter, Auer, & Ritter, 2006) which is at odds with studies that have found that network capability is heterogeneously distributed (Edwards, Sengupta, & Tsai, 2010; Möller & Svahn, 2003;

Semrau & Werner, 2014). Combined, these research gaps raise two important questions which form the theoretical motivation for this study: a) Do deliberate and emergent strategizing approaches describe the approach to network capability development used by new ventures? b) What patterns are evident in the two strategy-making processes for network capability?

We begin by describing network capability as a strategy developed in interaction and its importance to the new venture. Two divergent pathways to strategizing for network capability development are put forward, deliberate and emergent. The longitudinal and comparative case study methodology is then presented. The actors-activities-resources (ARA) model is used as a classification scheme to uncover the factors that might constitute the patterns in strategizing for network capability development in both a deliberate or emergent manner. Findings and discussion are primarily based on semi- structured interview in addition to websites, newspaper reports and industry reports which were used to understand the wider context of the industry and to temper the potential bias of relying on the focal firms' perspectives. Conclusions are drawn as are implications for theory and practice.

2. Strategic patterns in the development of new venture network capability

Seminal studies in the strategic management field have focused our attention on capabilities as the foundation for strategy formulation. Capabilities are not inherent, they require development (Teece, Pisano, & Shuen, 1997), are context dependent (Pettigrew, 1997; Zahra, 2007), complex and temporal (Teece et al., 1997; Zollo & Winter, 2002). Network capability is no different. Capabilities have been defined as high level routines (Zollo & Winter, 2002), or patterns of repeated action sequence that represent promising solutions to a particular problem (Teece, 2012). They are most often conceived as 'owned' or as providing competitive advantage to a particular firm. Given that our paper focuses on patterns in strategizing for network capability we depart from, and extend, these studies by examining patterns in interaction between the new venture and their business network. Viewed in this light, strategizing patterns will not reside within the boundary of a single firm. Rather, patterns are dependent on other actors in the network and will emerge in interaction and through experience and learning in business relationships and networks (Håkansson & Snehota, 1989; Håkansson et al., 2009; McGrath & O'Toole, 2013). Hence, how the new venture strategizes for network capability is different in each firm due to context and the pathway that the firm choses, and may be primarily deliberate or emergent based on firms' preferences towards overt dependence (Johannisson, 1986; Lee & Tsang, 2001) or experiences gained in interaction (Turnbull, Ford, & Cunningham, 1996; Welch & Wilkinson, 2002).

Possessing a level of network capability endows a firm with a strategic ability to (co-) relate to other actors in a network. As it is defined at the level of a capability it is differentially possessed by a particular firm, or by a combination of actors, in interaction with others and it has the potential, if enacted, to affect the performance of the firm(s). Identifying the patterns of strategic behaviour as this capability emerges in new ventures, whilst a new avenue for research, builds on prior research work in the area of social network evolution (Ebbers, 2014; Hite, 2003; Zahra, 2010) and on the development of new ties over time (Hallen & Eisenhardt, 2012; Lechner, Dowling

& Welpe, 2006; Newbert & Tornikoski, 2013) in two significant ways. In prior empirical studies, network strategic activity is often seen as something that an individual firm does (Coviello & Joseph, 2012; Hite, 2005; Lee, Lee & Pennings, 2001) rather than as an activity also given value and changed in interaction. Hence it represents a different approach to strategy formulation (Aaboen, Dubois & Lind, 2012). Secondly, research in network formation mainly takes an assumption that the firm follows an intentional (Hite & Hesterly, 2001; Larson & Starr, 1993; Ozcan & Eisenhardt, 2009) or path dependent approach (Gulati, Nohria & Zaheer, 2002; Hallen, 2008) to its network development which may interchange as the new venture grows (Vanacker, Manigart & Meuleman, 2014; Zhang, Souitaris, Soh & Wong, 2014). We include both approaches from the start by considering strategy for network capability as evident in the patterns of behaviour by the firm in its network of business relationships. A network capability takes some time to build for any new venture, even ones with an initial good set of personal networking contacts as it is learned in interaction with other firms in the network.

Our view of network capability strategizing is consistent with Mintzberg's (1987; 1994) view of the strategy as pattern in the context of the overall strategy of a firm. From an IMP or business network perspective, the scope of strategy has altered "from that of pursuing a victory over others to somehow making it together with customers, suppliers, distributors and development partners" (Ford et al., 1998: 107). While strategic management thinking has focused primarily on the independent organization, the research has informed industrial network thinking in a myriad of ways. These include, but are not limited to, research related network positioning (Baraldi et al., 2007), organizational and network boundaries (Håkansson & Snehota, 1989; Holmen & Pederson, 2003) and more recently the use of network pictures as a strategizing and sensemaking tool (Colville & Pye, 2010; Corsaro, Ramos, Henneberg, & Naudé, 2011; Ford & Redwood, 2005). We aim to further the work on strategizing from an IMP perspective in examining patterns in how new firms learn to strategize their network capability development in interaction. Our model of the evolving patterns in network capability strategizing is depicted in Figure 1 and described narratively below.

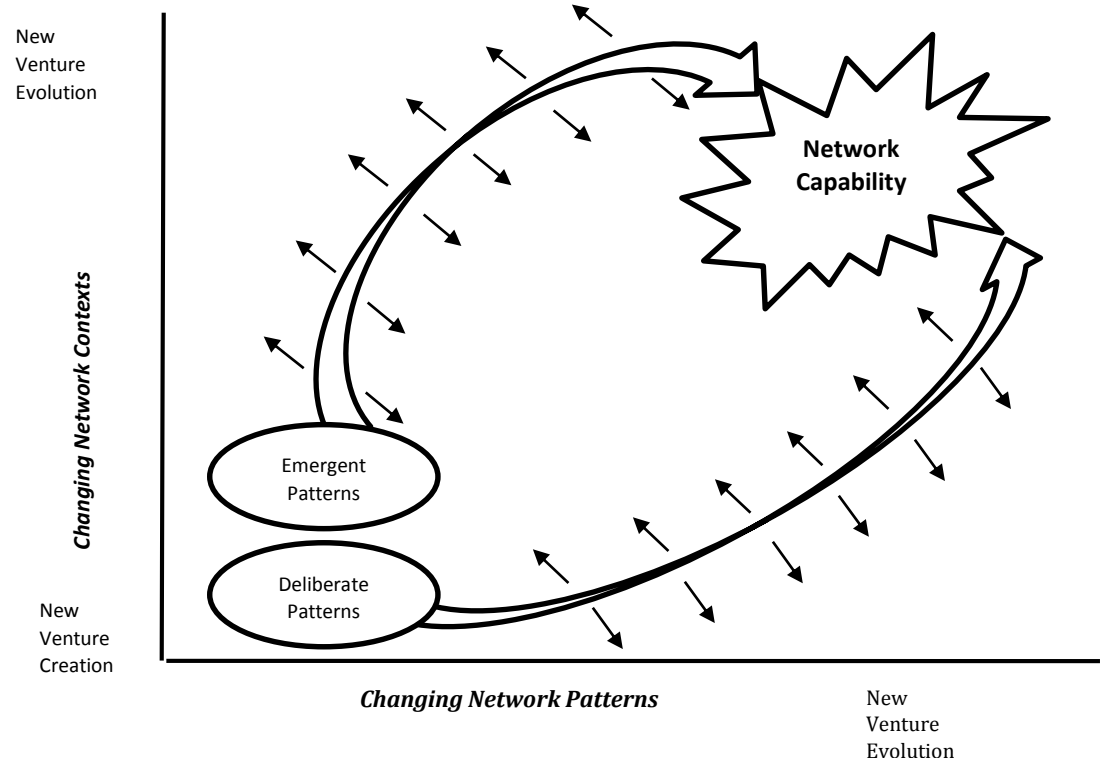
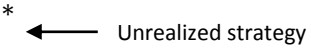


Figure 1: Evolving patterns in network capability strategizing



In examining the two pathways to strategizing for network capability development in interaction, we would expect to see changes in the new ventures network contexts and changing network patterns (see, Figure 1). The interplay between a new venture and its network contexts is important given that the presence of business relationships is a condition for the existence of any new firm (Snehota, 2011). From a social network perspective, we know that new ventures are created within of set of trusted personal contact networks which are important in mobilizing resources early in new business formation process (Ebbers, 2014; Hoang & Yi, 2015; Jack, Moult, Anderson, & Dodd, 2010). However, this initial set of connections is rarely responsible for the new venture's development over the longer term. As the venture evolves, the challenge in strategizing for network capability is to connect into established business networks with pre-existing activity patterns and resource structures to gain access to a constellation of resources found in a business network context (Håkansson et al., 2009; Johanson & Vahlne, 2011; La Rocca et al., 2013). To grow in network capability might be to see evolving patterns of interactive relationship depth within this wider business network context. Over time, this might happen through repeated and deeper relational interactions or enhanced reputation through becoming 'known' as a key player in the industrial network.

In changing network patterns in strategizing we would expect to see more complexity in new venture resourcing and activities in interaction as the firm evolves. At venture creation, we would see patterns in information and finance acquisition (Davidsson & Honig, 2003), social support (Greve & Salaff, 2003) and the social network acting as an initial sounding board for ideas and opportunities (De Carolis & Saparito, 2006). Over time, network patterns would grow in complexity through experience in interacting in business networks with, for example, customers, distributors and suppliers. Business network relationships may become close, complex and long-term, with extensive contact patterns and joint strategizing as interaction may involve the technologies of both companies. We might begin to see patterns of dependencies between firms as they adapt to each other to meet ongoing business requirements.

A perfectly deliberate strategy is intended, shared and accepted by all the actors involved whereas an emergent strategy relies on patterns of consistent action over time with an absence of intention (Mintzberg & Walters, 1985). In reality, Mintzberg and Walters (1985) note that it would be unusual to find a perfect form of either strategy. Real world strategizing will fall within the deliberate/emergent gamut (Mirabeau & Maguire, 2014). In furthering our understanding of strategizing for network capability development, we are looking at the two approaches, not as

dichotomous extremes, but rather as following consistent patterns in behavior on the path to network capability development.

From a business network perspective, strategizing, either emergent or deliberate can only be achieved in interaction with other firms. In this way strategy processes are described as interactive, evolutionary and responsive, rather than independently developed and implemented (Håkansson & Ford, 2002). A new venture may start out with a deliberate idea of developing its business through a network or may emerge with this capability over time. With a deliberate strategy, for example starting with a leading (top 20) industrial customer, we would see patterns driven by actor intent and related to the firm's understanding and belief that there is opportunity in connecting to new firms. Conversely, the new venture may not intend to develop network capability as a strategy due to an inherent independent mind-set (Birley & Westhead, 1994; Mueller & Thomas, 2001) but it can surface over time in patterns of habitual dialogue and interaction with their network context.

In either case it is clear that new firms, start from a position outside of the core industrial network (Johanson & Vahlne, 2011; La Rocca et al., 2013). As noted, developing network capability from an IMP perspective is dependent on other network actors. Access to the network may take time for the new venture as starting from a relatively poor resource position towards other firms could mean that time and experience, in interaction processes, is needed for partner firms to recognize the new player. Strategy making in networks is fluid and dynamic and depends on interaction. Arrows along the pathway in Figure 1 indicate that, in the new venture context, there are many unrealized patterns that fall away on a firm's journey to network capability development. No strategy is perfectly formed from day one, it evolves over time. In this paper we aim to explore whether deliberate and emergent strategizing approaches describe the approach to network capability development used by new ventures and the patterns evident in the two strategy-making processes. The methodology used in the study to meet this objective is detailed in the next section.

3. Research methodology and design

This study concerns two approaches to strategizing for network capability development which suggests a longitudinal and comparative case study method (Halinen & Tornroos, 2005; Tidström, 2014; Yin, 2010). A major strength of the case study approach is that it can investigate a contemporary phenomenon within a real-life context (Yin, 2010) and is capable of capturing patterns in inter-organizational processes (Aaboen et al., 2012). Using a case study approach offers depth and breadth for understanding the specific phenomenon (Easton, Wilkinson, & Georgieva, 1997). Longitudinal studies are suggested to capture patterns in the firms' specific contexts and development processes (Aaboen, Dubois, & Lind, 2013), in our case patterns in strategizing for network capability development. The research is discovery-oriented and needed to incorporate the context of its subject, the new venture, and engage with how strategizing for network capability was developed over time. Therefore, the overall design philosophy of the study including participant selection, data collection and analysis was performed in accordance with the practice and criteria outlined for interpretive research set out by Lincoln and Guba (1985) and outlined in this section. For example, prolonged engagement with the two case companies in our longitudinal design enhanced their credibility criterion.

Case research on business networks can be characterized as process research (Halinen & Tornroos, 2005). In recent years, many authors have advanced our understanding of new venture networks through process research (see, for example; Aaboen et al. 2012; 2013; Ciabuschi et al., 2012; La Rocca et al., 2013). Process research, defined as "a sequence of individual and collective events, actions, and activities unfolding over time in a context" (Pettigrew, 1997: 338), explicitly recognizes the role that context plays in academic research. New venture network capability strategizing is context dependent and varies from firm to firm. Taking the view of new venture creation and business networks as a process (Gartner, 1985; Halinen & Tornroos, 2005), process research clearly fits our research question. As strategies are developed and enacted over time (Pettigrew, 1997), to analyze network capability strategizing necessitated a longitudinal study. This took the form of on-going semi-structured interviews to benchmark initial business context and capability, and follow patterns in the firms' strategizing for network capability over time.

3.1 Participant selection and data collection

Case selection is an important methodological decision (Dubois & Araujo, 2007; Eisenhardt, 1989), and in this study two case companies were located in Ireland. Both firms were operating in a business-to-business context, and were managed on a day-to-day business by the owner of the firm. Convenience, access and geographic proximity were important criteria for selecting cases "allowing for a less structured and more prolonged relationship to develop between the interviewees and the case study investigator" (Yin, 2003: 79). Case selection was also based on ongoing research connections, company network activities and theoretical interests which are justified in the business-to-business literature (Ciabuschi et al., 2012; Halinen & Törnroos, 2005; Dubois & Araujo, 2007). Two comparative cases were selected from our case bank due to their perceived ability to highlight the divergent paths of strategizing for network capability development (Cope, 2011; Eisenhardt, 1989; Halinen & Tornroos, 2005). As network capability develops in interaction between actors and firms and is conceptualised at a firm level, we selected the new venture as the unit of analysis while remaining cognizant of the role of founding manager.

The idea for Alpha was conceived in 2004 by two partners, and for both this was their first business. The founders' intention was to provide low cost and customized solutions for wireless applications. The researchers met with one of the founders 12 times over a nine-year period (2007-2016). Each interview lasted approximately two hours. Beta was founded in 1973 but acquired by a new owner in 2007, which is where our story begins. Beta is an engineering sub-contract manufacturing company which specializes in precision machining, sheet metal fabrication and full product sub-contract assembly. For Beta, the years 2007 to 2009 are historically reconstructed from company documentation and interviews conducted in 2010. The owner/manager of Beta has been interviewed four times since 2010 (approximately 10 hours of data) and one interview was conducted with its buying organization's key supply chain manager in 2011.

In both cases, prior to interviewing, a series of issues to be explored with each new venture was devised (Patton, 1990). The question structure was loose, allowing variations to emerge on a case-by-case basis. We explored the new venture history and their initial important relationships. We asked about current business relationships at each interview, how they formed, how they interacted, how often,

their description of the relationship. We probed them regarding the importance of each relationships, information and knowledge they shared, the type of any unique resources or activities in these relationships were also a focus. The interviews were taped and transcribed verbatim. Documentation in the form of company and product brochures, presentation materials, business plans, internal records, newspaper articles and company information on websites were analyzed (Bernardi, Boffi, & Snehota, 2011). The diversity of sources enriched the contextual understanding of the study. Additionally, we recognized that to uncover patterns in strategizing for network capability required looking backwards and forwards in time in the new ventures relationships to uncover these processes (Aaboen et al., 2012; 2013).

3.2 Data analysis

The case studies were prepared by the researchers according to a process perspective, which deals with how events come into being and unfold over time in a context (Halinen, Medlin, & Törnroos, 2012). To aid us in analyzing the data we applied NVivo, the qualitative analysis software, to facilitate the organization and analysis of the data, rearranging it into smaller coded groupings to facilitate insight, comparison, and theory development (Strauss & Corbin, 1990). The ARA model (Håkansson, 1987; Håkansson & Johanson, 1992; Håkansson & Snehota, 1995) was used as a data classification tool and a source of insight into the case companies' interaction patterns in strategizing for network capability development (McGrath & O'Toole, 2013). The ARA model is one of the core analytical tools developed within the IMP group of researchers and therefore is congruent with the theoretical assumptions of our research (Håkansson & Snehota, 1989; 1995). The ARA model provides an analytical framework to unpack the substance of a relationship from its component parts – activity links, resource ties, and actor bond. The three layers of the ARA (actors, resources, and activities) model provided the initial boundaries and structure for the data (Miles & Huberman, 1994). Whilst the model was not developed to identify strategizing for network capability development, it did enable us to classify the data and label a factor when a substantial pattern was observed in a particular aspect of one of the three layers, for example, a resource created in interaction.

The types of patterns expected in the new venture context are outlined in the paragraph that follows. Once we approached a near complete set of factors under each level, we presented all the data for both of the firms across from that factor to ensure fit (Voss, Tsikriktsis, & Frohlich, 2002). We initially isolated critical interaction episodes in the three layers over the ten-year study period from interviews and supplementary documentation and arranged them to compile a complete map of the events, which could potentially lead to strategizing patterns in network capability development (Schurr, Hedaa, & Geersbro, 2008; Halinen et al., 2012). Analyzing interaction episodes can explain the various changes that take place within relationships or networks (Schurr et al., 2008) and were initially categorized as goal directed and deliberate or more emergent and serendipitous. In analyzing interaction episodes, we initially looked for themes and patterns through constantly comparing grouped data (Strauss & Corbin, 1990) and when a consistent pattern emerged we labelled it a factor that might constitute the patterns in strategizing for network capability development.

At the actor level, analyzing interaction patterns between the new venture and their engagement with other actors in relational initiation and in expanding their

network context facilitated our understanding of strategizing as deliberate or emergent. We analyzed patterns in resourcing, that is, whether resources were purposefully mobilized across firm boundaries, whether exchange episodes were deliberate and strategic, passively attained or circumvented due to the perceived risk from participating in such processes. Whether emphasis was placed on acquiring, sharing and coordinating resource flows within relationships and networks or a more gradual process which started in acquisition was an interesting factor in strategizing for network capability. At the activities layer, in analyzing interaction patterns, we recognized that the new ventures will have altered products and processes to meet the needs of customers, suppliers and distributors as a result of their day-to-day innate problem solving, opportunity creating behavior. For strategizing network capability we further examined interaction patterns to determine whether activities were deliberate, for example investments for joint processes including, but not limited to adaptation and innovation. Or more emergent, beginning at the level of the new venture using external resources to enact activities independently, over time to dyadic activities, and eventually into the network. Increased complexity in problem solving behavior emerged as a factor across both strategies with enhanced learning to problem solve in relationships occurring over time.

The data analysis was iterative (Langley, 1999) and continued over a long period of time with constant revisions. Even with two cases, taking on the challenge of defining constructs requires an iterative sequence of analysis to avoid overlap, and to avoid using an amalgam of other pre-existing processes masking the real behavior being observed. Our research approach was abductive (Dubois & Gadde, 2002), neither purely deductive nor inductive, but rather a combination of the two. Using an abductive research approach, cycling back between theory and data as the study proceeded allowed us to produce new insights into the patterns in strategizing for network capability development. Having the three layers of analysis and processes of the construct identified from the literature in advance provided the anchor for the work on their refinement during the analysis and helped to maintain focus on the same phenomena across cases and over time (Aaboen et al., 2012). Looking back it was helpful to keep combing the data with the dialectic in mind of what led to change in the entrepreneurs' behavior in strategizing network capability during the study. The findings are organized around the three levels of analysis and discussed in the following sections.

4. Case Analysis

Overall our case analysis highlights that there are two paths in strategizing network capability, one emergent and one deliberate. The findings are depicted below and organized around three levels used as a classification scheme for our analysis (i) Actor interaction patterns, (ii) Resource interaction patterns, and (iii) Activity interaction patterns. The findings are summarized in Table 1 and are addressed separately in the sections that follow.

4.1 Actor interaction level

As can be seen in Table 1, for *Alpha*, relationships and networks were initially not viewed as a primary means to business success. Their guiding vision was to become a world leader in the telecoms industry, and their intended strategy to achieve this was

to provide high performing innovative products at a low cost. Patterns in interaction to achieve this vision were aggressive sales techniques to double their business size every year in lieu of realization through networks. Relationships were not integral to their strategizing, in fact Alpha interaction patterns showed a clear preference to operate in an independent way believing that they could succeed and grow based on their own merit alone. Interaction patterns with customers were operationalized in a transactional, short-term way and ceased on completion of a sale.

For *Beta*, their vision was to move up the precision engineering value chain to make parts approved to the highest quality standards including being part of final products in the medical industry approved by the US Federal Drugs Agency (see, Table 1). This vision was founded on a combination of technical skills, adaptations and trusted partnerships. Relationships played a critical role in their business vision and patterns emerged in purposefully seeking relationships as a means to business success. For example, they deliberately maintained strong relationships with a large customer (Charlie), a supplier-buyer relationship developed on the basis of personal relationship. They also initiated a relationship with Delta, a major player in the medical device industry to further enhance their success and reputation in the medical devices network. These relationships were viewed as a means to business success. Patterns in strategizing for network capability development in this manner facilitated the planning of other business objectives as they were aware that their relationships with Charlie or Delta could not be dissolved quickly, it would take up to three years. Even in the absence of contracts, they were the sole supplier of core materials in an industry, an industry where the risk of any material leaking from compounds tested in the machine would be serious. This enabled them, in 2007, to hire three senior managers to underwrite its move up the precision value engineering ladder at a cost of €450,000. They could not have done this without a clear strategy and a strategic partner and without the knowledge that its turnover would grow substantially, by up to 20% per annum, to meet its costs.

In both cases we witnessed patterns in the development of mutual trust, in interaction, prior to relational commitment in engagement. All firms are born with relational connections and the case firms were no exception. With positive experiences, *Alpha* developed trust in partnering with distributors through patterns of repeated sales and jointly solving customer based problems. This trust took time (six years) to emerge and although initially developed in interaction patterns with distributors, it quickly expanded to include suppliers and customers. While interactions were frequently engaged in an emergent and atomistic manner, as a one-way stream, 'small wins' achieved by the new venture led them towards further strategizing for, and developing network capability. *Beta* was fortunate to start their business with a strong multi-national partner, and over time, we saw patterns of purposefully expanding their customer and network base.

For *Alpha*, we observed patterns in evolving contexts whereby they gradually moved away from their initial social ties to connections with industrial based actors, albeit in a short-term and transactional manner in the early years. Patterns in strategizing network capability were serendipitous, not jointly planned within business relationships, and quite regularly initiated by network actors as opposed to the new venture. In July 2005 Alpha had a chance meeting with a competitor, which helped them shape their business. Although unaware at the time that the actor would

be their competitor, the meeting was invaluable from a learning perspective as it showed them where they wanted to be and provided an understanding of the key players in the network. Alpha also noted that through a business mentor, they had acquired a contract with a major electronics company in Europe, a contract that would last for at least three years. With this contract and in interaction, the firm received an introduction to the head engineer of another large company in Europe, with whom they had been trying to meet for the previous three years. They reasoned that they had appeared too small to that firm but, with a connection to a larger company, they gained access. Patterns also emerged in the network reaching out to the firm to solve customer issues. For example, Alpha was contacted by a distributor to solve a customer complaint. The customer was aware that his drivers were dissatisfied with the noise, size and leakage problems associated with a competitor's product. Alpha together with the drivers designed a product to eliminate their issues and the resulting product was very successful. However, until 2008, interaction patterns were primarily transactional with customers and distributors. Alpha did not see the value of embedding themselves within the network as a major supplier for repeat sales.

Initial patterns in strategizing were emergent, starting with a widely dispersed opportunity creation approach. For the first three years, patterns in using catalogues as a form of distribution was not proving successful. Selected interactions with suppliers were deemed poor due to service issues and a number of distributors had proved inadequate in their sales techniques. Dealing in a transactional manner, limited resources had been committed to these interactions and could be easily replaced. It was not until February 2008 that Alpha began to realize the value of initiating and maintaining relationships with core distributors who could strengthen their business and their position in the market. A critical event was their recognition that through regular patterned visits to preferred distributors in the UK, they were being introduced to new potential and existing customers. Additionally, access to foreign markets would have been hampered without recognized distributors with interaction patterns ensuring efficiency of product delivery, pursuing payments and dealing with customer support. They began to work directly with customers for more complex products but maintained a strong relationship with distributors by always giving them a percentage of the sale price for making the connection and motivating them to sell more. By the end of the study period, through patterns in interaction and experience, Alpha had emerged in network capability and developed partnerships with all of the major device companies in the electronics field. This trial and error approach to network development seemed to result in a more fine-tuned network context more suited to the business goals of the firm.

Beta pursued a relational management strategy with multiple levels in a key partner firm (Charlie). The supplier-buyer relationship developed on the basis of personal relationship and when the new owner took over this continued easily as the new owner of Beta had previously worked for Charlie. Patterns in interaction highlight that Beta endeavored to purposefully shape their relationships and networks and, in doing so, initiated a relationship with Delta, a major player in the medical device industry, which they noted was very price oriented but in recent times due to FDA rules had become more quality and service oriented. They recognized early in the relationship that they did not make the same margin with Delta as they did with Charlie, however, with the regulations going up they felt that they would make a

higher margin in the longer term, which they did. Through deliberately strategizing for network capability development in building relationships with large customers in the medical device industry, Beta, although a small company, quickly and deliberately strategized for network capability and positioned themselves in the network as an important player.

Beta initially set out to build and maintain strong relationships with large firms, including Charlie and Delta in an effort to build reputation in precision engineering in the medical device sector. They then used this deliberate network capability strategy to minimize dependence on any large customer by further acquiring customers using their enhanced reputation as a key supplier in the industry. Beta took a long-term relational view and ensured that quarterly presentations on performance were given to customers by their staff. Embedded in the network, but with 80% of its revenues coming from 6-7 customers, in 2010 the we saw patterns in the firm whereby started to spread their business risk by moving into other precision engineering industries through joint investing in new product development. In 2010, their deliberate strategy included an expansion into new sectors including aerospace and oil and gas. They realized this deliberate strategy by attaining certification for aerospace in 2011, working in the oil and gas sector through a relationship in 2012 and initiating 3D printing and aerospace partnerships in 2015. The firm clearly understood the idea of relationship portfolio and balancing across sectors. However, a wait and see approach was not used in relationship development with investment taking place early. This lead to the firm getting 'locked-into' customer relationships, relationships which, at times, were not the optimal connections to bring their business forward.

4.2 Resource interaction level

In analyzing patterns in resourcing, as depicted in Table 1, it was clear that *Alpha* purposefully strived to acquire and control rather than share resources. Alpha consistently approached suppliers to access critical information, aware that even if the suppliers did not have it, they would have access to it through their own networks. Early customer interactions also provided valuable information in terms of discussing issues with competitor products. Patterns in information acquisition included added features and benefits, potential routes for mass customization and the best way to approach the automotive industry. Distributors were noted as particularly important in exports as they were familiar with the local key players, including customers, competitors and suppliers. Distributors were aware of changes in the market, competitor activities and new potential customers. However, patterns were in information acquisition and not mobilized or coordinated in the network. Given their emergent strategizing, this took time.

More complex resource configuration took hold as the firm's reputation grew and they were contacted by the network for product design. As noted in Table 1, in 2007, they commenced customizing products on a customer-by-customer basis. Patterns in sharing information emerged with customers and they realized that they could deliver high performance goods for customers in a shorter period of time. This process provided a ready-made channel for sales and lessened their risk of product failure. Custom products developed in interaction could be sold to other players in the market through modifications and slight tuning and rendered the comparison of prices with competitors difficult as the focus realigned from price to benefits. Alpha

initially took responsibility for the full cost of the design and it was not until November 2010 that we saw patterns in customers paying for developmental activity.

For *Beta*, their relational interactions were frequent and interaction patterns involved both mobilizing resources and joint investments. Their relationships were dense with resource flows and, with Charlie they made relationship specific investments in machinery and trained staff at each other's firms. For example, Charlie invested €400,000 in a testing system that is based at Beta, and both purchased the same cleaning machine at a cost of €100,000 each. This was partially driven by necessity due to FDA regulation in the USA where firm owners are held responsible if something goes wrong with medical equipment. Beta also deliberately deepened its relationships with Delta, which commenced as a very price and transactional oriented relationship but quickly moved to a point whereby they could jointly create value. The firm noted that both parties in their buyer-supplier relationships would find a way to help the other if an external environmental crisis hit the relationship. For example, if product approvals were halted by regulatory authorities for a product produced for Charlie, the company would provide considerable financial assistance to Beta to hold its investment in the relationship or provide it with other customer contacts to tide it over.

4.3 Activity interaction level

With regards to adaptation and innovation patterns, Alpha engaged in these activities as independently as possible, initially emerging outside of, or at the edge of the network (see, Table 1). Customer, distributor and supplier information was used in adapting and innovating, but they did not engage in joint investment for the study period. In 2008, Alpha started engaging in dyadic relationships within their business network. This was emergent as opposed to deliberate and initiated from the customer and distributor side as they approached Alpha for new product development. Patterns in developing an adaptation ability in this way, whilst internal, were slowly leading to market reputation and to the venture becoming an accepted part of the network even if they did not realize it. We saw consistent patterns of product development in interaction with customers without charge, an activity that could cost customers €40,000. This was a huge cost absorption for the new company but they were guaranteed to lock them in at the design stage. This pattern was visible in nearly twenty cases and helped them to develop relationships and the ability to work with partners in an emergent manner.

From 2010 Alpha started to partner for projects, although they remained financially autonomous. Patterns in sharing resources with customers in the design and development phase of new product development emerged, however, only on a project-by-project basis. From this point in time, their business took flight. In 2011 they started to design solutions with major players for business customers moving from the dyad to the network. This involved massive investments by Alpha in developing operations in three countries as they did not partner within their business network through joint investment. Alpha noted that they continually interacted with partners to see what new technologies were coming down the line. Waiting for customers to tell you their requirements was deemed fruitless, it would not work as their technology partners were continually developing products for what the customers would need next year and the year after. In the industry, customers look

for products when they need them, and if you tell them you will have it in 6 months they will move to a competitor. Product obsolescence was a problem in the industry and patterns in interacting with large partners helped them to keep ahead in the game and fully develop the capability to jointly adapt and innovate in the network. In October 2012 it was clear that they had emerged in a more long-term view of the network. In designing products with customers, they did not plan for the relationship to end after the initial sale. Instead, they noted that they were seeking to forge partnerships to become the providers of choice for all the requirements of the customer. By doing so, Alpha enhanced their own sales and processes and further embedded relationships by providing unrivalled support for customers in the design and development of their products.

Therefore, although the venture had fixed views on developing and controlling the business, patterns and experiences in interaction and the increased complexity in problem solving was beginning to force a change in the ideas of how the business might grow and succeed in interaction patterns with other firms. The indicators of a change in cognition were Alpha's experience in problem solving for customers, its emerging reputation for technical excellence and delivery, distributor trust in the founders based on competence but also social trust on their willingness to get things done and not let partners down. At the end of the study period, the business was positioned as a module supplier fully integrated into its customers' businesses and still using its reputation of problem solving and peer-leading technical competence. The business was highly trusted and saw itself as a player within the industry rather than the outsider trying to get in. It appears that this change was emergent as opposed to deliberate.

As noted, *Beta* and Charlie started their relationship in deliberate patterns of joint investment. Beta commenced their business in making tailor made parts that appeared in Charlie's final product. Their partnership was interdependent and high in strength based on strong beliefs in the relationship by both partners and extensive customized adaptation by each partner. Beta is owner managed in contrast to its multinational buyer Charlie, facilitating their network capability development. Even within this size imbalance, Beta invested considerable sums in its plant, up to €2 million in 2010, an investment made with the knowledge that its future turnover from relationships would cover the costs. However, Charlie was not a massively innovative company and in 2015 was still only a 2 billion dollar company, up from 1.5 in 2007. To this end, the complexity in problem solving did not increase over the years, in fact, Charlie started to place emphasis on reducing internal and supply chain costs and had been conservative in acquisition. In 2014, Charlie moved one product from Beta to Singapore, a volume product that was easy to move. This affected the relationship, as Charlie did not communicate this move to them in advance. However, they replaced the work with other work, smaller work, but with greater complexity and hence greater value to both firms. The interpersonal links between the companies remained strong and multiplex, and the business was projected to reach 8 million euro in turnover in 2014.

With Delta, mutual dependencies were evident in patterns of product adaptations and development. Beta produces parts for orthopaedic surgical instruments for Delta, and there are only two suppliers in the world that can do this. Beta had the technical base for production and could not register an IP independent of Delta. In 2014, Beta

became involved with Delta on a joint strategic innovation for precision drill ends with open suction for surgery. Delta could not find a solution themselves. Although small, Delta realized that they did not have the innovative capability and flexibility in new product ideas that Alpha had. With enhanced complexity in product design, in 2014 Delta started to pay for higher quality products as the FDA rules began to force a long-term change in the way they were doing business. Delta is now less price oriented and have moved up the value chain. They have replaced Charlie as Beta's key relationship. Beta has other long-term relationships and a desire for these to continue but would not see them at the same level of strength or importance and would not put as much effort into strategizing for their development and maintenance. As described in Table 1, in 2013, Beta commenced a project for full turnkey assembly of medical waste product with a new German partner. This German partner is currently buying 9-10 million products that Beta makes and ship directly to customer requirements. In all relationships, given their strength and complexity, Beta stressed that their larger partners have helped out with crisis via cash on delivery; shortening payment times; and recognizing revenue in different quarters if needed. Beta shares and mobilizes knowledge with their customers and within the network, and provides recommendations on better manufacturing processes. The business is highly respected in the network for its front-end engineering, high quality products, frequent communication and flexibility. They have the capability to develop and maintain long-term relationships in the network, a capability that developed in a deliberate manner since the new owner took over the firm in 2007.

Levels	**Factors**	**Emergent (Alpha)**	**Deliberate (Beta)**
Actor interaction patterns	Patterns in actor vision	Their vision in 2004 was to become a world leader in the telecoms industry. It was not until 2010 that relationships featured as part of this vision.	From day one, their vision was to move up the precision engineering value chain through strategically partnering with large customers.
	Actor engagement patterns	For Alpha trust developed through patterns of experience in interacting with customers, distributors and suppliers. This started through network referrals. For Beta, experiences in interacting with their first large customer, Charlie, facilitated the patterns of trust development, which was mirrored in other relationships.	
	Patterns in evolving contexts	Both habitually interacted within industrial nets to operate. For Alpha, their context evolved in an emerged way and was dictated by other firms - introductions by distributors and suppliers for customer problem solving. Beta was born with a strong customer relationship and strived to replicate this with other potential customers. Relationships through other actors in the network did not happen.	
		A chance meeting with a competitor in 2005 helped them to see their potential network context and horizon. In early 2007, a mentor	The initial supplier-buyer relationship developed on the basis of personal relationship and they used this relationship to develop other relationships with customers. In 2011 the firm

		brokered a relationship with a key player in the automotive industry which is still their number one area for sales. Industrial relationships emerged in a serendipitous manner through problem solving.	started to spread their business by moving into other precision engineering industries through patterns of joint investment in new product development. This was conducted in a deliberate manner with focus placed on trying to partner with leading customers in each sector.
	Patterns in network actor choice	Initial patterns showed an aggressive and short-term sales approach to customers and distributors. Cold calling and lead generation through trade magazines the primary means to customer acquisition.	They recognized that value could be created for both parties in long-term relationships and patterns involved working closely with customers in product design, production and delivery.
Resource interaction patterns	Resource access patterns	Patterns centered on acquiring information from suppliers, distributors and customers. They remained cautious in information sharing for the duration of the study.	Their interaction patterns with customers were frequent and involved acquiring and sharing information in addition to mobilizing resources and joint investments.
	Resource configurations patterns	For Alpha, it took time and experience in interaction prior to engaging in complex resource configurations. Relationship development patterns commenced in 2010 with partners as they were seen as having competence in fixing customer issues but combining resources was continually conducted on a project basis. Beta jointly invested in value creating processes in product development with partners over longer periods of time and from an early phase in their relationships.	
	Patterns in knowledge and information flows	Patterns in important information acquisition were evident but not in sharing. The importance of visiting industrial partners was noted.	Information and knowledge was shared across the network for product development and smooth operational processes.
Activity interaction patterns	Patterns in adaptations and investment	Alpha sought to control adaptation and investment in innovation. They initially absorbed the cost of product development but later charged customers for the process. Even at the end of the study they retained control over adaptation and investment but were open in knowledge flows.	The companies jointly invest. For example, Charlie invested €400,000 in a testing system that is based at Beta. With Delta they commenced a major joint project. In 2013 they partnered with a German firm for a new device in the medical industry which required a large investment and commenced partnering in other industries.
	Increased relational complexity patterns	With increased complexity in problem solving, both firms saw the value developing network capability. Both retained full ownership of their firms. Their flexibility and innovativeness as entrepreneurial firms was attractive to larger players in the network.	

Table 1: Examples of patterns in strategizing for network capability development

5. Discussion

In line with our model presented in Figure 1, deliberate and emergent strategizing approaches can describe the pathways to network capability development used by new ventures. Network capability was developed by Beta as a deliberate strategy for cooperating to compete. Network capability development was more competitive by Alpha and emerged over time through enhancing technical reputation and innovation. The Alpha case emphasizes that the ability to visualize networks and initiate and maintain relationships with partners, that is strategize for network capability development, is not an in-built ability or skill in a new business' capability toolkit. Our findings suggest that new firms are not born within an industrial network, they need to connect into it, and through it, over time and in interaction (Håkansson et al., 2009; Johanson & Vahlne, 2011; La Rocca et al., 2013). In keeping with our model, at the end of the study, both had the ability to purposefully use network capability in an intentional way. What differed was the time it took to get there, for Alpha it took more than six years, for Beta less than two years. Hence, our findings from the empirical study are consistent with previous work by Teece et al. (1997), which illustrates the complexity of network capability development; capability development is not automatic and takes time to build.

Our comparative case studies demonstrate that strategizing for network capability development is dependent on interactions with other actors, and is not a process that can be managed by the new venture in isolation. This differs from current definitions of network capability in the entrepreneurship literature, which defines the capability as developed and controlled at the level of the individual firm (Chen, Zou, & Wang, 2009; Walter et al., 2006). It is clear that changing network contexts and changing network patterns were important for network capability development as the firm evolved (see, Figure 1). In changing network contexts we witnessed a movement from an initial predominantly social to business network perspective, which can be seen in actor interaction patterns. Network patterns increased in complexity in new venture resourcing and activities in interaction as the firms evolved. Descriptors of the core patterns at each level which informed strategizing for network capability development in the new firm are detailed in Table 2, along with empirical literature that supports the overall assessment made by us in each pattern albeit the bulk of this literature was not developed around new venture strategizing. However, in answering our research questions it clearly shows that deliberate and emergent strategizing approaches can describe network capability development used by new ventures. It also describes the nine patterns which are evident in the two strategy-making processes for network capability.

As can be seen in Table 1, as new, small actors on a larger playing field, both ventures, in line with the literature, were guided by a vision, an intuitively experienced image of what their company expected to achieve and how (Johannisson, 1987; Pettigrew, 1979). Vision governs action, and for Alpha, initially that action did not include co-creating value in interactions in relationships highlighting that being able to vision the network taking an industrial network approach takes time, experience and learning in interaction. Their priority was in aggressively pursuing sales in a short-

term transactional manner. For Beta, relationships played a significant role in enacting their vision and they strived to deliberately build an architecture of interaction patterns that were beneficial to both the entrepreneur and other potential actors in the network (Ozcan & Eisenhardt, 2009). They focused on the development of purposeful arrangements among actors to create mutual value (Jarillo, 1988).

In actor engagement, the new ventures, given their size and resource constraints, recognized that they had to develop mutual trust prior to committing to relationships (Hoang & Antoncic, 2003; Lorenzoni & Lipparini, 1999). For Beta, this trust was in place as the owner was a previous employee of Charlie. Trust was developed with other firms throughout the study period, in line with the literature, through patterns of mutual satisfaction in interaction processes (Hite, 2005; Jack et al., 2010; Uzzi, 1997). Both firms were born within a set of trusted social networks which provided initial advice, ideas, support and for Beta, initial customers. Moving from this network to the industrial network took two routes, Beta driven by deliberate intent and Alpha more emergent realization (see, Table 2).

Alpha's network context evolved through patterns of serendipitous events and coincidental meetings (Johannisson, 1987). They did not have time to see, or 'take stock' of the wider network horizon to which they could be embedded and lacked the time to strategize potential movements between their 'born within' and wider network contexts. Conversely, Beta could see their network context and purposefully strategized in patterns of relationship initiation in the wider network horizon and beyond (Dwyer, Schurr, & Oh 1987; Ring & Van de Ven, 1994). Intuitively, we reason that successful network capability development in this instance may be dependent on their view of the network or their network pictures (Corsaro et al., 2011; Ford & Redwood, 2005).

In actor network choice, Alpha began their relational activity as a sales transaction without long-term potential. This facilitated the development of a network picture based on experience and learned over time as the firm leveraged its experience to develop this capability (Larson & Starr, 1993; Hite, 2003). Where patterns in actor interactions were beneficial, relationships deepened. Where patters were negative, relationships ended. This allowed for a trial and error approach to network development based on emergent patterns in interaction. Beta commenced their business with a longer-term view, more in line with industrial network thought. However, similar to findings by Vissa (2011), their prior network structure influenced future tie formation intentions with actors selected due to social similarity, referrals and being similar to their first customer. In doing so, they initiated fewer new economic exchanges (Vissa, 2012) and, in line with the new venture network literature, risked becoming locked-in or trapped in their own net (Gargiulo & Benassi, 2000; Uzzi, 1997). What was interesting was that in both cases, it was clear that new ventures start from a position outside of the core industrial network. Access to the network may take time due to a lack of reputation and starting from a relatively poor resource position towards other firms. Hence, time and experience, in interaction processes, is needed for partner firms to recognize the new player in the market.

We instinctively know that new firms seek to access resources from their network. In resource access, Alpha engaged in an emergent strategy and started with patterns of external resource acquisition, and, over time, moved toward more interdependence in interactions within the network. Both ventures, in keeping with

current thought, were inherently alert in acquiring resources, which could lead to new opportunities (Baron & Tang, 2011). However, sharing resources was not Alpha's preferred strategy due to the perceived risk of loss of propriety resources and knowledge until it could see the potential in wider network participation. Coordinating resource patterns in this instance took time and was based on experiences in resource interaction as opposed to deliberately planned. In this way, similar to Gadde, Huemer, & Håkansson (2003) strategizing was more incremental in nature embedded in resource links within relationships that were growing in importance for the firm. In deliberate network capability strategizing, similar to Håkansson and Ford (2002), resources were not merely exchanged by Beta, rather mobilized in interaction patterns between the actors within their network. For Beta to strategically initiate, maintain, and use relationships and networks in interaction with business partners, resource mobilization had three important dimensions: 1) the ability to purposefully acquire external resources, 2) share internal resources within business relationships, and 3) co-ordinate internal and external resources across firm boundaries. We found that as the firms grew they were able to mobilize resources in a network regardless of their strategy. This integration of resources within a network in later years, in line with the literature, led to the emergence of new and more complex resource configurations through value creating strategic processes (Amit & Schoemaker, 1993; Gemünden, Ritter, & Heydebreck, 1996). This took place as technical complexity grew in relationships moving interaction patterns from simple resource exchange to more technological and human asset exchange layers.

Patterns of knowledge and information flows for Alpha were unilateral towards other firms, with distributors and customers being used as market intelligence gatherers. For Beta, we witnessed patterns of information sharing across firm boundaries and into the network with relationships being viewed as a channel for accessing and exchanging information. This deliberate strategy in knowledge flows is more widely accepted in the extant literature (see, Chollet, Géraudel, & Mothe, 2014; Hoang & Antoncic, 2003). Knowledge exchange to create network ties enables the building of capabilities (Nonaka, 1994; Reagans & McEvily, 2003). We found that network capability is no different. In the longer-term for the case companies to operate in the network required patterns of information and knowledge exchange in interaction across multiple actor and network levels.

The literature suggests that activities of individual firms are not isolated, they are part of a larger system and interdependent with the activities of a number of network actors (Gadde et al., 2003). Our findings suggest that interactive activity patterns in emergent network capability strategizing is an incremental process. Alpha quickly appreciated that resources were held by other actors, and then developed an understanding that a relationship provides the means to adapting and creating qualitatively different resources. During their early years, adaptation activities were controlled, as much as possible, by Alpha in-house using external resources. However, with time and experience, dyadic interaction patterns evolved for resource adaptation and value creation. These dyadic relationships led Alpha into the network through patterns in adaptation and innovative activities in interaction with other actors.

In deliberately strategizing network capability, Beta became embedded in activity chains to attain the advantages that close, interdependent relationships could provide. Similar to Svahn & Westerlund (2007) Beta recognized that they were unable

to develop major process or business innovations in isolation due to the dispersion of knowledge and technological resources driven by organizational specialization, and lacked the finances to go at it alone. They realized they needed to bring external value into the firm. Thus, deliberate engagement of network capability moved them towards jointly investing time and resources in adaptations, innovations and in technologies. This joint investment can have uncertain outcomes and can be risky for a new venture as it consumes scarce resources of the firm. The ability to deal with this type of risk is an indication of strategic thinking on the value of network interdependencies.

Joint problem solving (McEvily & Marcus, 2005; Uzzi, 1997) is critical to network capability development as it shows that the new ventures are becoming active within their networks dealing with problems with other actors jointly, both in their own interest and, over time, in the interest of other network actors. Joint problem solving in our case enabled the entrepreneurs to experiment with working with network actors and vice versa, to find solutions to issues before investing in each other and combining resources and activities. In keeping with the literature, such arrangements facilitated the acquisition of capabilities by promoting the flow and transfer of tacit, complex and difficult-to-codify knowledge (Elfring & Hulsink, 2003; McEvily & Marcus, 2005; Uzzi, 1997) allowing the venture to draw on the insights, experience, and ability of network members, such as customer and supplier firms, in resolving issues. As expected, towards the end of the study period we started to see more complex patterns of problem solving in both forms of strategizing, as it was difficult for the firms to conceive of complex layers in interaction in advance. Problems became multiplex and multilevel and were brought to the firm by the network and vice versa.

Levels	**Core concepts**	**Emergent**	**Deliberate**	
Actor interaction patterns	Patterns in actor vision	Patterns in seeing relationships as one among many means to business success.	Patterns in purposefully seeking relationships and networks as a means to business success.	Anderson, Dodd, & Jack, 2010; Johannisson, 1987; Ozcan & Eisenhardt, 2009
	Actor engagement patterns	Interaction patterns leading to the development of mutual trust, prior to relational commitment.		Hoang & Antoncic, 2003; Lorenzoni & Lipparini, 1999
	Patterns in evolving contexts	Patterns in moving from their 'born within' social networks to industrial networks - expanding their network context.		Hallen & Eisenhardt, 2012; Holmen & Pederson, 2003; Vissa, 2012

		Network context shaped by coincidental meetings and affective attachment to other actors.	Attempt to purposefully shape their network context and horizon.	Dwyer, Schurr, & Oh 1987; Johannisson, 1987; Ring & Van de Ven, 1994
	Patterns in network actor choice	Starts with a widely dispersed opportunity creation approach.	Starts in purposefully selecting actors to build their network context.	Gargiulo & Benassi, 2000; Hite, 2003, 2005; Jack, Anderson, & Dodd, 2010; Larson & Starr, 1993; Uzzi, 1997; Vissa, 2011, 2012
		Trial and error approach might result in a more fine-tuned network context more suited to the business goals of the firm.	Initial customer choice can have a deterministic effect on network context.	Hite, 2005; Vissa, 2011, 2012
Resource interaction patterns	Resource access patterns	Patterns of resource access with a preference for control over the resources offered in the network.	Willingness to jointly plan for resource access across and between organizations.	Baron and Tang, 2011; Gadde et al., 2003; Håkansson & Ford, 2002; Turnbull, Ford, & Cunningham, 1996
	Resource configurations patterns	Loose resource coupling to other networks actors based on technical offering. Patterns of the firm becoming more embedded in strategic nets over time.		Amit & Schoemaker, 1993; Gemünden, Ritter, & Heydebreck, 1996
	Patterns in knowledge and information flows	Patterns of unilateral information flows with sharing commencing at a customer level.	Patterns of bilateral information and knowledge sharing across firm boundaries and into the network.	Chollet, Géraudel, & Mothe, 2014; Hoang & Antoncic, 2003; Riege, 2005; Sun & Scott, 2005
		To operate in the network requires information and knowledge exchange across multiple actor levels.		Håkansson & Snehota, 1989; Walter et al., 2005
Activity interaction patterns	Patterns in adaptations and investment	Focal firm seeks to control adaptation and investment in relationships.	Focal firm seeks to co-invest and co-adapt for specific relationships and networks.	McGrath & O'Toole, 2013; Ritter & Gemünden, 2003
	Increased relational complexity patterns	Increased complexity in problem solving patterns of behavior in interaction over time and at different levels – from initial dyadic problem solving – transitioning problem solving.		Hedda & Törnross, 2008; McEvily & Marcus, 2005; Uzzi, 1997

Table 2: Descriptors of strategic patterns for network capability development

6. Conclusion

This paper explored the strategic patterns in the development of network capability in new ventures using an industrial network lens – seeing the development of the new venture as interdependent on other actors, context dependent, and the strategy making process as an interactive one. We demonstrated, from our analysis of two longitudinal case studies, that the patterns of strategy development for network capability fitted the emergent and deliberate pattern outlined by Mintzberg and Walters (1985) and we identified nine patterns in how these strategies formed over time in the new ventures. Both deliberate and emergent pathways were found viable in the development of network capability. Therefore, taking either a path dependent or intentional approach, which dominant existing entrepreneurship network formation research, would not have demonstrated this pattern. Either approach taken to strategizing for network capability may, or may not, be successful as it is tempered by experience in interaction which, of course, can be positive or negative. Having the ability to handle complex inter-firm interdependence to co-create value is likely to take time and to be differentially endowed across firms. It should not be assumed that new ventures can quickly create advantageous network positions as the development of the ability to strategize for network capability was incremental in both our case studies. Whilst all new ventures are born with a set of network connections it takes much longer to develop the ability to strategize for network capability as it must be learnt in interaction. Therefore, applying a larger firm assumption of being able to strategize in and around networks is inappropriate for the new venture. The trajectory of new venture strategizing for network capability is uneven and highly dependent on the patterns of network interaction that develop and laden with the network context in which it develops.

The nine patterns identified in both deliberate and emergent approaches to the development of the ability to strategize for network capability in new ventures are described in Table 2. These nine patterns can be used as a framework in the formation and development of network capability strategy for new ventures and, as such, can be seen as a strategy-making toolkit derived from taking an industrial networks approach. Using network patterns as an alternative way to strategize brings many new insights to the use of networks as social and resource conduits for the resource and time poor nascent venture. Many network business strategy and planning approaches are presented as options for new venture development and, in this context, it is a valuable exercise to present a modality that is framed in interaction with other network actors. As classically outlined by Larson and Starr (1993) from a new business formation perspective or by Håkansson and Snehota (1989) from an industrial network approach, evolving in networks is complex and multi-layered. The nine patterns identified in this research may go some way in demonstrating this complexity and layering and, in doing so, present an how to strategize process to complement these views on understanding how network evolve. In addition, the nine patterns presented imply that the process of network capability strategizing may be underestimated when applied to resource and scale challenged new ventures.

Strategizing for network capability development can be emergent, driven by improvisation and intuition and the "ready, fire, aim" (Harrison & Leitch, 2005: 361) mentality which characterizes new ventures in their bid to access resources and solve problems on a day-to-day basis. A deliberate strategy may be inhibited due to the self-reliant and independent mentality of the new venture (Birley & Westhead, 1994; Lee & Tsang, 2001; Mueller & Thomas, 2001). For the venture with goals to remain independent, the potential of using business networks as a strategic tool for resourcing, knowledge sharing or product development is less obvious and does not just happen. It is a gradual process, developed in an emergent way by the new venture in reshaping their view of their network context and in interaction with other network actors through experiences in resource exchange and joint activities. To deliberately strategize network capability development, new ventures must be able to see the potential in their network context and horizon. They need to take a cognitive leap to understand the potential in using a broader set of conduits to building their business in a business network where they can have access to wider pools of resources. Strategizing network capability in a deliberate way can move a new venture into a favorable network position in a more timely fashion, enhancing reputation, building legitimacy and gaining momentum once engaged. The potential to gain from network resources and the paucity of these resources in new ventures makes strategizing for network capability development an attractive business strategy for new firms. It is not a strategy that can be fully managed by the firm given its dependence on interaction, but the new firm has the potential to gain significantly through its proactive engagement of business relationships at a dyadic and network level.

In practice, developing network capability is invaluable for entrepreneurs as it has the potential to relieve some of the resource and time pressure on them by providing them with strategic routes to mobilize resources through their existing and potential network ties. However, being time constrained can make it difficult to adopt a more deliberate approach to strategizing network capability development. New ventures may prefer looser ties and weaker links that do not require major activity and resource commitment. Our analysis reflects positively on the potential to grow their businesses through both forms of strategizing network capability. Although Alpha's strategizing was more emergent, perhaps due to an independence mentality and desire for control, initiating and maintaining relationships and networks did help them, over time, to develop reputation and grow their business. Yet, overall, our study suggests that deliberately strategizing network capability is an important factor for the development, and growth of the new firm.

Our study is not without its limitations. The obvious problem with it is that it is process-based and does not address the structural nature of networks. Yet it does respond to the need for more longitudinal process-based work to be conducted in the area of entrepreneurial networks (Chen & Tan, 2009; Hoang & Antoncic, 2003). This study is based on a comparative case study and not every new venture will follow a similar path in either emergent or deliberate strategizing for network capability development. However, although the findings from this research are context specific, they have intuitive appeal and the core patterns at each level of development described in Table 2 can inform future studies relating to strategizing for network capability development. It would have been difficult to gain such insights into the

processes and pathways without the depth and thickness of data available using our approach.

Regarding future research many options are considered. In our study a single founder was driving the business in both Alpha and Beta. It would be interesting to explore strategizing for network capability if there were multiple owners responsible for the day-to-day running and longer-term business planning. This may affect the strategy making processes through the introduction of multiple sets of social and business connections. This layering of network capability may push the firm more towards deliberate or emergent modes of strategizing for network capability development. Similarly, a wide range of new venture based studies focus on early stage investment in the firm (Gersick, 1994; Hallen, 2008). Exploring the impact of large external investment on network capability development would be appealing as it may be the case that it could force a firm down a more deliberate path due to the pressure for returns on investment. Linking strategizing for network capability to the network pictures literature as a sensemaking tool for development (Corsaro et al., 2011; Ford & Redwood, 2005) would be an interesting avenue for future research and would enhance our understanding of the cognitive aspects of the capability development process for the new venture.

* All firm names used in this paper are pseudonyms; additionally, identifying information has been altered to ensure anonymity.

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