A Kaleidoscope of Business Network Dynamics:

Rotating Process Theories to Reveal Network Microfoundations

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Abstract

Although networks have been the epicenter of research in B2B marketing for many years, our understanding of their dynamics remains in its formative stages. In this paper, we explore how the integration of various process theories broadens our perspective of business network dynamics and allows us to study the microfoundations of network change and stability. Our empirical case shows that as we rotate through each process theory, a new combination of network microfoundations appears. We contribute to the business network literature by: 1) providing a nuanced and refined understanding of network microfoundations; and 2) showing how the use of different process lenses alters the mix of microfoundations revealed.

Keywords

business network; network dynamics; microfoundations; process; case study

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1. Introduction

How and why do networks emerge, evolve and change? Business networks have been the focus of intensive research for many years (Anderson, Håkansson, & Johanson, 1994; Håkansson & Snehota, 1989) and scholars have paid interest to business network dynamics for almost as long (Halinen, Salmi, & Havila, 1999; Halinen & Törnroos, 1998; Havila & Salmi, 2000). Yet, despite the acknowledgment that stability and change are fundamental concepts in the business network approach, our understanding of these concepts remains in its "formative stages" (Andersen & Medlin, 2016, p. 18).

Business networks are characterized by interaction and relationships between interdependent actors. This world of network interactions, which stands in contrast to the neoclassical view of markets, recognizes that short- and long-term changes stemming from internal and external sources cause variation to structures and processes (Ford & Håkansson, 2006; Abrahamsen, Henneberg, Huemer, & Naudé, 2016). At the same time, networks are characterized by stability, with Håkansson and Johanson (1992) noting that stability is vital for industrial development.

Important here is that change and stability co-exist. As explained by Håkansson and Johanson (1992) and Håkansson and Snehota (1995), understanding change and stability in networks requires appreciation of the inter-related actors, resources and activities (ARA). These elements operate at the micro level, i.e. the basis of the network at the macro level. Thus, there is a natural connection between the IMP research tradition regarding business networks and recent arguments from strategic management and organization theory regarding 'microfoundations' (see Barney & Felin, 2013; Felin, Foss, & Ployhart, 2015), a way of

thinking that emphasizes the power of lower-level constituent units in explaining macro-level phenomena. As explained by Felin et al., (2015), although the study of wholes is important, understanding the micro elements that constitute wholes can lead to more rigorous work at the macro level.

Given the arguments pertaining to microfoundations parallel the IMP research tradition's interest in micro-level elements (ARA), they pave the way for a stronger linkage between business network research and fields like strategic management and organizational studies. Broadening the view from actors, resources, and activities to other micro elements of networks also provides a new perspective to questions that are of interest to business network researchers. As we show in this paper, a microfoundations approach can provide new insights on the *intentionality of network dynamics*, e.g., whether network dynamics are deliberately driven by actors (Castro, Casanueva, & Galán, 2014), *mode of network dynamics*, e.g.. how to analyze the interplay of forces of stability and change (Halinen et al., 1999), and *level of network dynamics*; e.g., whether dynamics are caused by network actors or environmental forces (Kragh & Andersen, 2009; Rosenkopf & Padula, 2008).

In brief, microfoundations research examines: 1) how micro-level elements such as actors, resources and activities explain phenomena at the macro level such as networks; 2) how interaction in the micro level leads to the emergence of the macro level; and 3) how relations in the macro level are mediated by micro-level activities (Felin et al., 2015, p. 576). In the context of network development, Ahuja, Soda and Zaheer (2012), distinguish between four primary microfoundations: agency, opportunity, inertia and what they refer to as random and exogenous factors. They claim that these forces influence the stability and change of the nodes that comprise the network, the ties that combine the nodes, and the structure that results from these connections.

Two points arise from the above. First, microfoundations research complements ARA arguments because they can provide insight to the forces underlying stability and change in business networks. Second, both business network and microfoundations research imply the need to take a processual view to a phenomenon that, by definition, has a temporal dimension. The importance of process is seen, for example, in Slotte-Kock and Coviello's (2010) discussion of how a combination of process theories (life cycle, teleology, dialectics, and evolutionary) might explain how business networks develop. Slotte-Kock and Coviello (2010) argue that the firm co-evolves with its network, but lacking is discussion on microfoundations. Conversely, Ahuja et al.'s (2012) arguments overlook issues pertaining to a temporal dimension. Thus, although these two sets of scholars discuss the same phenomenon from different levels and complementary perspectives, they do not address the interdependence of: 1) microfoundations; and 2) processes. This leads to our research question: Which network microfoundations are revealed when we apply different process theories to study business network dynamics?

To answer to our research question, we apply the microfoundations literature and process theory to a business network. The general premise of our study resembles the idea of a kaleidoscope: as we rotate through each process theory, a new combination of network microfoundations appears. We study the business network dynamics of Founder2be, an online platform that facilitates the process of startup founders finding potential cofounders. Our contribution is twofold: First, we provide a nuanced and refined understanding of network microfoundations. This helps bridge the IMP, strategy and organization theory literatures. Second, and more practically, by combining microfoundations with process theory, we show that research focused on a certain type of network microfoundation will benefit from the application of a specific type of process theory. Likewise, if a specific process lens is applied, only certain types of network microfoundations are likely to be

revealed. This has implications for how research on business network dynamics is framed and operationalized. In the end, our study provides multiple viewpoints and a more holistic approach to the open question on how processes are enacted in business networks, the motivation for *Industrial Marketing Management*'s call for papers on 'Process thinking and methods in dynamic business networks'.

To lay the foundation for our study, we briefly summarize the extant literature on network microfoundations and then, process theory. This is followed by information on our empirical setting and research method. In presenting the results of the study, we summarize the developmental history of the case network to provide context. We then study the case by rotating through the four process theories to uncover which network microfoundations are apparent under each lens. Finally, we offer a refined classification of network microfoundations and discuss the applicability of different process theories to identify them.

2. Microfoundations of network dynamics

The concept of microfoundations refers to how human behavior generates and shapes higher-level constructs, and how the structural embeddedness of individuals influences their behavior in the lower level (Barney & Felin, 2013). Microfoundations include both lower-level influences and their interactional, emergent effects on a higher level, such as networks and the institutions that enable and constrain actions (Winter, 2013). Research in this area highlights the interdependence of individual and organizational networks (Tasselli, Kilduff, & Menges, 2015) and enables multi-level analysis of various social phenomena. Although microfoundations research has been criticized for denying the role of structure in analyzing actions and interactions at the micro level (Winter, 2013), we reason that it does not completely neglect the macro-micro link because microfoundations researchers also accept that the macro-level structures guide behavior in the micro level. As a result, we argue that

microfoundations help understand social aggregation and emergence in general (Barney & Felin, 2013), and the factors that shape the formation, persistence, and dissolution of networks in particular (Ahuja et al., 2012).

According to Ahuja et al. (2012), four microfoundations motivate network actors to form, maintain or dissolve network ties: agency, opportunity, inertia and random/exogenous factors. Emirbayer and Mische (1998, p. 970) define agency as "the temporally constructed engagement by actors of different structural environments—the temporal-relational contexts of action—which, through the interplay of habit, imagination, and judgment, both reproduces and transforms those structures in interactive response to the problems posed by changing historical situations". Thus, agency results from an individual's reflexive monitoring (Giddens, 1984) that enables them to act differently and make changes to social structures. This involves a constant interplay of iteration (building on routines), projectivity (envisioning futures), and practical evaluation (assessing present situation) (Emirbayer & Mische, 1998). Consequently, networks mediate the actor's motives for action. Through agency, actors have the power to form, strengthen and dissolve ties because they see them as beneficial to themselves or to the network (Ahuja et al., 2012). For instance, Gadde, Huemer and Håkansson (2003) describe how managers proactively use networks in strategizing. They also underscore that network development is not a random process but rather, initiated by purpose-driven actors who try to shape a network.

Another network microfoundation is opportunity. Ahuja et al. (2012) refer to opportunity as the tendency of forming ties between actors within social groups. This interpretation builds on Blau's (1994) conceptualization of opportunity structures (multidimensional space of social positions among which a population is distributed) and contact opportunity (chances for social interaction). Both provide for the possibility of establishing social relations with likeminded or proximate people. In line with social identity

theory (Ashforth & Mael, 1989), network actors may share a common identity or a goal, i.e. mental proximity. Alternatively, they may be physically or virtually close to each other. As an example of physical closeness, Giuliani (2013) finds that regional clusters are driven by cohesion, i.e. firms connected by stable, closed and dense social structures. Cohesion effects arise as a result of the strong opportunity conditions within clusters – particularly physical proximity – which facilitate triadic closure and a certain degree of consolidation of existing ties through the mechanisms of reciprocity (Giuliani, 2013). Belonging to a network also enables actors to reactivate existing relationships, but can constrain the pursuit and exploitation of opportunities outside network boundaries (Ellis, 2011).

Inertia implies that the durability of social structures, seen in habits and reciprocity, can both direct and constrain network actions and interactions (Ahuja et al., 2012; Kim, Oh, & Swaminathan, 2006). Thus, inertia involves persistent resistance to changing network structures. Kim et al. (2006) propose that the sources of inertia are multi-level. At the level of the individual, for example, role taking, self-regulation, and situational identity resist network dynamics (Allen, Sinclair, & Smith, 2009). At the firm level, organizations with prior common history tend to trust each other (Gulati, 1995a), leading companies to form alliances with prior partners (Gulati, 1995b). At the industry level, Kim et al. (2006) propose that there is more inertia in less competitive environments, as companies do not need to form ties with new partners because of the relative stability and low uncertainty.

Beyond these three microfoundations, Ahuja et al. (2012) also suggest that external or wider contextual factors influence network dynamics. Furthermore, network dynamics should not be understood as a simple interplay between agency and network-level structural forces. Instead, Ahuja et al. (2012) argue there is a need to recognize random influences on tie formation; i.e., forces that may be endogenous or exogenous to the network (Jackson & Rogers, 2007). Exogenous influences – external processes, structures and institutional macro-

dynamics – are also important (Hagedoorn, 2006; Koka, Madhavan, & Prescott, 2006). This final set of microfoundations (random/exogenous) implies that network dynamics are not the outcome of a single actor making strategic choices. Rather, they are simultaneously influenced by chance and environmental forces (Araujo & Harrison, 2002; MacKay Bradley & Chia, 2013). Ahuja et al.'s (2012) effort to articulate microfoundations provides a useful complement to extant research on business networks. At the same time, we believe that it lacks the temporal dimension that is inherent to the phenomenon of network dynamics. Next, we summarize core arguments from process theory to allow for a more complete conceptual understanding of business network dynamics.

3. Process theory

Given networks develop through forces of change and stability, it is important to acknowledge of the multiplex nature of 'process.' We argue that using multiple lenses to study the forces of change and stability enriches the theoretical arguments and empirical investigations of business networks. While the employment of a single process theory can give insight on forces of stability and change, there is a risk that the view of how and why networks change remains one-sided. In other words, some microfoundations may remain unidentified while the role of other forces may get overemphasized due to the selected process lens. That is why we believe that the integration of several process theories broadens our perspective of business network dynamics. In this section, we build on the works of Van de Ven and Poole (1995) and Slotte-Kock and Coviello (2010) to propose that network dynamics can be analyzed with four process theories: 1) life cycle, 2) teleology, 3) dialectics, and 4) evolution.

In life-cycle theory, network development is viewed as a stage-based progression prescribed by nature, logic or institutions. Each stage is characterized by certain activities and

the sequence of events is described as irreversible, cumulative, linear, and predictable. This suggests that the resulting network is predetermined. There are several examples where life cycle theory has been employed in network research (Balland, De Vaan, & Boschma, 2012; Lechner & Dowling, 2003; Steier & Greenwood, 1999). Yet, sometimes these studies focus on the stages in firm growth (Coviello, 2006; Lechner & Dowling, 2003) or industry life cycle (Balland et al., 2012), rather than the stages of network development *per se* (e.g. Steier & Greenwood, 1999).

According to teleology, network development proceeds towards an end state envisioned by an actor. The perspective contrasts with life-cycle theory's linear determinism by offering a more open-ended and iterative approach. It also emphasizes the role of purposeful actors in explaining the sequence of events. Teleologists perceive that networks are 'built' and relations can be managed by entrepreneurs to fulfill the goals of the visionary founder (Partanen & Möller, 2012). Nevertheless, the process is not necessarily completely intentional from the beginning. The end state constantly changes as a response to external influences. Companies may become more adaptive as managers learn during the network development process and then re-envision their future in a different way. In this sense, deliberate networking co-exists with adaptation to network change (e.g., Harrison, Holmen, & Pedersen, 2010).

In contrast, dialectic theory highlights the influence of tension and struggle vs. accommodation between opposing actors in a network. As one example, although entrepreneurs may try to control network development, they can be opposed by other power-seeking actors. For instance, Chowdhury, Gruber and Zolkiewski (2016, p. 101) identify 'power play', i.e., game-like nature of the exertion of power within a business network. Dialectic process theory accepts that actors in a network are influenced by the environment, and actors proactively or reactively respond to disruptive events. Thus, the network emerges

as a non-predictive outcome of conflicting forces. These opposing forces come from actors who join and leave a network (Slotte-Kock & Coviello, 2010) or structures that both enable and constrain the actions of these actors (Giddens, 1984; Sydow & Windeler, 1998). Dialectic pressures may be converging and/or diverging. Accordingly, they limit path dependence and division of power in creating and shaping networks (Berends, van Burg, & van Raaij, 2011). Although dialectic theory offers a potentially fruitful approach for understanding change and stability in business networks, IMP research tradition has to large extent neglected the issues of conflict, power and dependence (Johnsen & Lacoste, 2016), and dialectic studies on business network dynamics remain scarce.

Finally, evolutionary process theory proposes that network change is a periodic, accumulative, and prescribed progression of variation, selection, and retention of (e.g.) actors or systems (cf. Van de Ven & Poole, 1995). Variation refers to any change from a routine. Selection refers to the fit to the environment where it is assumed that some changes in structural forms are more preferred in different environments (Aldrich & Ruef, 2006). Thus, changes in the network occur as the environment selects actors that fit best to the environmental niche. Retention, in turn, refers to the forces that counteract changes in systems such as a network (Van De Ven, 1992; Van de Ven & Poole, 1995). For example, although there may be changes in the environment and interactions, actors often rely on known routines and institutions to facilitate daily decision-making. As a result, cumulative change does not emerge purely from random actions. Evolutionary studies thus explain the mechanisms of network change in terms of contextual factors rather than actors (cf. Chou & Zolkiewski, 2012).

Van de Ven and Poole (1995) argue that all four process theories can be applied together to study and explain change. Similar conceptual arguments are made by Slotte-Kock and Coviello (2010) in the specific context of business network development, and others have

also started to employ multiple process theoretical lenses to investigate network dynamics. For example, Dahl (2014) employs the four process theories to review past research on: 1) planned, 2) recurrent, discontinuous, and unintended, and 3) recurrent, discontinuous, and incremental changes in coopetive interactions. Unfortunately, empirical studies that apply multiple process theoretical lenses are scarce (Slotte-Kock & Coviello, 2010). Thus, our understanding of network dynamics remains incomplete and the existing knowledge base is fragmented. We hope to shed some light on these processes, in combination with microfoundations, in this study.

4. Research setting and method

Topics on which little previous research exists require an inductive approach to capture phenomena with rich, detailed and evocative data (Edmondson & McManus, 2007). This is particularly valuable and common for studies that attempt to describe and analyze how a process unfolds (Langley, 1999). Here, we explore both network microfoundations and process theory in a single-case study. Focusing on a single case allows us to get closer to the theoretical constructs, something considered essential in a longitudinal research aiming to unravel underlying dynamics (Siggelkow, 2007).

4.1 Case selection and data collection

To select the case for this study, we had two criteria. First, we sought firms with a business model that might experience rapid change and attract different kinds of stakeholders over time. This decision was made because we wanted to be in a position where we could not predict the outcomes and might be ‘surprised’ (cf. Siggelkow, 2007). Second, we needed a firm that was accessible, observable and trackable. Both selection criteria pointed us to new ventures in fast moving environments where retrospective and real-time data were available.

Our empirical setting is the business network that co-evolves with Founder2be, an online platform company that facilitates startup founders trying to find potential cofounders. Founder2be was launched in early 2011 when Oliver Bremer had the idea of matching: 1) people with business ideas; to 2) others with relevant skills. As he describes it, Founder2be is a 'Match.com for finding a cofounder'; an online site where people post their profiles and business ideas for other users to browse and then contact if they are interested. The platform aims to lower the hurdle of starting a new venture. By 2012, Founder2be had internationalized to all continents, having users from more than 100 countries.

Beyond the selection criteria outlined previously, two characteristics of Founder2be make it pertinent to study. First, as a new venture, it co-evolves with its network (as per Hite & Hesterly, 2001; Slotte-Kock & Coviello, 2010). Second, the case is extreme in that it is unlike others typically investigated in business network research. That is, it represents a very contemporary new venture. As a global online platform, Founder2be is a form of iBusiness marketplace (Brouthers, Geisser, & Rothlauf, 2016) or network organization. In this study, we focus on Founder2be's 'business network', i.e. the network of actors that was central to the pre- and post-foundation development of the new venture. This is distinct from the Founder2be's 'user network', i.e. the network of actors using the platform to interact with each other and generate value through shared content. At the same time, growth in the user network is essential to venture growth in a marketplace business model. Accordingly, although we focus on Founder2be's business network, we inevitably study aspects of the user network. The case network consists of entrepreneurs, stakeholders, and users that the two cofounders (Oliver Bremer and Frank Haubenschild) perceived as crucial to the development of the new firm.

We follow Founder2be's network from the early stages of ideation until the firm became the world's largest online platform company in its field (2009-2012). Interviews with

the cofounders started in September 2011. These were particularly useful for us to understand the meaning of observed interactions, and to help reconstruct perceptions of events and experiences. The initial set of cofounder interviews provided our base narrative by describing past events regarding Founder2be's creation and early development. In addition to answering interview questions, the cofounders were asked to draw existing network pictures (cf. Abrahamsen, Henneberg, & Naudé, 2012; Henneberg, Mouzas, & Naudé, 2006; Mouzas, Henneberg, & Naudé, 2008) and prospective network pictures, i.e., a visual representation of an individual's sense-making of a network in the future. These visual, conscious images of the surrounding environment are useful for interpreting managerial cognition and decision-making in business networks (Abrahamsen et al., 2016; Henneberg et al., 2006; Ramos & Ford, 2011). As per Henneberg et al. (2006) and Ramos, Henneberg and Naudé (2012), the network pictures were collected at different points in time. Here, this occurred at the beginning and at the end of the real-time data collection process (a time lapse of one year). In 2011, each co-founder drew a current network picture and a prospective one that represented their anticipated network one year forward. This was later compared to network pictures drawn one year later, which enabled comparison across pictures, and discussion how the business network (or the perception of it) had changed and why that had happened. The prospective network pictures enabled us to study the level of change and time (past, present, and future) and let actors make sense and explain the forces of change and stability in the business network (Abrahamsen, 2011). The use of prospective network pictures minimized the risk of hindsight bias, as cofounders' network pictures and their perception of network dynamics was reflected against their insight at the beginning of the data collection process. We discussed the content and differences in network pictures in the interviews, and this insight was utilized later in the data analysis (e.g., how the role of Global Alliance Program

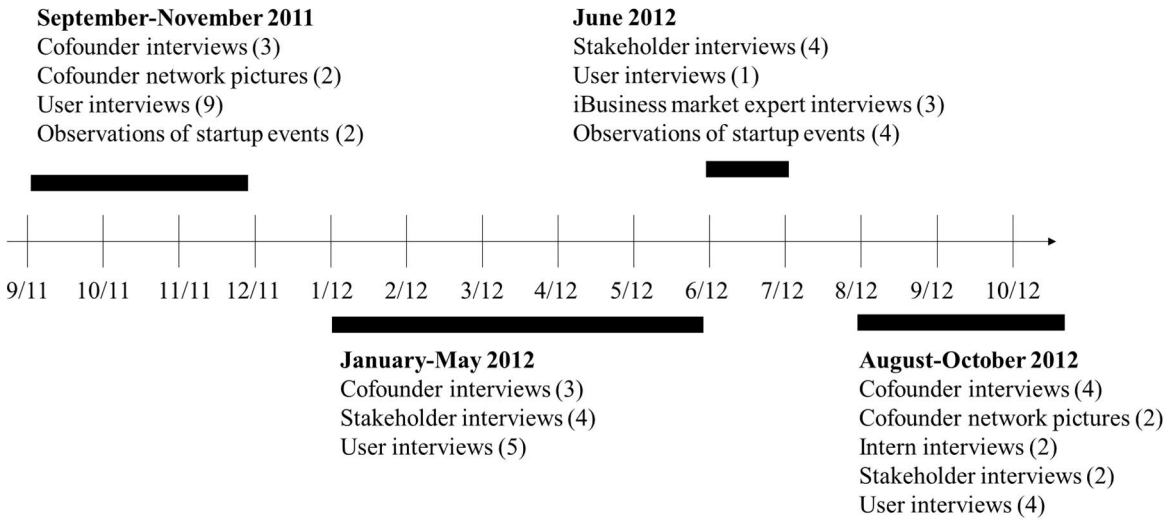
partners had changed and why venture capitalists did not join the business network). Frank's network pictures are presented as an illustration in Appendix 1.

It is important, both methodologically and empirically, to set clear boundaries for the network being studied. As noted by Chou and Zolkiewski (2012) this enables the accessibility to the field and the collection of data within limited time, meeting the objectives of the study. Although all business networks extend without limits and present arbitrary boundaries, it is possible to define network horizons, i.e., an actor's view of the network (Anderson et al., 1994) with network pictures (Ford & Redwood, 2005; Holmen, Aune, & Pedersen, 2013). The network pictures enabled us to define the network boundaries, and helped guide data collection because they revealed which actors were considered by the cofounders as important to Founder2be's business network dynamics. Network actors were reported by type, e.g. global alliance partners, users, advertisers, Twitter, Facebook, LinkedIn, press, and blogs. Because network boundaries are fluid by nature (Chou & Zolkiewski, 2012), the use of prospective network pictures allowed us to take a flexible approach when determining network boundaries, i.e., we were not limited by original network pictures by default. Thus, fluidity was enabled by real-time data collection and we interviewed actors perceived as relevant by the cofounders, as their network horizon evolved. We discussed with the cofounders how they had interpreted the business networks differently, and both cofounders were able to comment on why they perceived differences. Thus, network pictures linked with our cofounder interviews.

Real-time data collection continued from September 2011 through until October 2012. The timeline of primary data collection is presented in Figure 1. In total, we conducted 44 interviews with a range of actors, including the cofounders of Founder2be (10 interviews), interns (2), users of the platform (19), stakeholders (10), for example, Global Alliance Program partners, bloggers, CEO of an online advertising network company, and employees

of Twitter, Google and Quora, and general interviews (3) with iBusiness market experts. Real-time data collection helped overcoming the challenges of relying only on retrospective data. Moreover, the insight gained from interviews, network pictures and observations helped in choosing potential interviewees. As we tracked the progress of the case network, we interviewed different types of stakeholders and users based on their public profile in the online platform. This generated variety in informants. From very large pool of users, we wanted to ensure that we included those with different expertise (developers, marketers, engineers etc.) and from various geographic locations (Europe, North America, and Asia). Informants also varied in terms of the resources they had available to invest in the new venture (time, money) and their activity level on the platform (posted/had not posted ideas, posted/had not posted comments). In our interviews with these various actors, questions were designed to cover the events leading to their joining the network and their activities in it. The interviews varied from unstructured to semi-structured and averaged 59 minutes in length (maximum length was five hours). The substantive interviews were audio-recorded and transcribed verbatim, resulting in 656 pages of transcribed data.

Figure 1: Timeline of primary data collection



To better understand the context of the studied phenomenon, we also attended six startup events in Finland and the United States. During these events, field notes were taken to keep track of observations. These observations helped us to understand actual practices when users (and non-users) of Founder2be tried to find cofounders in offline meetups. Attending the startup events provided us with more insight on various micro-level actions, interactions, and perceptions, as well as macro-level structures that influence the micro level. For instance, observations helped to understand how people thought about the importance of trust and how the establishment of trust was linked to personal encounters in offline meetups in the startup scene. As a result, the event observations helped us to understand how structures, such as startup culture, mediate the behavior of actors. The startup events also helped us identify questions that we could not have come up with otherwise. Thus, it improved the quality of our interviews with cofounders and other network actors. Further, insight from these events helped us to write a better researcher narrative for which we needed to synthesize interviews with observation data (as per Makkonen, Aarikka-Stenroos, & Olkkonen, 2012).

Finally, the lead author was a registered user of the online platform. This enabled us to follow news around the platform and the emerging network in real time, and ask about the recent developments in interviews if necessary. The lead author also set up his own profile in the platform and posted his business idea online to gauge the kind of reaction and discussion it provoked. Field notes and memos were written for later analysis of these observations. All in all, the purpose of triangulation of various research methods was to add rigor and richness to our empirical study, to secure in-depth understanding of network dynamics, and to promote the quality of qualitative research (Flick, 2007; Makkonen et al., 2012).

4.2 Analysis and theorizing

We employed two specific strategies – narrative and alternate templates strategy – to analyze and theorize from our data. Both strategies are particularly suitable for theorization in a single case setting (Langley, 1999). We started our analysis by preparing a primary narrative or 're-storying' of the case from the raw data (Eisenhardt, 1989) to unite the contextual and focal elements temporally (Makkonen et al., 2012). The large amount of data necessitated data reduction as per Miles and Huberman (1994). This involved selecting, focusing, simplifying, abstracting, and transforming the data by writing summaries and coding all data. For example, the network pictures were interpreted with the cofounders in the interviews, and as a result we were able to code that discussion for data analysis. Data from participant observations was written down in memos, which were coded. To assist the systematic management of the research process and improve overall trustworthiness of our analysis (Sinkovics & Alfoldi, 2012), we employed computer-assisted qualitative data analysis software (Nvivo 10) for coding.

The list of codes evolved over the research process as new themes emerged inductively from the data, and deductively from the simultaneously evolving theoretical framework (Bazeley, 2007). The codes included activities of actors, their resource integration, as well as value co-creation practices and enactment of roles. After the themes were coded, the data were categorized according to actors and roles within the case network. This enabled us to write narrative descriptions and focus on various roles, practices, and structures (Hedaa & Törnroos, 2008; Langley, 1999). This led to written summaries at the actor level, aka microstoria (Makkonen et al., 2012). However, we needed to construct a new narrative from the data to find patterns and processes at the level of the business network (Pettigrew, 2012). The result was a lengthy 52 page researcher narrative (as per Makkonen et

al., 2012) on the emergence of the Founder2be network. This was constructed by synthesizing the narratives of various actors and other data sources (incl. prospective network pictures and observation memos). To help ensure the credibility of our interpretation, the cofounders, interns, stakeholders and users were given the opportunity to comment on their microstoria. These were corrected based on any comments provided.

Although the narrative approach enables accurate sense-making of a case, it often lacks simplicity and generalizability for theorization (Langley, 1999). We therefore applied an alternate templates strategy to theorize from the narrative. Here, because of the process by which the full narrative was developed, we applied the alternate templates strategy directly to it, rather than to the raw data. Accordingly, the full narrative of network development was rewritten. That is, it was reframed four times using Van de Ven and Poole's (1995) process theories (life-cycle, teleology, dialectic and evolutionary). Once the four alternate templates narratives were written, they were read and revised by two team members to ensure that all aspects of the original narrative were covered in the alternate template narratives. Any inconsistencies in interpretation were discussed until a shared understanding was reached. The narratives were coded by drawing on Ahuja et al.'s (2012) microfoundations of network dynamics. Thus, we coded each alternate template narrative for evidence of agency, inertia, opportunity, and random/exogenous influences. Because Ahuja et al. (2012) provide only conceptual guidance, we allowed new codes to emerge where our data did not fit with the original four microfoundations.

Analysis of the four alternate templates narratives revealed patterns in the business network’s microfoundations. These pertain to: 1) the intentionality (deliberate vs. unintentional) of network dynamics; 2) the interplay of forces of stability and change; and 3) whether dynamics were triggered at a lower or higher level of the network. Accordingly, we re-coded the four alternate templates narratives three more times with coding specific to these

patterns. This enabled us to study forces that originated from actions within the network (endogenous microfoundations) or beyond the network boundaries (exogenous microfoundations). Our data analysis process is visualized in Figure 2.

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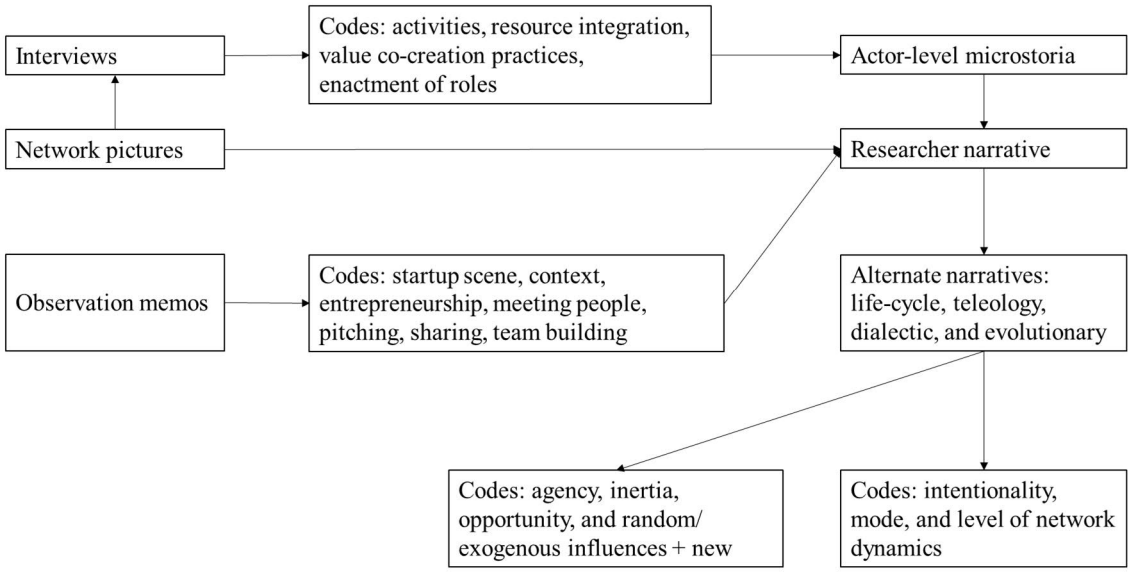
Figure 2: Process of data analysis



Halinen, Törnroos and Elo (2013) suggest use of an event-based approach to study a network, but we felt that the focus on radical events might leave us with incomplete view of network dynamics by neglecting stability (Chou & Zolkiewski, 2012). Because we study full narratives, we are able to identify 'deonts' – events that did not happen or structures that did not exist yet influenced network dynamics (Mingers, 2011) through inertia. Examples include cofounders' growth plans that were not executed, venture capitalists that were not added to the business network or institutionalized beliefs that kept potential actors away from the network (e.g. the belief that cofounders are identified only through personal networks, and the reluctance of US-based advertisers to collaborate with a foreign startup).

As a general comment, we noticed that the business network development process at Founder2be was, to a large extent, initiated by the two cofounders. This is consistent with the

egocentric perspective in network and entrepreneurship research (e.g. Hite & Hesterly, 2001). As a consequence, our findings emphasize the cofounders' view of business network dynamics. The viewpoint of other network actors was nevertheless important because network development efforts require negotiations to fit the multiple actor constituencies (Kragh & Andersen, 2009) and so while our findings emphasize the cofounders' view of network dynamics, we integrate the views of other actors where appropriate.

5. Findings

In presenting the results, we first summarize Founder2be's developmental history to provide context. We then study the case by rotating through each of the four process theories to uncover the business network microfoundations that appear under each lens.

5.1 The idea and launch of Founder2be

One day in 2009, Oliver Bremer, a German working for Nokia in Finland, had an idea for a business but realized that he could not develop it on his own. He needed a cofounder, someone with relevant technical experience. Oliver's friend Frank Haubenschild was one of the people Oliver contacted because he knew Frank's capabilities and was keen to work with his old friend. Frank however, did not like Oliver's idea and decided not to join the project. This led to Oliver attending startup meetups in Helsinki to find someone with relevant expertise to support his idea.

Through 2009 and into 2010, Oliver continued to struggle with finding a cofounder. Suddenly, he noticed that he was not alone; others were facing the same problem. This gave Oliver a net business idea and he contacted Frank (again) to discuss the possibility of a cofounder matchmaking site. The idea was straightforward: help people who are interested in

creating a startup to find each other. Frank liked Oliver's pitch and together, they started developing a platform.

The platform launched in early 2011. Oliver assumed the role of CEO and was focused on strategy and marketing. Frank, as CTO, invested most of his time on technology development. They did not believe they would have much of an audience in Finland and wanted to be instantly global. This led them to identify potential partners including incubators, universities, and other organizations and individuals who were already hosting startup events, providing co-working spaces, and offering training for new entrepreneurs. Oliver attended several meetups and seminars in Finland to build partnerships for what they called their 'Global Alliance Program': an initiative to collaborate with various startup organizations worldwide. Oliver and a team of interns also sent emails to relevant programs that they found online.

In less than six months, there were more users on Founder2be than on any similar online platform, but money was needed to cover operating costs. Oliver attempted to find relevant advertisers but US-based agencies were unwilling to collaborate directly with a foreign (and unknown) startup. Eventually, he made a deal with a Danish online advertising network company that compiled advertisements from around the world, specifically targeting startups and entrepreneurs. At that time, the revenue generated from advertising covered operational costs, but the future revenue model was expected to be more user-based.

The premium version of Founder2be (ProPlan) was launched in October 2011 as an additional revenue stream. Pro Plan was also intended to encourage people to share knowledge about Founder2be using Twitter and Facebook. Users were promised free Pro Plan for a month if they successfully invited a purchasing user to the site, tweeted about Founder2be or signified 'like' on the Facebook site. Although Pro Plan did not generate

revenue immediately, Oliver and Frank believed it seemed to waken the interest of bloggers who passed on the information to their followers.

In December 2011, Founder2be was featured in Mashable, a global digital media website. The increased attention in the blogosphere drove traffic to Founder2be. In addition, many users found Founder2be via Twitter. The Twitter account became particularly active when Oliver's brother Wolfgang Bremer joined the team in early 2012. Another new way to attract users emerged in July 2012 when Oliver traveled to the US and experimented with hosting an offline meetup in New York City.

By October 2012, Founder2be claimed to be the world's largest matchmaking service for entrepreneurs with more than 11,000 users. However, compared to the previous year, the entrepreneurs also had less time to spend on developing the business. Collaboration across the business network remained loosely defined with no formal obligations.

5.2 Analysis of business network dynamics

5.2.1 Microfoundations identified through a life-cycle lens

According to life-cycle theory, a network develops through prescribed stages. When we apply this process lens, we see four stages in the development of the Founder2be network: pre-network, network conception, network formation, and network growth. In each stage, we can identify different network microfoundations.

The period before the Founder2be's core idea ultimately emerged is referred to as pre-network. This stage is mostly characterized by forces or events that were not intended by the agents. These might be considered random yet they had identifiable and positive influences on network development. Thus, they are perhaps better described by *serendipity*– a new type of network microfoundation that refers to unintentional changes. In the pre-network, lower-level *endogenous serendipity* is evidenced when there is pursuit of something other than

network formation but in the end, this influenced the network in a constructive way. For example, both Oliver and Frank gained relevant knowledge and skills through their education and work experience. This provided a basis for coding expertise and sense-making in general. Oliver also participated in various startup meetups and had personal experience with online dating. Separately, other actors gained life experience that eventually led them to encounter and engage with Founder2be. Support services that would eventually benefit Founder2be and become part of their business network also started to emerge during the pre-network stage (e.g. Twitter).

The first concrete step towards emergence of Founder2be's business network occurred when the core idea began to emerge. This is the network conception stage where efforts to develop the network became more intentional and this signals *agency*. We also see another example of lower-level, *endogenous serendipity* (i.e. from within the network) because the idea for Founder2be originated unintentionally from Oliver's difficulty in finding a cofounder for his business idea. Further, his efforts that eventually led to the growth of the network were characterized by trial-and-error and experimentation rather than actions with clearly intended outcomes. *Opportunity*, as per Ahuja et al. (2012) is also evident when Oliver began to think more actively about a solution to his problem and contacted people he knew from the past. This resulted in his decision to approach Frank.

The network formation stage came next, where Oliver and his team of interns purposefully promoted the platform internationally, seeking feedback from around the world. Here, network formation is again driven by *agency* and *opportunity* because Oliver and Frank deliberately contacted certain kinds of actors (including Wolfgang) and invited them to join Founder2be. In this stage, they initiated change to the network but also limited the scope of the development team. They built the Global Alliance Program and activated partner ties with the purpose of growing the platform's user base.

The network formation stage also involved *endogenous serendipity*. Internally, there was haphazard behavior from within the organization as the team sent emails and tweeted their invitations rather unsystematically, not always knowing who received their message. External to the firm but internal to the business network are bloggers, and they also shared informed about Founder2be. One particularly influential blogger shared information about the new platform on Mashable although she did not think that she was strengthening the business network *per se*: “They [Founder2be] were just an intro ... It's just that one mention can go a long way with a big audience. It's pretty cool.” (Lauren, blogger). Other actors in the startup community also tweeted about Founder2be in an ad hoc manner although their tweets promoted the startup scene rather than Founder2be itself. This helped build the user network and as recalled by Jaclyn (event participant): “It seems like I really just stumbled upon Founder2be simply randomly”. These examples suggest that the network was not solely designed by the cofounders; it emerged from unplanned actions by other actors within the network boundaries.

In the network growth stage, interns and an advertising company joined the business network while the user network continued to expand. Additions to the scope of the business network exhibit intentionality and thus *agency*. As Lisa (intern) comments: “What will you do in a startup when the technical stuff is right, when you have website, and what do you do next? Okay, you’ve got to let people know about your website, also you got to find partners to expand your business and get more users.” *Agency* is evidenced in the prospective network pictures drawn by Oliver and Frank; pictures that presented a list of actors they wanted to have in the business network. They then contacted those actors to ask them to partner with Founder2be. Also seen in this stage is *agency* on the part of the actors that joined the business network. As explained by Anibal (CEO of an online advertising network company), a relationship with Founder2be suited specific needs in his organization: “We are still in the

initial phase of our launch. We know that when doing that with little resources, we have to start with smaller publishers."

During network growth, Oliver and Frank also introduced *endogenous inertia* and this balanced certain areas of network change with stability. For instance, despite Frank having envisioned that venture capitalists might join the business network by October 2012, eventually Oliver, Frank and Wolfgang decided not to attract external funding or grow their core team. "I never approached anyone about it. I mean local investors, I have never asked money for that" (Oliver, cofounder). The cofounders did not want to include more decision-makers and preferred to retain control of the firm in their own hands. Thus, they chose to keep the scope of the business network limited and instead, scale the user network.

5.2.2 Microfoundations identified through a teleological lens

According to the teleological view of process, a network is perceived as intentionally and adaptively managed by entrepreneurs (or other stakeholders) towards an envisioned end state (Van de Ven & Poole, 1995). At Founder2be, the team's *agency* is in their efforts to reach their view of an 'end state' for the business. This view remained stable over time, i.e. the entrepreneurs wanted to have a larger user network to: 1) legitimize the practice of finding a cofounder online; and 2) provide sufficient financial resources for enabling survival of Founder2be. To achieve this, the entrepreneurs deliberately engaged in activities to change the network toward the envisioned state by bringing users and other potential stakeholders together: "…they [the interns] are basically contacting hundreds of tech blogs, small ones and try to tell them about our service and to get something written about us" (Frank, cofounder). With these efforts, the team knew that they had little or no control over the outcome. They also changed and strengthened the business network structure through a process of trial-and-error with an aim to modify the behavior of network actors. For example, Oliver, Frank and

Wolfgang explored how to get more users, how the users would post more ideas, and how the users might provide more information about themselves, share information about Founder2be, and pay for a premium service.

In addition to agency, the application of a teleological lens reveals inertial forces that kept the network stable. The entrepreneurs believed in their own ability to reach their envisioned goal; they wanted to keep control of the development of the platform and the network. This caused deliberate, *endogenous inertia* in network development. The Founder2be's cofounders also noticed that reaching bloggers directly was a challenging task, and not necessarily worth their effort. Furthermore, there was insufficient money to hire people to undertake activities that were perceived as important to further develop the network (e.g. to support the US market). Although the network might have benefited from capital injection and Frank initially thought that they might attract venture capitalists, it was a deliberate choice of the entrepreneurs to not to increase the complexity of Founder2be's business network. Although Oliver's brother Wolfgang joined the team later in 2012, the two co-founders were unwilling to include outsiders in the management team: "There's only two of us which have to be in line with the new idea, the third person or a big group putting money into it, then of course they want something for it" (Frank, cofounder).

5.2.3 Microfoundations identified through a dialectic lens

According to dialectic process theory, a network emerges from constant conflict between opposing forces (Van de Ven & Poole, 1995). With Founder2be, the dialectic process lens discloses tension between the founder entrepreneurs' commitment to the business network and their other roles and tasks. This reveals that some *endogenous inertial forces* were partly (and deliberately) initiated by the cofounders and other stakeholders because they were unable to work full-time on developing Founder2be. Their lack of time forced them to make,

for instance, trade-offs on whether to focus on promoting Founder2be or work on in other projects. For example, Oliver was involved in another startup. As he observes: “That's the vast majority of the time. So, I will have to make a choice” Similarly, other partners had other tasks. “We don’t have time. And it is not our task to be in contact with them [cofounders of Founder2be]. We do not have ‘promotion of Founder2be’ marked in our weekly calendar” (Toni, Global Acceleration Program partner). This endogenous inertia introduced stability to the network, as cofounders and partners in the Global Alliance Program did not actively foster network change.

Agency is also apparent with the dialectic lens. This is seen on the ongoing clash between the cofounders’ vision of the business network and the external environment. For instance, Oliver and Frank decided to follow their own opinion and not listen to discouraging comments on the feasibility of their idea: “In the very beginning, everybody said, ‘Don’t do it. It will never work. You don't find a cofounder online because we meet up’.” (Oliver, cofounder). Oliver and Frank put in significant effort to change higher-level social structures, i.e. norms on how cofounders meet in the startup community. This was an effort to convince various actors that finding a cofounder online was possible. They worked to grow the network and to create a new culture of online cofounder matchmaking or, at a minimum, convert prejudice in the startup scene. *Agency* is also revealed by the cofounder’s deliberate desire to retain control of the network as reflected in their disinterest in external investments. Thus, the deliberate actions of cofounders at the lower level introduced both change and stability to the network.

Finally, application of the dialectic lens reveals a tension between the cofounders’ perception of the value of their service versus other actors’ perception of value. This tension caused *endogenous inertia* in network dynamics. For instance, some users did not act in accordance with the cofounders’ plans by not providing ideas, promote the site, generate

content, or pay for it as planned. Thus, they resisted changes that would lead to the founder's envisioned state for Founder2be. Some users simply browsed the platform rather than engaging with it; others were unwilling to be identified as actively searching for cofounders online. In other words, not everyone was interested in the idea of becoming a full-time entrepreneur, the target user of Founder2be. In addition, some questioned the necessity of launching a company with a cofounder. For example, Jaclyn (event participant) observed that sometimes, people might choose sole proprietorship: "I will just work on what I know needs to be worked on and in the meantime if I find [a cofounder] it's great and if I don't, then I will get investment and do it on my own and outsource to an app building company or something." Yet, others in the startup scene emphasized that one needs to know a cofounder offline prior to launching a new venture: "the closer it is to personal network and business network, the higher the quality. That's why I prefer going out with high school and college network." (Ian, iBusiness market expert). This illustrates that *inertia* is not caused only by lower-level tension (*endogenous inertia*) but higher-level opposition (*exogenous inertia*) stemming from normative beliefs on how cofounders should meet up. To some extent, this inertia limited the user network's growth in scope and accordingly, it restricted change in the Founder2be business network.

5.2.4 Microfoundations identified through an evolutionary lens

According to evolutionary process theory, network change is described as a periodic, accumulative, and prescribed progression of variation, selection, and retention (Van de Ven & Poole, 1995). At Founder2be, the cofounders introduced variation through changes in the nature of relationships. Initially, this variation may be interpreted as driven by *agency* when Oliver and Frank deliberately invited different kinds of actors to join the business network. Then, actors who were detrimental to the developing network also got on board. The best

example of this is the early users with fake profiles and those who spammed other users in the platform. This caused variation in the network because some early adopters did not like the culture that started to develop and they became passive users of the platform. While the search for a pre-determined type of actor can be explained by *agency*, unexpected behavior within the network caused unintentional variation, and can be considered *endogenous serendipity*. The involvement of interns in Founder2be's business network resulted from unintentional processes but they stemmed from processes outside of prevailing network boundaries. Thus, this is an example of *exogenous serendipity*. For example, John (lecturer) found one of Oliver's presentations at a startup event in March 2011 intriguing and shared information about Founder2be with his students. This resulted in a series of interviews with Oliver by Mihail (student), which was then seen by other students, who applied for a position in the startup a couple of months later. As Oliver (cofounder) observes: "I wasn't looking for it [accepting interns] but for me it was a good idea because people had helped me in my life and I understand that having internship is part of what they must be doing for school."

The evolutionary process lens also reveals that a certain type of system force external to the firm's business network influenced dynamics at a higher level. For example, the business environment was generally friendly towards startups. The emergence of incubators, accelerators and other startup communities supported the emergence of a general startup culture and a parallel acceptance (i.e. selection) of the business model at Founder2be. In other words, although these higher-level structures did not emerge to specifically support Founder2be, they advanced its growth, and many of the activities and processes were intentionally supporting behavior that was characteristic to the activities in Founder2be's business network. There was also an increasing amount of time spent on the Internet alongside technological developments such as social media. Particularly important to Founder2be is that discourse in the general startup environment promoted collaboration and

transparency in revealing startup plans. Thus, *external system forces* – a specific type of exogenous force – appear with the evolutionary lens.

In terms of retention, we found evidence of self-initiated, deliberate *endogenous inertia* in the lower level of the network that preserved certain network characteristics. This is best evidenced by the behavior of the cofounders who chose to restrict the scope of Founder2be's business network. This enabled them to more or less maintain the status quo. To some extent, there were also *exogenous inertial forces*. For instance, US-based advertisers were unwilling to collaborate directly with a foreign (and unknown) startup, and this restricted network growth in that market: "Most of our users are in the US, and that's what they [US advertisers] want. But then, they're like, 'Finland?' So, that's why we haven't closed the deal with them yet" (Oliver, cofounder). Eventually, this led Founder2be to deal with a firm in Northern Europe. Thus, although the cofounders tried to expand their partners geographically, higher-level external forces created inertia and a more regional focus.

6. Discussion

6.1 A refined understanding of network microfoundations

Our research question asks: which network microfoundations are revealed when we apply different process theories to study business network dynamics? The results suggest that the original conceptual classification from Ahuja et al. (2012) is incomplete and requires revision and extension. On this point, we suggest there are six relevant microfoundations underlying business network dynamics. These are: agency, external system forces, inertia (both endogenous and exogenous), and serendipity (both endogenous and exogenous). Our explanation of this revised and extended classification follows.

The first point of discussion is that we exclude the microfoundation conceptualized by Ahuja et al. (2012) as 'opportunity'. This is because when studied in practice, opportunity

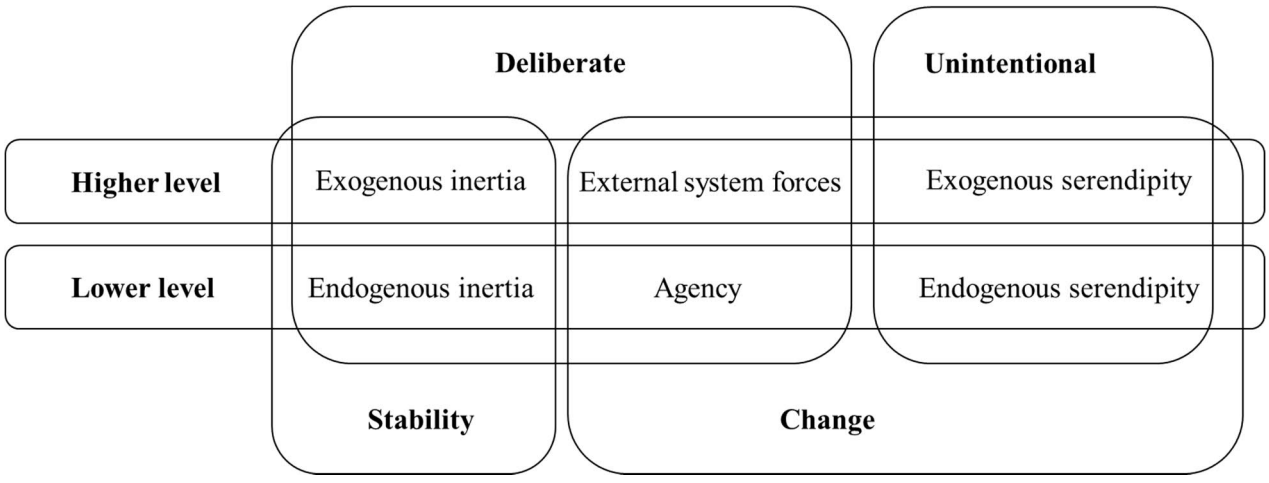
(referred to by Ahuja et al. 2012 as the tendency to form ties within social groups) can also be interpreted as inertia (Kim et al., 2006). That is, it involves habitual action to diminish uncertainty such as actors reaching out to those that are proximate in the (e.g.) social structure. Furthermore, the term 'opportunity' has already been strongly established in the entrepreneurship literature to describe situations with a potential to introduce new ways of serving others (Grégoire & Shepherd, 2012). Consequently, we remove opportunity from the network microfoundations lexicon. Instead, when inertia stems from the habits, routines or tendencies of business network actors, we refer to endogenous inertia – behavior of actors within the network that resist change. Exogenous inertia, in turn, refers to stabilizing behaviors that originate from outside the boundaries of the network.

Our results also demonstrate that grouping random events with exogenous factors is difficult to justify empirically. Exogenous factors that might influence network dynamics are sometimes periodic and predictable (e.g. business cycles) but random events are always unexpected and haphazard. The latter may also be endogenous or exogenous in origin (within or beyond network boundaries). Pertinent too is that the outcomes of either type of influence can provide positive benefits that are seemingly random and unintentional (i.e. unexpected). Thus, they are better described as serendipitous as per Dew (2009). As one example, when other stakeholders initiate relationships, endogenous serendipity is introduced. Opportunity (as per entrepreneurial opportunity) emerges when unexpected exogenous events from outside network boundaries introduce new possibilities to the entrepreneur able to take advantage of them. Accordingly, we include serendipity as a specific microfoundation by replacing the notion of ‘random’ and our use of the this new term still allows us to understand the role of unintentional events in explaining network dynamics and acknowledges that serendipity is an important force in this context (Paquin & Howard-Grenville, 2013; Vasilchenko & Morrish, 2011). We also relabel Ahuja et al.’s (2012) concept of ‘exogenous

force'. Following Orlikowski's (2009) discussion of how powerful drivers of history can have determinate impacts on networks, we describe these as 'external system forces'. They emerge from the wider system that is external to a firm's business network and can be positive or negative in their influence. This relabeling means that we limit our use of the 'exogenous' to instances of describing inertia and serendipity.

Our second contribution comes from classifying our six network microfoundations so that one can compare them by: 1) intentionality (deliberate vs. unintentional); 2) mode (stability vs. change); and 3) level (lower vs. higher). As shown in Figure 3, endogenous and exogenous serendipity are microfoundations that have unintended consequences on business network dynamics. They highlight that the outcome of a project may ultimately differ from initial intentions. The other four microfoundations are more deliberate in terms of maintaining or changing the network. Regarding mode, endogenous and exogenous inertia drive the network toward stability while the other four microfoundations are change-initiating. Finally, endogenous inertia, agency, and endogenous serendipity are lower-level network microfoundations; the other three stem from higher-level phenomena (beyond network boundaries).

Figure 3: Intentionality, level and mode of the network microfoundations



Having refined the network microfoundations and classifying them in terms of intentionality, mode, and level, we now discuss which network microfoundations are revealed when we apply different process lenses to study business network dynamics.

6.2 Applicability of process theories to identify network microfoundations

Our analysis of Founder2be shows that each of the four process theory lenses reveals different combination of network microfoundations. This supports arguments from Slotte-Kock and Coviello (2010) based on Van de Ven and Poole (1995). That is, framing research with a single process theory is inherently incomplete if one wants to explain network dynamics. Our findings also indicate that the microfoundations identified in a study are influenced by the type of process theory the researcher employs. In other words, each lens reveals only a certain (and potentially restricted) set of microfoundations. This influence is summarized in Table 1.

Table 1: A kaleidoscope view of the microfoundations of business network dynamics

	Life-cycle lens	Teleological lens	Dialectic lens	Evolutionary lens
Endogenous inertia	X	X	X	X
Exogenous inertia			X	X
Agency	X	X	X	X
External system forces				X
Endogenous serendipity	X			X
Exogenous serendipity				X

If a life-cycle lens is used to frame a study, our results lead us to expect to find all three lower-level microfoundations from Figure 3. Our data indicates a shift from endogenous serendipity toward agency until endogenous inertia makes the network stable. This suggests that the microfoundations revealed through the life-cycle lens are dependent on what we call

the kaleidoscope's 'exposure time' – the length of time the shutter is open to take the picture through the lens. With a longer exposure time, more network microfoundations may be revealed. If the focus is on only one stage of the development, other microfoundations are in danger of remaining hidden. Importantly, application of the life-cycle lens does not reveal higher-level network microfoundations. Based on our findings and the literature, it offers only a narrow view of agency because life-cycle theory focuses on studying what is expected or typical to a stage. In other words, this process theory leaves little room for creativity or acting against what is pre-determined.

Applying a teleological lens highlights just two microfoundations and both are at the lower level agency and endogenous inertia. Teleologyexplains changes in the network based on deliberate networking decisions made by the entrepreneurs and other network actors. It accepts that the structural development of the network guides the behavior of entrepreneurs. However, as the entrepreneur adapts to the changes in the environment, they change plans and reconstruct their envisioned end state. By emphasizing the envisioned end state of a network, the teleological lens is applicable when studying goal-directed or "deliberate endogenous microdynamics" that determine the formation of the network based on network characteristics (Castro et al., 2014, p. 424). At the same time, our research indicates that there is room for deliberate endogenous inertia given the actors not only aim to change their network, but may also seek equilibrium. Compared to other process lenses, we argue that although a teleological process provides evidence of agency and endogenous inertia, the lens falls short in viewing macro-level microfoundations as well as serendipity.

The dialectic process lens provides some understanding of conflict and synthesis between and across levels in the network. Thus, it is useful in understanding both lower- and higher-level microfoundations. Our findings are therefore in line with the view that dialectic process theory is particularly applicable in studying multi-level network dynamics (Berends

et al., 2011). It also incorporates agency and endogeneity (Bensaou, Galunic, & Jonczyk-Sédès, 2014), i.e., the influence of prior structures on network strategizing. This is what Jonczyk, Lee, Galunic and Bensaou (2015, p. 956) refer to as 'shadows of the past' or what Gulati and Srivastava (2014, p. 74) refer to as 'constrained agency' to explicate how structural positions simultaneously constrain and enable actions. Compared to the other process lenses, we reason that the dialectic lens' focus on opposing forces tends to neglect the external system forces on network change. Both forms of serendipity also remain largely hidden because the interest in tension focuses attention on the deliberate actions of actors to counteract an opposing force.

Finally, using an evolutionary process lens accommodates all six network microfoundations, both lower- and higher-level. Evolutionary theory is particularly useful when studying the role of exogenous force and exogenous serendipity as origins of variation and selection because these microfoundations remain hidden with other process lenses. With its multi-level approach, the evolutionary process lens resonates with studies on imprinting (Marquis & Tilcsik, 2013) that emphasize the role of context in delimiting actors. It also fits with other studies that stress the structural perspectives of network dynamics (Sytch & Tatarynowicz, 2014).

Because the evolutionary lens reveals all six microfoundations, one might consider it superior to the other process lenses and perhaps it alone could be employed to frame research on network dynamics. We suggest there are counterarguments to this. Compared to life-cycle theory, the evolutionary lens lacks the temporal sequence of network microfoundations. Thus, it is not capable of explicating changes to the importance of various microfoundations over time. With its focus on variation, selection and retention, it is also unable to reveal important events and forces in the pre-network stages because evolutionary theory assumes that a network exists when it is studied. Accordingly, we suggest that a teleological lens is more

appropriate when studying network dynamics as an actor-initiated process. Further, despite the ability of the evolutionary lens to expose variation and retention initiated through lower-level activities, the teleological lens underscores the importance of the envisioned end state. It also enables one to analyze how the aims and activities of actors change over time. Similarly, a dialectic lens is more useful in explaining changes that occur in the network. It provides a stronger focus on understanding the opposing forces across the network as well as between the network and its environment. Thus, as noted by Slotte-Kock and Coviello (2010), teleological and dialectic process lenses are more focused on explaining network change, whereas life-cycle and evolutionary lenses describe them.

7. Conclusions

7.1 Theoretical contributions

By integrating insights from network microfoundations with multiple process theories, we move toward a more inclusive understanding of business network dynamics. We also answer calls to account for multi-level sources (Rosenkopf & Padula, 2008), intentionality, resistance and change (Kragh & Andersen, 2009) in business networks. Our findings provide a foundation for studies that incorporate environment-driven changes in network practices (Chakrabarti, Ramos, & Henneberg, 2013) or deliberate networking activities (Harrison et al., 2010) by indicating how different process lenses enable researchers to identify certain network microfoundations. We also show how process theorizing may be helpful in differentiating intentional network changes from any unintentional outcomes that result from managed changes or resistance in networks (cf. Kragh & Andersen, 2009).

7.1.1 A better understanding of network dynamics

For research in the IMP tradition, we introduce microfoundations as a theoretical concept to study the influence of action and interaction of micro-level entities (e.g. actors,

resources and activities) on macro-level phenomena (e.g. networks), and how macro-level structures guide behavior in the micro level. Our study has potential to enrich the current discussion on business network dynamics (Fonfara, Ratajczak-Mrozek, & Leszczyński, 2016; Gadde, 2014; Lundberg, Andresen, & Törnroos, 2016) by providing initial insights on the microfoundational forces on stability and change in business networks. We also provide insight to the question on how to study and theorize the interactive business landscape (Waluszewski & Snehota, 2016).

Compared to the prior literature, we offer a novel viewpoint to discussions of *intentionality of network dynamics*, i.e., whether network dynamics are deliberately driven by actors (Castro et al., 2014), *mode of network dynamics*, i.e. how to analyze the interplay of forces of stability and change (Halinen et al., 1999), and *level of network dynamics*; i.e., whether dynamics are caused by network actors or environmental forces (Kragh & Andersen, 2009; Rosenkopf & Padula, 2008). In particular, we add to the network process analysis literature (Halinen, Medlin, & Törnroos, 2012; Halinen et al., 2013) by showing how different microfoundations appear under each process theory lens. Accordingly, we encourage the use of multiple process theories in a single study. We also suggest that scholars avoid relying on event-based theorizing in network processes (Halinen et al., 2013). This is because it is necessary to identify 'deonts' – events that did not happen or structures that did not exist yet influenced network dynamics (Mingers, 2011) through inertia. In all, our study should help IMP scholars build on the microfoundations literature from strategy and organizational theory to study the interdependencies of network elements over time and space.

7.1.2 A better understanding of network microfoundations

By developing the theory base of network microfoundations from Ahuja et al. (2012), our findings also contribute to research in strategy and organization theory. We refine and

extend the original classification of network microfoundations and suggest there are six relevant microfoundations underlying network dynamics. As a further contribution, we categorize network microfoundations based on intentionality (deliberate vs. unintentional), mode (stability vs. change), and level (lower vs. higher). We hope our study encourages strategy and organizational scholars to study how, for instance, microfoundations of routines (Winter, 2013), institutional logics (Thornton, Ocasio, & Lounsbury, 2012), and dynamic capabilities (Helfat & Peteraf, 2015) are revealed by employing multiple process lenses, and how these microfoundations reflect intentionality, mode and level of influence.

7.2 Methodological contribution of prospective network pictures

We provide a methodological contribution to the business network literature through our use of current vs. prospective network pictures. Building on others using network pictures (e.g. Abrahamsen, 2011; Abrahamsen et al., 2016, 2012; Coviello, 2005), we asked the informants to draw future-oriented network pictures. While traditional 'in-time' network pictures provide insight on who belongs to the network, prospective network pictures enable the researcher to see anticipated changes and collect data on prospective network actors before they even join the network. These help identify prospective changes in networks, and provide the researcher a guide to follow actors' views of forces of change and stability. Accordingly, it is easier to study changes in the sensemaking and actions of various actors compared to both 'in-time' network pictures drawn by informants as well as future-oriented network pictures (or 'network drawings' as per Aaboen, Dubois, & Lind, 2012) that are drawn by the researcher. As a result, prospective network pictures are able to overcome the shortcoming of 'static snapshots' of traditional in-time network pictures (Corsaro & Snehota, 2012). They are also useful in minimizing the retrospective bias of the respondents given they enable comparison of different network pictures over time.

7.3 Managerial implications

Our study's findings indicate that networks can be managed for change and stability but also, other forces have influence. For instance, founders may intend to commence as a so-called born global firm but exogenous inertial might forces restrict the expansion of the business network beyond the home region. Our results reinforce the idea that business networks develop as a result of multi-actor sense-making, and it is beneficial to bring various perspectives to understand the business network. The combination of (intra- and inter-firm) perspectives provides a more objective view of market development for managers, which can then consider what kind of actions are needed to overcome the forces that stand in conflict with their envisioned future. In the end, our study shows that networks and markets do not simply emerge or get shaped by others; intentional action from the decision-maker is always involved. Therefore, it is important to have a better understanding of the intentions of various actors. Consequently, a company can make better value propositions to support other actors in their endeavors.

Finally, in the same way the application of a certain process lens is likely to reveal only certain microfoundations to researchers, the lens used by managers is important. For example, if a founder plans for step-wise progression, she may only consider (and plan for) endogenous influences and her own agency. If she approaches network development with a teleological mindset, she may not be sensitive to forces beyond those of agency and endogenous inertia. A dialectic lens will help network decisions during times of crisis, and the evolutionary lens- while most comprehensive- is challenging to apply until sufficient time has passed that the entrepreneur is able to reflect on and learn from the process of network development. Accordingly, founder/managers will benefit from 'wearing' multiple shifting

lenses to ensure flexibility in managing change and stability as the business network develops.

7.4 Limitations and future research agenda

As with all studies, our research has several limitations. In Founder2be's context of an iBusiness marketplace, changes typically happen more quickly than in the offline environment. Although we argue that understanding networks in this type of contemporary (and pervasive) firm is imperative, our single case approach may limit our findings to a specific context and we call for comparative research. We also note that our data were collected over a relatively short period of time. Therefore, it is difficult to fully study the past from which some important network dynamics emerged. If we had spent more time in the field, it is possible we could have identified more forces of change and stability. Although the relatively short time frame assists in recall, as do our efforts to collect data from multiple sources, a longer field study might reveal a more active role for other actors outside the founding team. Owing to the selected case and data collection procedures the analysis of the case network development is egocentric, i.e. to large extent emphasizes the cofounders' view of network development. Related to this, our data does not bring forth much variation in the exogenous environment, such as repeat business cycles. In this sense, business network dynamics might be better identified if more time was spent in the field or if historical research methods were employed. For instance, if we studied the networks during change in the macro environment (e.g., an economic crisis), we might better identify how higher-level microfoundations influence network dynamics.

We also recognize that the combination of microfoundations with process theory, and particularly the employment of four process theories in a single study, may jeopardize in-depth analysis. This however, was a tradeoff we made to explore the theoretical and empirical

connections across literatures that are critical to business network research. Future studies may focus (e.g.) on a single microfoundation and selected suitable process theories to reach more nuanced research findings. Moreover, research on the microfoundations of business network dynamics could be linked more directly to business survival and other performance outcomes. Despite these limitations, we believe that our study offers a rich understanding of the phenomenon on which others may build their research.

Table 3 introduces potentially interesting questions that indicates how our explorative study triggers the conceptualization of network microfoundations, and has potential to advance business network dynamics literature, as well as other research fields.

Table 3: Promising questions for future research in network microfoundations

Development and validation of network microfoundations
• Are the identified network microfoundations, their classification, and the linkages to process theories applicable in other: o industrial contexts? o cultural contexts? o types of social and organizational network research?
Interlinkages of network microfoundations
• How do radical changes in the exogenous business environment affect network microfoundations? • How do business cycles influence network microfoundations? • Is conflict between forces of change and stability beneficial for the viability of a business network?
Longitudinal changes in network microfoundations
• Which network microfoundations have the most long-term influence on business network dynamics?
Managing network dynamics
• What are the most influential acts of agency and inertia that managers can introduce to a business network? • When is it beneficial to introduce inertia in a business network? • How can managers overcome the forces of endogenous and exogenous inertia?
Studying business network dynamics
• How can we measure the influence of network microfoundations on business network dynamics and firm performance? • What research methods are most appropriate for studying the deonts that are important for understanding business network dynamics?
Examples of discipline-specific questions
• How can network microfoundations explain the:

- internationalization process of new firms?
- (re)formation of markets?
- opportunity development process?

- How does the use of multiple process lenses help reveal the microfoundations of (e.g.) capabilities?

We conclude with a call for scholars to combine multiple process lenses to generate a stronger and more holistic view of business network dynamics. This is because each theoretical lens reveals a different combination and level of insight regarding network microfoundations. Our understanding of how networks are created, shaped and dissolved reflects the process theory used to frame and analyze a study. Accordingly, we are reminded of the thesis offered by Poggi (1965, p. 284): "a way of seeing is also a way of not seeing."

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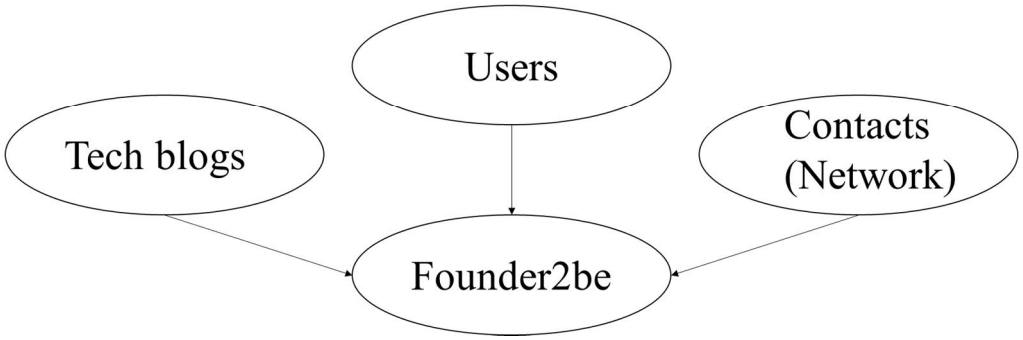
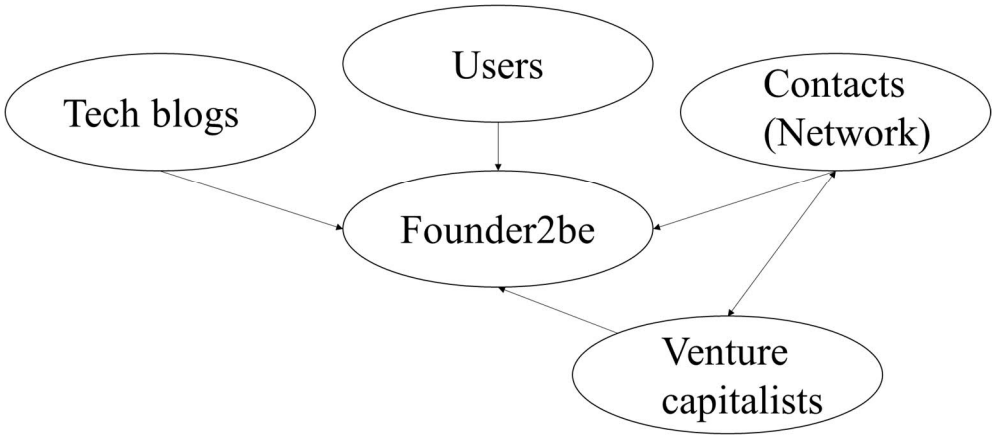
Appendix 1 Frank's perception of Founder2be's network in October 2011 and October 2012

Current network picture in October 2011



Prospective network picture in October 2011



Current network picture in October 2012