Entrepreneurship as Networking

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Mechanisms, Dynamics, Practices, and Strategies

Tom Elfring, Kim Klyver, and Elco van Burg

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Preface

In entrepreneurship research, one of the enduring questions is why some entrepreneurs perform well, while others do not. A dominant assumption is that entrepreneurs, in order to perform, rely on access to social capital available through their social networks—understood as the structure of relations among individuals. Previous literature predominantly followed a formalistic and rather deterministic sociology, attending mainly to the structure of networks and merely neglecting network agency and networking behavior. Challenging this emphasis on network structure over networking, a growing number of scholars are turning their attention toward networking and network agency in order to better understand how entrepreneurs interact with their environment. Network agency can be understood as the motivation and ability of entrepreneurs to shape their set of network ties to be beneficial for their entrepreneurial endeavors.

We set out to further an agentic perspective on social networks in entrepreneurship, which, over the course of working on this book, was termed as "entrepreneurship as networking." All three authors share a common interest in entrepreneurs, social networks, and particularly *entrepreneurial networking*, and it is therefore relevant to narrate a bit of the ideas, prior work, and importantly, social networks that fueled this interest. Two of the authors of this book, Tom Elfring and Kim Klyver, have been working in the field of networking and entrepreneurship for over 15 years. We met at the EDAMBA summer school in 2003 in Abbaye-ecole de Soreze. Tom's paper on Networks in entrepreneurship in *Small Business Economics* had just appeared and we had inspiring discussions on research opportunities in this field. Kim visited Tom at Vrije Universiteit Amsterdam in 2004 to present his literature review on networks and entrepreneurship. We stayed in touch, often visiting each other's universities, and over the last four years our collaboration has intensified. Tom and Elco van Burg have been colleagues at the Management & Organization Department at Vrije Universiteit Amsterdam between 2011 and 2017 and worked on a number of joint projects around networking and entrepreneurship.

The year 2003 was an important moment to Tom as the development of a research program on networks and entrepreneurship (together with Wim Hulsink) got a boost from the funding by NWO (the Dutch Research Council),

and this enabled a PhD position for Wouter Stam. This research resulted in two important publications, one in *Organization Studies* in 2007 with Wim on networking by entrepreneurs and one in the *Academy of Management Journal* with Wouter on the role of network strategies in entrepreneurial orientation. Over the years, more than a dozen PhD students (Victor Scholten, Souren Arzlanian, Peter Mika, Suresh Bhagavatula, Jakomijn van Wijk, Marc Bahlmann, Lotte Glaser, Yuval Engel, Mariette Kaandorp, and Martin Haring at Vrije Universiteit Amsterdam, and Josephine Betabwishekwoyen and Gulnaz Aksenova at University of Liverpool Management School) contributed to this research program, and their work and joint papers (appearing in the *Academy of Management Journal*, *Journal of Business Venturing*, and *Small Business Economics*, among other publications) have been immensely important in advancing our insights in the role of networking in entrepreneurial endeavors.

In addition, interactions with other scholars who shared our fascination of the importance of social relations in entrepreneurship has developed our thinking. In 2008 Tom and Wouter initiated a Caucus at the Academy of Management Annual Meeting with Akbar Zaheer and William Hesterly, entitled "Building Entrepreneurial Networks," in 2009 Tina Dacin and Indre Maurer joined Tom to convene a subtheme at the EGOS Colloquium on "Social Capital and Entrepreneurial Ventures," and at the 2014 EGOS Colloquium, Tom, Cristina Boari, and F. Xavier Molina assembled a group of scholars around the subtheme of "Entrepreneurs, Networking and Clusters: A Multilevel Perspective." Finally, in 2019 Tom and Julia Brennecke spearheaded an Academy of Management symposium with the help of Gautam Ahuja and Gokhan Ertug on "Network Churn: Drivers and Implications for Innovation and Entrepreneurship." Furthermore, during Tom's research visits in 2011 and 2012 at the University of Bologna, discussions with Gianni Lorenzoni, Simone Ferriani, and Cristina Boari planted the seeds for writing this book. In addition, Toby Stuart encouraged Tom to write this book during conversation in both Amsterdam and Berkeley.

Kim has researched the intersection of entrepreneurship and social networks for the past 15 years. He is fascinated by how entrepreneurs and small business owners interact, shape, and are shaped by their social surroundings in their struggle to perceive opportunities, acquire resources, and gain legitimacy, and how these activities together impact success. For years he has thought the dominating structural approach to social networks reflects an over-deterministic thinking of social environments that is incomparable with how networking is discussed among practitioners and often only allows minor possibilities of drawing practical implications. This motivated his

coauthorship of the book, engaging in an agentic social-interactive approach to social networks and entrepreneurship.

He was first introduced to social network by Thomas Schøtt in 2002. This interest was intensified during a research exchange with Per Davidsson at Jönköping International Business School in 2003, just as Per's paper in *Journal of Business Venturing* with Benson Honig on entrepreneurs' social capital came out. Kim's thoughts further matured through discussions with Jesper Sørensen during employment at Stanford University in 2009 and later by collaboration with Patricia Thornton during a research exchange at Stanford's Sociology Department in 2013. During the Stanford period, he was also granted funding from the Independent Research Fund Denmark to initiate his research program on entrepreneurship and social networks that, for instance, includes the Danish Panel Studies of Entrepreneurship Dynamics (DaPSED). This program is still his main focus. It involves collaboration with several coauthors, including Paul Steffens, Benson Honig, Patricia Thornton, Mette Søgaard Nielsen, Siri Terjesen, Pia Arenius, Mark Schenkel, Ying Chen, Marilyn Uy, Teressa Treffers, Sara Värlander, Yuval Engel, Noel Lindsay, and has resulted in many joint papers (in, for example, *Journal of Business Venturing*, *Entrepreneurship Theory & Practice*, *International Small Business Journal*, and *Small Business Economics*).

Elco's first serious research efforts in 2005, at that time as a Master's student at Eindhoven University of Technology, implied a deep dive into research on agency in interorganizational collaboration, in close collaboration with Hans Berends and Erik van Raaij. This study of the collaborative network around the development of the aircraft material Glare provided material for rich insights in cross-level network dynamics and the role of cognitive framing in these dynamics (published in *Organization Science* and *Journal of Management Studies*). This process study highlighted the role of ideas, perseverance, and actions of individuals, as well as cognitive framing of managers as key explanations for network dynamics. Over the course of the years, while broadening his research agenda, his interest in social networks and entrepreneurship deepened, through joint work with Joep Cornelissen, Tomas Karlsson, and Mariëtte Kaandorp, among others, and he again and again realized the need to further agentic and more processual accounts of social networks as (re)enacted social realities. Thus, coauthoring this book provided an excellent opportunity to elaborate this account and set out its implication for the study of both entrepreneurship and social networks.

Building on these ideas and research efforts, through evolving networks of collaborations, we developed in this book a social-interactive and action-oriented networking perspective to help us explain how, through networking,

entrepreneurs develop opportunities, access and mobilize resources, and gain legitimacy.

The purpose of this book is to integrate our insights on entrepreneurial networks by analyzing the mechanisms, dynamics, and consequences of network agency and networking behavior for entrepreneurial output, in its close interplay with network structure. Drawing on work from multiple perspectives, such as social capital, the resource-based view, and legitimacy, we develop a networking-as-entrepreneurship perspective, synthesizing previous efforts and extending entrepreneurial network agency's theoretical and methodological impact, including providing suggestions for future research.

The perspective presented in this book aims to build on and seeks to further inspire the growing number of scholars who are interested in networking by entrepreneurs. The debates about entrepreneurial networks are relevant to the scholarly community of entrepreneurship. Networking can be seen as an integral part of judgmental decisions of entrepreneurs to act on perceived opportunities, fueled by the belief that their emerging venture is able to integrate, build, and combine internal and external resources into new combinations that create competitive advantage. We hope to galvanize a community of entrepreneurship scholars to develop and empirically investigate the centrality of networking to entrepreneurial action.

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1
Introduction

Entrepreneurship as networking

What kind of network helps entrepreneurs become successful? How do networking activities of entrepreneurs affect their networks and entrepreneurial endeavors? This book addresses these two guiding questions. They are fundamental to our understanding of entrepreneurs' actions that lead to the successful creation and development of ventures. In the last three decades, a growing number of scholars have shown that *social capital*, defined as the actual and potential resources available to entrepreneurs through their network of relationships, is crucial to the successful growth of entrepreneurial ventures (Nahapiet and Ghoshal 1998; Gedajlovic et al. 2013). Relatedly, a social network here refers to a set of individuals who are connected by interpersonal relationships. Social capital can be seen as a central ingredient by those who view entrepreneurship as a process of taking action in the face of uncertainty (McMullen and Shepherd 2006).

Entrepreneurs' network ties play a vital role in embedding the entrepreneur in the environment. Interacting with their environment offers entrepreneurs important content, such as knowledge and resources, and helps them determine opportunities and constraints. Serial entrepreneur Richard Branson believes that networking is a great asset to gain access to specialist knowledge and resources that start-ups do not have. For example, his connection to Boeing allowed him to lease a plane at favorable conditions while starting Virgin Atlantic (Branson 2000).

Despite the significant positive impact of social capital on entrepreneurial performance, as meta-analyses have shown (Stam, Arzlanian, and Elfring 2014; Rauch et al. 2016), it is difficult to provide an unambiguous answer to the question of what a viable network is. The conflicting findings with regard to the particular dimensions of social capital (Stam, Arzlanian, and Elfring 2014) and the large number of contextual contingencies (Ozdemir et al. 2016; Rauch et al. 2016) warrant careful reflection about the crucial characteristics of network ties that contribute to entrepreneurial success.

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The answer to the second question on how and why entrepreneurs shape their networks through networking actions also remains challenging. Scholars have only recently started to examine the antecedents of network action. The literature provides several reasons why entrepreneurs are active networkers. Key arguments are their lack of resources and their changing resource needs (Jack 2005; Semrau and Werner 2014), their disadvantaged network position (Hallen and Eisenhardt 2012), and the high potential for rewards (Vissa 2011). Furthermore, next to these instrumental motivations to network, scholars have increasingly recognized that entrepreneurs, like other people, also network without specific goals (e.g., Engel, Kaandorp, and Elfring 2017).

Particularly under conditions of uncertainty, which is often the case for entrepreneurs (Milliken 1987; McMullen and Shepherd 2006; McKelvie, Haynie, and Gustavsson 2011), networking becomes much less goal oriented, largely because goals can be seen as moving targets (Huang and Pearce 2015). In this situation, networking often becomes effectual, which can be characterized as means driven. This type of networking starts from who entrepreneurs know as part of their means set (Sarasvathy 2001; Burns et al. 2016; Engel, Kaandorp, and Elfring 2017). Moreover, the dynamics of this set of network ties tend to be centered around interactions with their families, friends, and individual and shared passions. Alice Waters's founding of her renowned restaurant Chez Panisse, at the time a novel and highly uncertain venture, illustrates the importance of effectual networking (Elfring and Hulsink 2019). The shared passion for organic food was a key networking driver in the initial stages of creating Chez Panisse. Around this inner circle, a growing number of stakeholders, such as organic farmers, bakeries, and food journalists, chose to become connected with Chez Panisse; in turn, this growing involvement co-created an emerging new restaurant category in which Chez Panisse spearheaded development. The literature hardly addresses the question of when entrepreneurs' networking actions are goal driven or effectual, or in what ways this impacts their entrepreneurial ambitions and performance (Kerr and Coviello 2019). We believe the time is right to reflect on the achievements of the social capital perspective in explaining entrepreneurial success and to include the dynamics of networking actions as integral to the equation to create a fruitful research agenda for the period to come.

Entrepreneurship as networking: Social-interactive and action-oriented

The aim of this book is to advance the entrepreneurship field by centering on the role of networking in entrepreneurship. The entrepreneurship-as-networking

perspective has the potential to address the fundamental problems with the dominant "individual-opportunity" nexus perspective in the entrepreneurship field. For instance, Davidsson (2015, 674) discussed several "inherent and inescapable problems with the 'opportunity' construct," while Dimov (2011) observed that an opportunity is more or less elusive because it is uncertain ex ante and can only be confirmed after it has been acted upon. Moreover, entrepreneurs who discover or create opportunities tend to be conceptualized as unitary actors operating separately from their social contexts (Garud, Gehman, and Giuliani 2014). Therefore, in the entrepreneurship-as-networking perspective as advocated in this book, we focus on the social-interactive aspects and thereby move beyond the debate about the nature of opportunities and go toward processes related to opportunity perceptions and action (Wood and McKinley 2010). The argument for the action-oriented nature of entrepreneurship builds on the work of Foss and Klein (2012), who argue that the unit of analysis should not be opportunities, but action—in particular, the action to "the assembly resources in the present in anticipation of (uncertain) receipts in the future" (226)—and the work of Shepherd (2015). We present the entrepreneurship-as-networking perspective, which argues that social capital theory has the potential to become a foundational theory of entrepreneurship (Gedajlovic et al. 2013). By addressing the two guiding questions, we show why and how social capital theory has the potential to move the field into a more social-interactive and content-rich, action-oriented mode.

One key attribute of the entrepreneurship-as-networking perspective is its emphasis on networks and the associated social interactions. Whereas much research in entrepreneurship basically assumes that entrepreneurs and their social context can be separated, this perspective admits that most entrepreneurial action involves networking. Building on research on social capital, this perspective explicitly acknowledges that entrepreneurs do not operate in a vacuum (Jack 2010) and that the locus of their actions is the network (cf. Powell, Koput, and Smith-Doerr 1996). They "don't go it alone," as Baum, Calabrese, and Silverman (2000) concluded. Networking is at the core of entrepreneurial processes such as pursuing entrepreneurial opportunities, securing resources, and gaining legitimacy. Entrepreneurs' perceptions about opportunities are shaped in interaction with multiple network contacts (De Koning 2003; De Carolis and Saparito 2006). Their network connections embody this interplay as information about the potential of opportunities travels back and forth between entrepreneur and environment through network ties (Autio, Dahlander, and Frederiksen 2013). Similarly, the interplay between entrepreneurs and their environment through their network connections affects their ability to access and acquire external resources (Ozdemir et al.

2016; Rooks, Klyver, and Sserwanga 2016; Birley 1985). External resources are resources that are not possessed by entrepreneurs, but that must be combined with internal resources to develop new combinations in order to seize opportunities. Finally, innovative ventures may overcome legitimacy barriers by being embedded in a community (Rindova, Petkova, and Kotha 2007; Khaire 2010; Fisher et al. 2017). Network ties to respected players in that community help convince stakeholders that the venture is appropriate and can be trusted as a supplier, customer, or partner.

Thus, the social-interactive characteristics of the entrepreneurship-as-networking perspective can potentially address the challenge of providing a more integrated account in which the individual perspective is combined with a greater emphasis on the environment (McMullen and Shepherd 2006) or "a more integrative understanding that embeds individual entrepreneurs within their social contexts" (Cornelissen and Clarke 2010, 539). The entrepreneurship-as-networking perspective builds on the social capital literature, which aligns with the social-interactive nature of entrepreneurship and therefore increasingly is seen as offering more potential than most traditional studies, which have focused on the individual-opportunity nexus (Foss and Klein 2012; Garud, Gehman, and Giuliani 2014). For instance, a social-interactive perspective on opportunities allows us to move the research focus away from an empirically fruitless discussion on the nature of opportunities toward a more productive process perspective on perception and opportunity evaluation (Dimov 2011; McMullen and Dimov 2013; Wood and McKinley 2010).

A related challenge in the entrepreneurship field is to redirect the focus from individuals and opportunities toward entrepreneurial action (Foss and Klein 2012; Davidsson 2015). Entrepreneurship can be seen as "purposeful action that requires foresight, effort, and resources" (Autio, Dahlander, and Frederiksen 2013, 1350). *Entrepreneurial action* is usually conceptualized as the founding of new ventures or related activities, such as creating new products or services. Thus, the activities and processes involved in assembling and mobilizing the resources needed to create a new business occupy a central position within the entrepreneurship-as-networking perspective. Mobilizing resources represents a wide range of actions that include locating the resources in question, assessing their value, trying new combinations of resources, coordinating their application, and changing them in response to feedback (Foss and Klein 2012). This focus on action in the entrepreneurship field may benefit from a much stronger connection to social capital theory (Aldrich and Kim 2007). In fact, a cornerstone of social capital theory is action; Lin (2001, 40) conceived social capital "as resources

embedded in a social structure that accessed and/or mobilized in purposive actions."

In what ways could the action orientation of the entrepreneurship-as-networking perspective contribute to further development of entrepreneurship theory? Two types of action may be distinguished. First, the entrepreneur must mobilize, transfer, and use external resources through network ties to actually capitalize on their network (Baker 2014). In this case, social capital concerns the access and acquisition of resources available through the entrepreneurs' "informal" networks, such as their bootstrapping actions (Jones and Jayawarna 2010; Grichnik et al. 2014), rather than the resources they can purchase on the regular market or via formal agreements. This type of action complements the entrepreneurial activities of assembling and combining resources to create a new business (Sirmon, Hitt, and Ireland 2007).

External resources are central in entrepreneurial efforts. The role of network ties in the search, transfer, and combination of external with internal resources is ambiguous concerning the way these resource combinations provide value to the entrepreneurial endeavor (Clarysse, Tartari, and Salter 2011; Klyver and Schenkel 2013; Rawhouser, Villanueva, and Newbert 2017). The entrepreneurship-as-networking perspective is relevant because it provides insight about the effects of the networking activity type, such as the use of strong or weak ties, on the actors' ability to value, transfer, and combine these external resources with internal ones (Hansen 1999; Rindova et al. 2012; Semrau and Hopp 2016). Among other results, this activity leads to the development of opportunities and the establishment of legitimacy.

The second type of action we distinguish are the entrepreneurs' networking actions to change their network, such as developing new ties, dropping existing ties, or changing the nature of existing ties (Ahuja, Soda, and Zaheer 2012; Elfring and Hulsink 2007; Vissa 2012). Such changes in the entrepreneurs' personal networks have been characterized as *network churn* (Vissa and Bhagavatula 2012). In the context of uncertainty and continuous development of business plans, entrepreneurs have to adjust their network connections. Thus, their network structure is in a constant state of flux. Active networking, which can be driven either by goals or by individual or collective desire to meet and interact, fuels the churn and volatility in the network connections (Klyver, Evald, and Hindle 2011; Engel, Kaandorp, and Elfring 2017). Goal-driven networking is often strategic in response to changing resource requirements (Jack 2005) and for entrepreneurs trying to improve their disadvantaged position (Hallen and Eisenhardt 2012; Newbert, Tornikoski, and Quigley 2013). Recent data that tracked the founders of the 32 start-ups from the Elfring and Hulsink's (2007) study for 10 years showed that, over

time, start-ups with high-volatility networks appeared more successful than start-ups with rather stable networks. The high-volatile network start-ups may have been able to move to new niches when the original ones appeared less lucrative than originally perceived. This reinforces Burt and Merluzzi's (2016) observation that changes in network structure facilitate an "adaptive response" to market changes. These insights from the social capital perspective on the agency of entrepreneurs to network strategically may enrich the entrepreneurship field. Thus, emphasis on action in entrepreneurship studies may benefit from the consideration of different types of action in the social capital perspective.

Key roles of social capital in entrepreneurial processes

The social capital perspective's growing popularity stems from a number of developments. First, the disappointing explanatory power of the personality trait perspectives led Aldrich and Zimmer (1986) to conclude, "It is not just what you know but who you know" (20). Second, the positive initial findings of studies focusing on the network or social capital perspective (Birley 1985; Starr and MacMillan 1990; Brüderl and Preisendörfer 1998; Davidsson and Honig 2003; Greve and Salaff 2003) support the argument that entrepreneurs, more than other actors, depend on their network of social relations as an important way to access resources. Finally, a strong driver of more network-based research has been the advancement in social network methods (Borgatti et al. 2009; Scott 2000), leading Levinthal (2007) to state that the social network perspective has made spectacular progress in understanding important social phenomena such as entrepreneurship.

The key focus of the social capital success hypothesis is that entrepreneurs can obtain information, support, and resources relatively easily and inexpensively through their network ties, and that some have better networks than others, which explains their superior performance. This key insight of social capital theory fits well with the actual needs of entrepreneurial ventures, which often lack resources due to the liability of newness (Stinchcombe 1965) and market failure (Ozdemir et al. 2016). These aspects, in turn, hamper the venture's emergence, development, and competitive position. Entrepreneurs turn to their network ties to access and acquire the resources they need, resources that may complement their limited internal resource portfolio and help them design and implement a viable competitive strategy. Assembling these resources intimately relates to the network ties of the emerging venture

and the actions designed to assess and acquire those resources. The search for basic resources, such as raw materials, equipment, knowledge, facilities, finance, and employees, is a key activity of entrepreneurs. This activity benefits from network connections, as shown in one of the first social network and entrepreneurship studies by Birley (1985) and subsequently confirmed by many other studies (e.g., Hoang and Antoncic 2003). Thus, the resources embedded in network ties, often referred to as social capital, can be viewed as an effective way to overcome the entrepreneur's lack of resources and associated liabilities.

Entrepreneurs turn to their personal networks and their ties in the business community (such as regional clusters) in which they operate (Boari and Lipparini 1999). Most studies on entrepreneurial networks focus on the way network ties provide access to resources and help in acquiring those resources. That said, the securing of resources from networks is a social-interactive process that not only provides entrepreneurs with new valuable resources. Network relations not only provide access (Ozdemir et al. 2016), but also are central to the search for resources, assessment of their value, and ability to transfer and combine those resources into new combinations of internal and external resources (Burns et al. 2016; Grossman, Yli-Renko, and Janakiraman 2012; Semrau and Hopp 2016). Network ties are also sources of information. They feed into the entrepreneur's ability to judge whether the new combinations are valuable or, more specifically, whether they can satisfy the needs of the market in a novel way and thereby introduce new "means–ends" relationships. Foss and Klein (Nikolai J. Foss and Klein 2012) argued that the process of evaluating the value of new resource combinations involves subjectivism and entrepreneurial judgment.

Thus, network ties represent a key to entrepreneurship because they affect underlying processes between entrepreneur and environment in key entrepreneurial activities. Beside their role in providing resource availability and searching for, acquiring, transferring, and combining resources, they also play a prominent role in entrepreneurial activities related to developing opportunities (Martinez and Aldrich 2011) and gaining legitimacy. In the entrepreneurship-as-networking perspective outlined in this book, we broaden the dominant focus of social capital theory on "hard," physical resources. Such resources also include more cognitive and subjective aspects of entrepreneurial activities, in particular the activities of developing and pursuing opportunities and gaining legitimacy (Elfring and Hulsink 2003). Thus, instead of linking the network structure directly to performance, we distinguish three key entrepreneurial processes that involve networking by entrepreneurs. The basic conceptual model in Figure 1.1 shows how entrepreneurial tasks or challenges—such as developing and pursuing opportunities,

securing resources, and gaining legitimacy—may be seen as intervening processes that regulate performance outcomes because the entrepreneurs' network ties influence them in beneficial or detrimental ways. In the following sections, we explain why developing opportunity and gaining legitimacy are entrepreneurs' tasks closely tied to their networks and networking.

Some key definitions of entrepreneurship include the ability of entrepreneurs to discover, create, or develop opportunities. Scholars have discussed the origins and nature of opportunities and opportunity-related processes (see Davidsson 2015; Berglund and Korsgaard 2017; Ramoglou and Tsang 2017 for recent debates). We cultivate an entrepreneurship-as-networking perspective on opportunity development that centers on the role of networking. Most studies view the network as a source of information that affects opportunity recognition (see also Autio, Dahlander, and Frederiksen 2013), as shown in Figure 1.1, by the causal link between the entrepreneurs' network and their pursuit of opportunities. We add the feedback loop from opportunity pursuit to networking to include the perception, evaluation, and pursuit of opportunities as drivers of networking actions. Through networking, entrepreneurs shape and transform opportunities in business concepts by interacting with their network contacts, such as key stakeholders. Opportunity-related processes intertwine with the social environment; the networks not only provide the information and "external enablers" (Shepherd

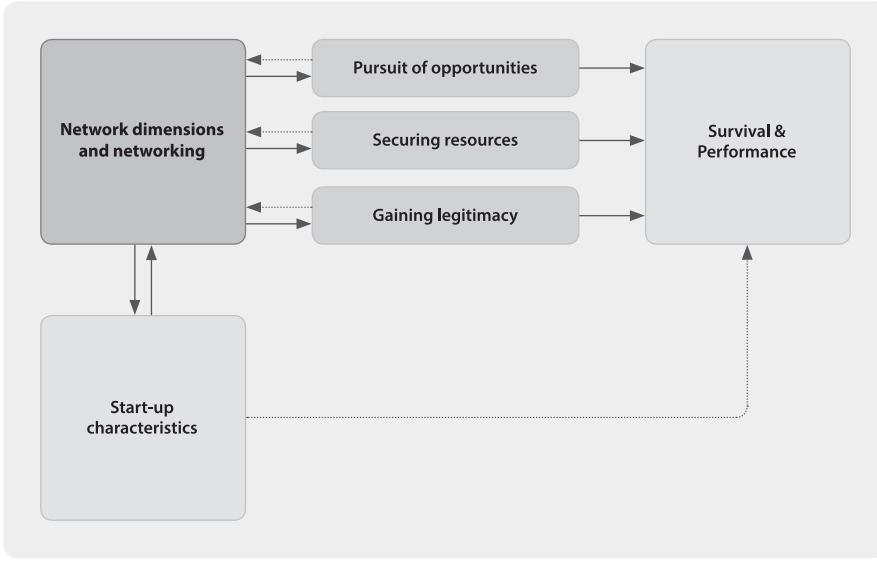

Figure 1.1. Venturing through networks.
Source: Adjusted model from Elfring and Hulsink (2003).

and Patzelt 2017), but also function as part of the social interactions in perceiving, evaluating, and acting on opportunities.

Thus, we move beyond the traditional network perspective in which the network is seen as providing information as an enabler of entrepreneurial action such as starting a venture. In this traditional perspective, networking *may* lead to entrepreneurial action; in this book, however, we develop the social-interactive perspective in which networking *is* entrepreneurial action. In other words, the locus of entrepreneurial action is in the network, similar to the observation of Powell et al. (1996) that the locus of innovation is in the network.

Finally, new ventures depend on their position in their environment to be deemed legitimate, and network ties have been identified as among the key mechanisms to gain legitimacy. For example, legitimacy may be achieved through endorsements and alliances with respected players in the field (Stuart, Hoang, and Hybels 1999; Elfring and Hulsink 2007; Khaire 2010). Thus, the ties between an entrepreneur and prominent players in the field can signal to others that the entrepreneur is a legitimate and trustworthy business partner (Podolny 2001). The feedback loop in Figure 1.1 suggests not only that "legitimacy enhances the abilities of founders to create social ties" (Delmar and Shane 2004, 405) but, more importantly, that the legitimacy judgments are constituted in an interactive process involving the entrepreneur and the audiences involved in granting legitimacy (Bitektine 2011). Thus, the locus of legitimacy judgment is in the network, thereby contributing to our entrepreneurship-as-networking focus.

Ambition and definition of entrepreneurship

The overall ambition of this book is to examine how and why entrepreneurs' social capital affects their ability to start and grow new ventures. The social capital perspective incorporates the importance of social relations and the associated social interactions in its attempt to understand and explain entrepreneurial outcomes. The potential of the social capital perspective is based on the argument that "social capital is uniquely situated to address the integrative theoretical needs of entrepreneurship scholars because it helps explain processes and outcomes of social interactions across a diverse set of situations and contexts" (Gedajlovic et al. 2013, 456). Furthering the social capital theory promises to provide insight into core puzzles of the entrepreneurship field. It can shed new light on the origins of opportunities (Suddaby, Bruton, and Si 2015) and improve our understanding of how entrepreneurs

access resources and subsequently mobilize and deploy them in new combinations (Garnsey 1998). It can explain how entrepreneurs build up legitimacy (Aldrich and Fiol 1994), facilitating them to act on perceived new combinations (Autio, Dahlander, and Frederiksen 2013) and thereby exploit the potential to develop a competitive advantage (Stuart and Sorenson 2007). In line with these core arguments underlying the social capital perspective, we can define *entrepreneurship* as involving judgmental decisions to act on perceived opportunities, fueled by the entrepreneurs' belief that their emerging ventures are able to integrate, build, and combine internal and external resources into combinations, thus creating a competitive advantage.

Social capital perspective and entrepreneurship studies: Three common components

Social capital can be defined as the actual and potential resources embedded in social networks that entrepreneurs access and use in their actions (Lin 2001; Adler and Kwon 2002; Baker 2014). This definition consists of three components that are also central in entrepreneurship theory: resources, social networks, and action. We believe that the overlap of these key components of entrepreneurship and social capital theory facilitates our ambition to enrich the entrepreneurship field with insights from social capital.

Resource component

The first component involves resources. In entrepreneurship, mobilizing and assembling resources to develop new combinations may be seen as an entrepreneur's key task. In social capital theory, resources form the primary content that flows through the network ties to the entrepreneur. Network ties are seen as pipes. In this case, resources are a broad construct that includes information about new market opportunities, support from family, and access to required venture capital, employees, and technologies.

To answer the question of what ways conceptualizing resources in the social capital perspective may contribute to entrepreneurship, it is important to realize that social capital studies in entrepreneurship come from two different traditions—namely, strategic management studies and sociology. Network ties and social interactions are central in many sociological studies because they play an important role in society and in the way people are connected through interactions (Simmel 1950). At the macro level, network ties may be

seen as connections that keep communities together (Putnam 2000). At the individual level, these ties influence the actors' behaviors. Scholars in the social capital tradition have examined how relationships and positions in the network structure facilitate people to find jobs (Granovetter 1973) and advance their careers (Burt 1992a). The central idea is that embeddedness and position within a social structure influence the actors' attitudes and behaviors and thus affect outcomes. In the entrepreneurial context this idea has been applied to examine the effect of the position within the network structure on the opportunities available to entrepreneurs (Stuart and Sorenson 2007) and on their performance (Stam, Arzlanian, and Elfring 2014). The focus in this approach is on the structure and characteristics of the entrepreneur's network ties. Thus, an entrepreneur with a relatively large network benefits more than one with fewer network contacts. In this approach, the performance-enhancing effects are derived from the structure of the network rather than the content that flows through the ties.

Some studies have distinguished network arguments in the *structuralist* approach from those in the *connectionist* approach (Borgatti and Foster 2003). The arguments just discussed reflect the structuralist approach because they link performance effects to positions in the network structure and assume the network structure itself to be a causal force. Although acknowledging the important insights from the structural perspective, in the connectionist approach the content matters and is associated with resources. The resources flowing through the network ties represent the causal mechanism that explains the performance effects (Batjargal 2003). They are the information, knowledge, and other resources that the entrepreneur can access and mobilize to develop new resource combinations to pursue perceived opportunities. Most strategy research can be labeled as connectionist because it focuses on the resources that firms can use through their networks and alliances.

In strategy research, there is a long tradition of looking at formal longer-term relationships among organizations. This tradition focuses much more on the type of connections and the content or resources of partners that can be used. For example, studies on alliances and joint ventures deal with access to and use of "partner" resources and the governance of these relationships on performance (Jiang et al. 2016). Furthermore, network relations with suppliers, business partners, and customers are key ingredients in many strategy studies. The resources of these stakeholders are central in the strategy literature, especially studies based in the resource-based view. The underlying strategy logic has inspired scholars in the entrepreneurship field to examine ways that network ties to specific stakeholders affect the venture's performance (Baum, Calabrese, and Silverman 2000). The focus of these studies has

been on networking—entrepreneurs looking for ties that could provide them with certain key resources. By configuring alliance networks (e.g., Lavie 2007; Ozcan and Eisenhardt 2009), start-ups can access social, technical, and commercial resources that are valuable because these resources compensate for the start-up's lack of internally available resources, which would have taken years of operating experience to develop.

Furthermore, some studies, such as Lee et al. (2001), Semrau and Hopp, and Zaheer and Bell (2005), adopted a different line of reasoning. They argued that resources from the network ties may be combined fruitfully with internal resources. Connections to others affect the potential to obtain access to the required resources through network ties; as such, they influence outcome variables such as venture growth and profitability (Rindova et al. 2012). In these cases, the content of the connections matters and therefore this interpretation is labeled as the connectionist approach (see Borgatti and Foster 2003). This approach in network studies may enrich the entrepreneurship field by improving our understanding of the role of network ties in accessing and transferring external resources (Table 1.1).

Table 1.1 Added Value of the Social Capital Perspective to the Entrepreneurship Field

	Entrepreneurship	**Social Capital**	**Added Value**
Resource	Resource combination create new "means–ends" relations.	Resources flow through network ties (connectionist perspective). Structural perspective neglects content such as resources.	Understanding access and mobilization of external resources.
Network	Relations with family, friends, business partners. Network as "loose" metaphor for relations.	Specific network dimensions; relational and structural measures. Network ties co-constitute opportunities but bring constraints.	Disciplined methodology. Operationalization of social interaction. Address the dark side of networks.
Action	Founding ventures. Perceiving, evaluating, acting on opportunities. Assembly of resources.	Mobilizing resources from existing network ties. Social-interactive view on opportunity perception, evaluation, and action. Developing network (adding, dropping, or changing ties) to accommodate changing requirements.	More realistic scope of relevant actions of entrepreneurs.

Network component

The second component consists of the entrepreneur's network ties. Here, the critical issue is how entrepreneurs can build a network through interactions that provide them with access to the resources they need. Some early network-oriented studies in entrepreneurship focused on business contacts and professional relations with industry and trade associations, as well as personal connections to people in organizations such as the Rotary and Lions Clubs (Davidsson and Honig 2003). One problem in these studies was that they rather broadly defined network ties. The studies lacked a systematic approach to network ties and often used networks as a metaphor or category (Stuart and Sorenson 2007). Such work definitely has benefited—and still can—from a more disciplined and better operationalized approach in social network analysis that distinguishes between network dimensions.

In social network analysis, a network is conceptualized as the sum of ties between nodes (or actors), in which the focal node is the entrepreneur or the venture. Each network dimension—namely relational, structural, and the cognitive—matters in terms of providing access.

Key *relational dimensions* include the strength of ties and the number of weak and strong ties, each of which has a differential impact on the entrepreneur's access to information and resources and the creation, activation, or change of ties to use information and acquire resources.[1] Family and friends are often considered to be *strong ties*, whereas the term *weak ties* refers to business associates, acquaintances, and strangers. A mix of weak and strong ties provides support in terms of the depth and scope of the relationships. Granovetter (1973) differentiated strong and weak ties based on four criteria: frequency of contacts, emotional intensity of the relationship, degree of intimacy, and reciprocal commitments among the actors involved.

Whereas weak ties provide access to new information and new business contacts, strong ties are relationships that entrepreneurs can rely on in good and bad times. Strong ties tend to connect similar people in longer term and more intense relationships. Affective ties with close friends and family members may provide a shortcut to, or even preclude the search for, useful knowledge and access to critical resources. In other words, strong ties contribute to "economies of time" (Uzzi 1997, 49)—the ability to capitalize quickly on market opportunities. Strong ties also have shortcomings, for instance,

[1] The relational dimension in network research loosely relates to the connectionist approach in strategy research. The main difference is that the connectionist approach is more about the type of connections and the content they provide, whereas the relational dimension focuses more on relational characteristics of connections such as tie strength.

the risk that over-embeddedness would stifle economic performance (Uzzi 1996). Close ties within and among business communities are vulnerable to exogenous shocks and may keep out information that exists beyond their network. There is also the danger of becoming blind to new developments or being "locked-in" (Johannisson 2000), trapping firms in their own web (see Gargiulo and Benassi 2000) and creating relational and cognitive lock-in (see Maurer and Ebers 2006, 276).

Weak ties, on the other hand, are temporary in nature and involve parties who do not invest time or effort to maintain these ties. Consequently, they have little emotional content. These ties often involve a diverse set of people working in different contexts with whom the entrepreneur has some business connection and infrequent or irregular contact. These loose and non-affective contacts may increase diversity, provide access to various sources of new information, and offer opportunities to meet new people.

The *structural dimension* (closely related to the structuralist approach) refers to the entrepreneur's position within the network structure (Tsai and Ghoshal 1998; Lechner, Frankenberger, and Floyd 2010). Important structural characteristics are the number of ties (network size) and whether some of those ties can be viewed as bridging ties, in the sense that they provide access to otherwise unconnected people. The latter refers to a phenomenon called *structural holes*. Entrepreneurs' networks have a structural hole when two people to whom they are connected are not themselves connected (Burt 1992a). Entrepreneurs with many structural holes are connected to a large number of separate social networks but with only limited connections among them. Entrepreneurs with many structural holes have tie connections to these other networks and may benefit from that broker position. Burt (1992a) showed that firms embedded in sparsely connected networks (i.e., firms that have many structural holes) will enjoy efficiency and brokerage advantages based on their ability to facilitate non-redundant information. Benefits of having a network rich in structural holes include access, timing, and referrals.

The opposite of an open and sparsely connected network is a *closed network*, in which most actors are connected to each other. Entrepreneurs embedded in such a dense network enjoy many potential benefits. First, information is transmitted quickly throughout the network, saving valuable time. Second, the group values in a dense network are usually relatively clear, which ensures reciprocity among members and creates trust. As a result, however, opportunistic behavior is limited because potential sanctions will be effective.

Another important structural characteristic is *diversity*, referring to differences in the social characteristics of the people with whom the entrepreneur is connected. A mixture of ties to family members, friends, business

associates, and others illustrates a diverse network and exposes the entrepreneur to a wider range of information. Studies and meta-analyses have shown that access to wider information appears to benefit entrepreneurial performance (Renzulli, Aldrich, and Moody 2000; Stam, Arzlanian, and Elfring 2014). A wider range of information is important to emerging ventures because it provides more potential opportunities to consider and evaluate. In addition, development of an opportunity—from sparking a business idea to implementing a business plan—requires flexibility, and more diverse information allows for changes and facilitates the changing resource needs during the venture's life cycle (Martinez and Aldrich 2011).

Finally, the social capital literature has emphasized that connections have a *cognitive dimension*, which refers to shared meanings and interpretations (Nahapiet and Ghoshal 1998). People may share the same language or have some shared system of representations, beliefs, and attitudes that facilitates information exchange and joint understanding of phenomena, which also helps establish legitimacy (Zimmerman and Zeitz 2002). The cognitive dimension is under-researched and hardly addressed in social capital studies (with Presutti, Boari, and Fratocchi 2016 as an exception). This may be due to the static nature of most formal social network analyses or to the way in which resources, including information, are operationalized. However, cognition plays a key role in understanding entrepreneurship, as well as in attempts to understand network dynamics (Obstfeld, Ventresca, and Fisher 2020). It affects entrepreneurs' network actions because the entrepreneurs must be aware of and agree on the location of potential resources and act to mobilize those resources to their benefit (Lee and Jones 2015).

Action component

The third component of the definition of social capital refers to actions to use and build new network ties. Baker (2014) called this "using pipes" and "making pipes." In itself, access to network ties is insufficient to account for beneficial effects. The entrepreneur needs to activate or change the content of ties to acquire the embedded resources, which constitutes the action problem in network research (Obstfeld 2005): Resources need to be mobilized for the entrepreneur to benefit from their potential value. In addition to the problem of how to activate and change existing ties, there are the under-researched issues of making pipes or adding new ties, dropping ties, or changing the nature of ties (Elfring and Hulsink 2007). Adding, dropping, and changing network ties are important in changing the overall network. The pursuit of

opportunities and the need to access and acquire resources often motivate modifications in the network. These needs change over time, from the initial phase of evaluating and acting on opportunities to the later assembly of new resource combinations. In addition, individual differences in personality and behavior drive the entrepreneurs' differential abilities to engage in strategic networking in efficient and effective ways.

Although network ties provide access to social capital, the entrepreneur must use or activate the ties to mobilize the resources of the network contacts (Fang et al. 2015). *Activation* refers to the actual use of the ties and aligns with the notion that networking is an activity. The use of ties—here related to adding new ties or activating latent or dormant ties—has to do with the search for or identification of how people in one's network can help with currently perceived entrepreneurial needs. For example, Jack (2005) observed that some entrepreneurs realize they need to re-establish contact with former colleagues to acquire valuable information. Mariotti and Delbridge (2012) also referred to latent or dormant ties and the need to reactivate them when they may provide key resources.

Use and activation of ties also encompass interacting and building trust with network contacts to strengthen (tie upgrading) or weaken (tie decay) relationships, or to change the content of ties, in order to realize opportunities, and acquire external knowledge that, in combination with internal resources, adds value. Thus, the ability to mobilize and use the resources of network contacts also depends on the nature of those resources. Plain information from tie contacts is relatively easy to transfer, but tacit or complex knowledge is much more difficult (Hansen 1999). The transfer or actual use of these more complex resources requires effort, skill, and trust. A network contact may also be activated as a referral to indirect ties who may possess resources the entrepreneur needs. The search for and transfer of embedded resources require social or political skill on the entrepreneur's part. Fang et al. (2015) stated that political skill varies substantially among individual entrepreneurs, which, therefore, explains differences in each entrepreneur's ability to mobilize embedded resources. In fact, those authors found that entrepreneurs with higher levels of political skill are better able to mobilize accessible social capital to achieve desirable venture outcomes.

Empirical accounts of entrepreneurs and their networking actions confirm that entrepreneurs add new ties to their networks (Elfring and Hulsink 2007), but in varying degrees. In some cases, the network changes are volatile; in other cases, the changes are limited. These high-volatility networks are driven by entrepreneurs who actively network to accommodate changing

resources requirements or to improve their disadvantaged network position (Hallen and Eisenhardt 2012; Newbert, Tornikoski, and Quigley 2013). These entrepreneurs use different agentic behaviors, such as symbolic actions (Zott and Huy 2007), negotiating tactics (Hallen and Eisenhardt 2012), and broadening and deepening networking styles (Vissa 2012) that result in new tie formation.

The network formation literature distinguishes the approaches to explain variations in network dynamics. Some scholars have focused on differences in individual traits and skills (Sasovova et al. 2010), whereas others have looked at differences in orientation (Ebbers 2014) or attitudes (Schierjott, Brennecke, and Rank 2018). Researchers have examined the effects of differences in entrepreneurs' skills on the way they build their networks (Fang et al. 2015). Others have advocated a more dynamic psychological perspective and have paid attention to the changing evaluations of networking actions and network development over time (Kaandorp, Van Burg, and Karlsson 2020; Porter and Woo 2015).

Table 1.1 summarizes the three key common concepts (resources, network, and action) in the entrepreneurship and social capital fields. Despite their common basis, these concepts have substantial differences in focus and orientation, and some of these differences account for the value that social capital adds to the entrepreneurship field. For each key concept, the table depicts why and how social capital has the potential to enrich entrepreneurship theory.

What are the results of related recent theoretical advancements and empirical findings of social capital? Where do we stand in answering the two guiding questions (What kind of network helps entrepreneurs become successful? How do networking activities of entrepreneurs affect their network and their entrepreneurial endeavor?)? What does this mean for the development of a social-interactive entrepreneurship-as-networking perspective? In the rest of this chapter, we review the explanatory power of the social capital perspective in addressing our two guiding questions and provide an outline and framework to develop a research agenda.

Explanatory power of social capital

Stam et al.'s (2014) meta-analysis assessed the surge in studies examining the effects of social capital on entrepreneurial performance. It synthesized the empirical findings of 59 studies to estimate the relationship between different social capital measures and entrepreneurial performance, as well as how a

number of contingencies affect this relationship. Two important conclusions can be drawn from this meta-analysis. First, the results indicate a positive relationship between social capital and entrepreneurial performance. In fact, the observed effect sizes for social capital were respectively comparable to or higher than those for personality traits (Zhao, Frese, and Giardini 2010) and human capital (Unger et al. 2011), which confirms the relevance of the social capital perspective in studying entrepreneurial performance. Second, the findings identified substantial differences in significance and effect sizes involving more specific measures of social capital. On average, structural holes and network diversity had the strongest relationships with performance. Surprisingly, weak ties had a substantially smaller effect on performance. Thus, these insights (elaborated on in the next chapters) address our first guiding question: What kind of network helps entrepreneurs to become successful?

Despite these overall positive social capital "meta" findings, the results also indicated the existence of substantial contingency factors (Stam, Arzlanian, and Elfring 2014, 163). For example, structural holes and diversity were substantially and significantly more important to high-technology firms than to low-technology firms. At the same time, there were substantial and significant differences in effects sizes when comparing recently started ventures with firms that had operated for some time (at least 6 years). Recently started ventures especially benefit from structural holes and diversity, whereas the performance of older firms is affected much more by the network size and strong ties. These results about the beneficial effects of strong ties to older firms are not in line with what we found in the literature. Based on Hite and Hesterly (2001), we expected that strong ties would have been particularly important to new firms and weak ties more important to older firms. Nevertheless, the meta-analytic results clearly showed that the hypothesized beneficial effects of weak ties on the performance of older firms were not supported.

Thus, the results of the meta-analysis were fragmented and, in some cases, difficult to relate to existing literature. Furthermore, a comparison of performance effects of specific social capital measures among individual studies yielded many conflicting results. For example, Raz and Gloor (2007) and Hansen (1995) reported that network size had a positive effect on performance; other studies showed no significant results at all (Aldrich and Reese 1993; Batjargal 2005). Similarly, many studies found the effect of structural holes on entrepreneurs' performance to be positive (e.g., Singh, Hybels, and Hills 2000; Vasudeva, Zaheer, and Hernandez 2013), but other studies reported a negative effect (Xiao and Tsui 2007; Batjargal 2010) or both effects (Bhagavatula et al. 2010).

Challenges in the social capital perspective

Despite the explanatory power and further potential of the social capital perspective, the fragmented findings of Stam et al.'s (2014) meta-analysis indicate some underlying conceptual and theoretical challenges. Recent reviews of the social capital perspective in entrepreneurship also signal several persistent problems that have kept the perspective from living up to its potential. The first challenge is that social capital studies typically do not conceptualize and measure the content or resources, such as information, capital, support, and advice, that flow through the network ties. As early as 2003, Hoang and Antoncic (2003) argued that it is necessary to "increase the precision of tie content measures" (179). The content or resources that flow through the ties and the effects of the nature of the relationships in which the resources are embedded are difficult to differentiate conceptually or empirically (Gedajlovic et al. 2013). In fact, in most network studies using social network analysis, "the theoretical machinery of a large portion of network analysis is really about inferring flows from interactions or social relations. Typically, we assume the flow based on the relationship" (Borgatti, Brass, and Halgin 2014, 9).

Although the social capital perspective informs the entrepreneurship field about the role of network ties in terms of accessing and acquiring much needed resources, it says little about those resources or the content that flows through the network ties. There are, however, some exceptions. For instance, it was found that emotional support is more important during early stages of an entrepreneurial start-up, whereas instrumental support (in the form of help and advice) is continuously important throughout the start-up process (Klyver, Honig, and Steffens 2018). Evidence on the flow of resources in network ties also revealed that the value of certain resources depends on task alignment—the right resources and support should come from the right people (Kim, Longest, and Aldrich 2013). In general, the lack of focus on the resources or content that flows through network ties is problematic, leaving unanswered the question of how a particular combination of network ties and content provides value to the entrepreneur. The issue is how entrepreneurs combine networks and content to generate value and what underlying mechanisms of combining specific network ties with content might explain the added value of social capital. Only by explicating the content type and directionality (i.e., from the entrepreneur to a network contact, or the other way around) can we understand the microfoundations of network formation and change. In turn, insight into such dynamics yields important findings for entrepreneurs on how their actions and tactics can improve their networking results and the content it bears.

The second challenge in the social capital explanation of entrepreneurial success is its implicit assumption that entrepreneurs do not engage in strategic networking because entrepreneurial performance results from a particular existing network structure. This main line of reasoning has roots in the structuralist perspective of social capital theory. This perspective is strongly influenced by the formalistic sociology of Simmel, in which the structure of interaction generates opportunities and value (Adler and Kwon 2002). Underlying this dominance of structure is the assumption that self-interest motivates individuals equally (see the standard rational actor model). Increasing evidence suggests, however, that individual differences in motivation and ability affect the ways entrepreneurs engage in strategic networking (Vissa and Bhagavatula 2012). Empirical evidence has shown that the network structure is in a constant state of flux (Ahuja, Soda, and Zaheer 2012), and entrepreneurs change their network in varying degrees (Elfring and Hulsink 2007). That is, perceived uncertainty, search for resources, and a disadvantaged network position motivate entrepreneurs in different degrees to develop behaviors and design strategies to improve their network configuration (Hallen and Eisenhardt 2012; Vissa 2012; Newbert, Tornikoski, and Quigley 2013). Thus, we know that entrepreneurs adjust their networks strategically, but we do not know the drivers and constraints of those changes.

Individual differences in personality (Sasovova et al. 2010), relational schemas (Porter and Woo 2015), skills (Fang et al. 2015), orientation (Stam and Elfring 2008; Ebbers 2014), and cognition (De Carolis and Saparito 2006; Cornelissen and Clarke 2010; Obstfeld, Ventresca, and Fisher 2020) seem to affect the changes in entrepreneurs' networks. This "why" problem inquiring about the networking drivers needs to be addressed because strategic networking may be an important complement to understanding network structure formation and change, as well as to understanding which network content actually influences entrepreneurial performance.

Most studies about networks and networking do not take uncertainty into account (Engel, Kaandorp, and Elfring 2017). This is particularly problematic in the entrepreneurship context, which for many endeavors can be characterized as highly uncertain (McKelvie, Haynie, and Gustavsson 2011). In these situations, networking becomes much less goal directed, largely because a goal may be seen as "an invisible moving target" (Huang and Pearce 2015). Entrepreneurial networking has dimensions other than just a linear, rational, goal-driven process. Entrepreneurs network, as well as interact, with others for individual and collective desires such as trust, affinity, and shared passions (Rooks, Klyver, and Sserwanga 2016). This social-driven networking facilitates entrepreneurial processes such as opportunity recognition and

resource mobilization in ways different from goal-directed and strategic networking. Instead of searching for specific resources to satisfy requirements stemming from opportunity discovery, entrepreneurs may have access to particular resources through their "social" network ties—and build on this resource base to develop many new opportunities. This strategy comes close to effectual networking (Engel, Kaandorp, and Elfring 2017; Kerr and Coviello 2020) and may explain the occurrence of start-ups that seem to result from accidental encounters (Aldrich and Kenworthy 1999).

The approach of this book: An integrative framework

By explicitly addressing these problems in the social capital explanation, we expect to contribute to a better understanding of the role of social capital in entrepreneurship. Thus, instead of explaining the fragmented findings by ad hoc arguments, our ambition is to develop a entrepreneurship-as-networking perspective that utilizes social capital theory in such a way that the fragmented results can be explained more systematically. The challenge in this book is to provide the building blocks for an overarching framework to fit the fragmented findings, which is preferable to introducing or increasing the number of contextual contingencies (Ozdemir et al. 2016).

We adopt a three-step approach to develop such a framework. The first step is to bring the entrepreneurship field much closer to the social capital perspective. A synthesis may be achieved by building on the common ground (cf. Van Burg and Romme 2014) between entrepreneurship and social capital studies around the three common-ground concepts (action, resources, and networks) and by searching for causal mechanisms that link these concepts to important outcomes. The entrepreneurship field has benefited from the social capital perspective for each of these concepts (see previous discussion, summarized in Table 1.1). However, most studies have focused on one or two of these concepts separately, primarily using either network-benefit or resource-advantage reasoning. We develop a mechanism-based approach to synthesize the resource- or content-oriented business network perspective and with network-oriented social capital perspective.

These perspectives are highly complementary. The business network perspective's focus on content benefits the social network perspective, which has failed to incorporate the content of ties in its reasoning despite calls to address this omission (e.g., Beckert 2010; Fuhse 2009; Levinthal 2007; Pachucki and Breiger 2010; Phelps, Heidl, and Wadhwa 2012; White 2008). This first

step in our approach, summarized in Figure 1.2 and detailed in Chapter 2, presents both a set of mechanisms that links these two perspectives and value-creating combinations of network dimensions and content.

In general, how entrepreneurs combine resources and network ties to their potential advantage has been under-researched. Network ties only provide value when the entrepreneur can benefit from resource access or use, and the entrepreneur must activate or change the ties to actually access their value (Jack 2010). In other words, the key challenge, addressed in the overview of network mechanisms, is to understand how entrepreneurial action combines certain network dimensions with types of content and resources to provide value to the entrepreneur.

Next, the second step (summarized in Figure 1.2 and detailed in Chapter 3) disentangles the different types and sources of network dynamics that interact with these mechanisms. We look at the antecedents, such as the founding conditions and individual differences of entrepreneurs, to explain network dynamics. In the traditional social capital perspective, causal reasoning starts from a given network structure and its impact on the opportunity structure

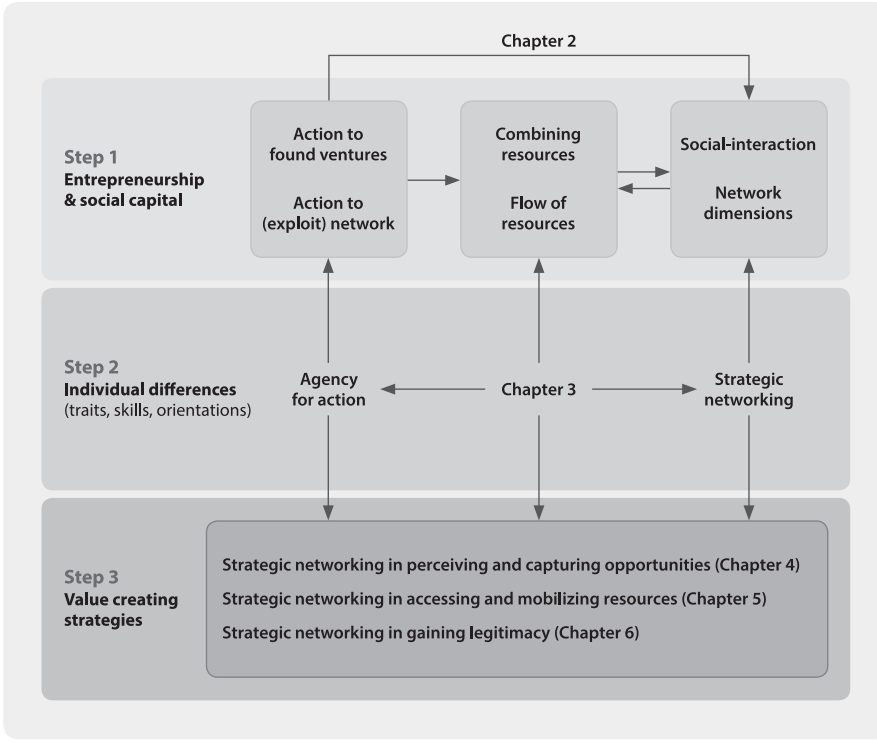

Figure 1.2. Entrepreneurship and social capital: Entrepreneurship as networking.

and outcomes. In the entrepreneurship context, the motivation to change the network is much stronger than in traditional friendship networks, which were often the focus of network research. The lack of resources and the social-interactive nature of opportunity development provide entrepreneurs with a strong incentive to be active in networking. We distinguish nodal changes, such as adding or dropping ties, changes in the entrepreneur's position in the network structure (labeled as *ego-structural changes*), and changes in the content of network ties. In addition, entrepreneurs face substantial uncertainty about their ventures, which drives them to continuously develop a more diverse set of ties in order to prepare for unexpected resource or information needs (Fang et al. 2015). We examine these individual differences (in entrepreneurs' traits, skills, and orientations) in Chapter 3, accounting for the role of agency in shaping entrepreneurs' networks in their favor. Building on psychological studies on personality and the behavioral paradigm, we extend existing insights into the ability of entrepreneurs to network strategically. This leads to a number of types of network dynamics that inform our Step 3 (Figure 1.2), to further understand how entrepreneurs interact with existing and new network contacts to develop opportunities (Chapter 4), mobilize resources (Chapter 5), and gain legitimacy (Chapter 6).

Thus, in Chapter 4, we present a social-interactive perspective on opportunity perception, evaluation, and action. Entrepreneurs can draw on their network ties to obtain information on opportunities. At the same time, their perceptions of opportunities serve as a driver to shape their networks in order to involve others in evaluating and acting on resources. For example, the others can provide feedback on the feasibility of the opportunity. Some ties may develop into stakeholders who jointly help realize the opportunity's potential. We discuss the value-generating mechanisms for each opportunity-related process and highlight whether the mechanisms have beneficial or detrimental implications for the evaluation of and further action on entrepreneurial opportunities.

Similarly, in Chapter 5, we present the insights on network mechanisms and network dynamics to show how entrepreneurs use network ties to mobilize external resources and combine them with internal resources to develop new combinations. Building on the networking insights and the resource-based perspective, we develop a social-interactive model to explain the role of network agency in adding external resources into the uncertain and reiterative process of developing new valuable bundles to act on opportunities.

We follow similar logic in Chapter 6, applying the building blocks of network mechanisms and network dynamics to the interactive process of forming legitimacy judgments. In this interactive process, entrepreneurs

provide information about the venture, and the different relevant audiences are "active" evaluators of the venture's legitimacy (Bitektine 2011). Legitimacy resides in the eye of the beholder (Fisher et al. 2017), and these stakeholders' legitimacy judgment is therefore central to the survival and performance of any venture. Because stakeholders are part of different audiences with different background and values, we follow Überbacher (2014) and drop the assumption of homogeneous judgments across audiences. In fact, the social-interactive entrepreneurship-as-networking perspective presented in this book allows for differentiated network interactions across audiences, in contrast to some previous work on legitimacy that was very actor oriented (Überbacher 2014).

In examining each of these social-interactive processes, we account for the role of uncertainty. Most of the literature treated the role of networking in entrepreneurial processes as developing opportunities, mobilizing resources, and gaining legitimacy separately. We also separately discuss these topics in Chapters 4 through 6. However, we found an important interdependency between uncertainty and these entrepreneurial processes. Nascent entrepreneurs in highly uncertain environments face a larger challenge in developing opportunities than do entrepreneurs in more stable environments or those who are further along in their endeavors. In fact, the opportunity assessment depends on access to external resources, which is affected by legitimacy concerns. The interdependence of these key processes and associated challenges has implications for the role of network ties and networking actions; it affects the way in which social capital may provide value to the entrepreneurial endeavor. Thus, in each process and related network action, resources play an important role—even though, until now, the value of these resources for specific entrepreneurial endeavors has hardly been addressed (Foss and Klein 2012).

In Chapter 7, we bring together the different parts of our argumentation and highlight how networking is a central constitutive force in entrepreneurship. Previous works showed how networks can or will lead to entrepreneurial action and how entrepreneurial action establishes and changes networks. Going one step further, we posit that networking is entrepreneurial action, and entrepreneurial action is networking. This insight opens up an entirely new research agenda.

2
Networking mechanisms

Introduction

The popular press often attributes the success of entrepreneurs who appear to have invented a unique product or service at the right time (e.g., Steve Jobs, Sergey Brin, and Larry Page) to their genius. However, when taking a closer look, it appears that not only their genius, but also—and perhaps more importantly—their connections helped them toward success. For instance, what would Apple be like without Steve Jobs's connection with Steve Wozniak? How could Google have become successful without its initial connection with investor Andy Bechtolsheim, who invested even before Google was a company?

Thus, basically since the 1980s, entrepreneurship studies have highlighted that different network characteristics have beneficial aspects (Aldrich and Zimmer 1986; Aldrich, Rosen, and Woodward 1987; Birley 1985). They typically referred to these beneficial aspects of network connections as "social capital," pointing at the information, support, and resources that entrepreneurs can gather relatively inexpensively through their network ties. Thus, in these studies, social capital referred to value embedded in social relationships and social networks (Adler and Kwon 2002; Gedajlovic et al. 2013).

This basic social capital approach to entrepreneurship is found in two research traditions. The first tradition, termed the *business network perspective*, is rooted in strategic management, which began the study of formal inter-organizational relationships. For example, studies on alliances and joint ventures examined how the type and structure of these relationships can help improve performance. Other studies that researched the collaboration between organizations in industrial districts and clusters and the effect of the organizations' positions in these environments (Boari, Odorici, and Zamarian 2003; Porter 2000) regarded organizations as nodes among which information and resources are exchanged. This perspective identifies the entrepreneur or emerging venture as the focal organization. The central idea is that the attributes of the actors to whom the entrepreneur is connected affect the

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entrepreneur's ability to acquire tangible and intangible resources and thus affect venture survival, growth, and profitability.

The second tradition, the *social network perspective*, is rooted in sociology, with its long history of studying social networks and their role in keeping communities together (Putnam 2000). This tradition typically regards the individuals' levels and looks into how different types of interpersonal relationships and positions in network structures help people find jobs, advance careers, and obtain venture capital (Burt 1992a; Granovetter 1973). The central idea is that positions within a social structure influence the actors' attitudes and behaviors and thus affect outcomes. For instance, studies in this tradition measure the centrality of entrepreneurs in a given network structure or the number of structural holes in the network. *Centrality* refers to the proximity of an entrepreneur to others in the network, and research has shown that a central network position provides access to advantageous information (Brass et al. 2004). Structural holes occur when people who are connected to the entrepreneur are not connected to each other. This gives an advantage to the entrepreneur, who can benefit from information and control advantages (Batjargal 2010; Burt 1992a).

The business network and social network perspectives differ in how they treat actors and their network ties. In the business network perspective, the entrepreneur is the central actor and has a strategic orientation to networking with an eye on the (emergent) venture. Through networking actions, an entrepreneur receives an inflow of resources from network ties, as well as access to new and relevant knowledge, that help shape new opportunities and create competitive advantage. In the social network perspective, the focus is squarely on the structure and characteristics of the entrepreneur's network ties and the benefits they bring to the entrepreneur's endeavors. An entrepreneur with a network rich in structural holes can exert greater control and collect more information benefits, resulting in a superior performance. However, this structural focus tends to neglect both entrepreneurial agency and the content of network ties. The social network perspective can more clearly observe the negative aspects or dark sides of particular network positions, whereas the business network perspective might have a more positive tendency, overemphasizing the role of network agency.

Given the unique insights that both of these perspectives put forward, this chapter aims to put both perspectives to work to gain deeper insight into how entrepreneurs' networks and entrepreneurial networking turn into social capital, which influences the success or failure of entrepreneurial endeavors. We review the perspectives and discuss their strengths and weaknesses. Individually, both fail to draw a complete picture of the effect of networks on

entrepreneurial performance. For instance, as Stam, Arzlanian, and Elfring (2014) showed, the advantage of particular network structures varies strongly at different development stages of entrepreneurial ventures, in different industries, and across countries. We argue that we need to understand the key generative mechanisms that cross these two perspectives to explain such contingencies and to develop a more comprehensive understanding of the effects of social networks on entrepreneurial performance.

Such a mechanism-based approach allows synthesis between the content-oriented business network perspective and the structuralist social network perspective (Van Burg and Romme 2014). Such synthesis is urgently needed as leading scholars increasingly try to combine both perspectives (Patel and Terjesen 2011). Therefore, we lay out the structural and content dimensions and, for each dimension, we highlight five different mechanisms: embedding, accessing, transferring, diversifying, and socializing. These mechanisms have positive and negative effects for entrepreneurs, which are discussed in depth. Together, these mechanisms integrate important insights in entrepreneurship as networking.

Business network perspective

The business network perspective depicts the entrepreneur as a strategic actor who devises strategies and takes action to realize those strategies. For example, an entrepreneur starting a coffee-roasting business may need to build up coffee expertise, find money to buy machines, and acquire coffee beans. For each of these three aspects, the entrepreneur needs relationships with experts who can help in training; with friends, families, and fools who may provide some cash; and with farmers or resellers who sell green coffee beans. Thus, the entrepreneur starts to think of how to form these relationships—by advancing from current connections as well as through cold-calling strategies.

The origins of the business network perspective go back to studies that called for taking the social context of ventures more seriously, proposing to study this context through the networks in which the firm is embedded (e.g., Aldrich et al. 1987; Johannisson, Alexanderson, Nowicki, and Senneseth 1994; for a summary, see Table 2.1). The business network perspective considers an eclectic array of types of networks, characteristics and attributes of network ties, and qualities of content—as long as such concepts help illuminate the ways entrepreneurs may use their network connections to better their venturing endeavors. Business networks center on mutually beneficial relational contracts between more than two firms and involve resource

Table 2.1 Network Traditions

Aspect	Business Network Perspective	Social Network Analysis Perspective
Purpose	Understand how the entirety of a business network contributes to a venture.	Understand how networks' relational and structural dimensions contribute to an entrepreneur's or firm's performance.
Level of analysis	Network ties around a venture, including indirect ties.	An individual entrepreneur's or firm's set of ties.
Foundational studies	Birley (1985) studied types of support entrepreneurs experienced in their networks. Johannisson (1994) attempted to take into account the social context of ventures, analyzing different types of ties in graphs. Aldrich (Aldrich and Zimmer 1986; Aldrich, Rosen, and Woodward 1987) laid out important characteristics to study effects of social networks on entrepreneurship.	Granovetter (1973) differentiated between strong and weak ties and showed the importance of weak ties. Burt (1992a) proposed that the amount of structural holes in a firm's network determines the rents that entrepreneurs can create through their networks. Uzzi (1996) further operationalized embeddedness and pointed at the dark side of embeddedness.
Strengths	Considers the network holistically, including content and structural aspects. Focuses on the value of a network to the entrepreneur.	Operationalizes ego-networks and provides analytical tools to study these networks. Consistency in measuring relational and structural aspects of networks.
Weaknesses	Content and structure are often lumped together and are not analytically separated. Looseness of network definitions hampers the development of a solid body of knowledge.	Focus on ego-networks masks other dynamics in networks—not related to ego—that might be important. Focus on structural and relational aspects of social networks. Content of networks is mostly assumed rather than measured.

sharing or exchange (Gulati 1998; Ring, Peredo, and Chrisman 2010). The unit of analysis is the entrepreneur's network as a developing system of changing relationships, seen in a holistic rather than fragmented way, by paying attention to the connectedness of relationships that contribute to the firm (Halinen, Salmi, and Havila 1999).

The business network tradition typically distinguishes types of networks, such as friendship networks, advisor networks, and—of course—business networks (e.g., Lechner and Dowling 2003). However, one issue emerging from initial empirical studies on the effects of networks is how researchers

account for the different network types and their effects. For instance, in a study on family networks in Germany, Brüderl and Preisendörfer (1998) found a positive effect of venture performance, whereas in a similar study, Renzulli, Aldrich, and Moody (2000) observed a negative effect on the likelihood to start a new business. A closer inspection shows that the crucial difference between these two studies is that the German study described a stricter family "support" network, but Renzulli and colleagues took a wider measure—a family "discussion" network. This comparison points to a major difference in those two network types. The *discussion network* covers all discussions with people about matters such as opportunities and business plans and includes access to resources. Renzulli et al.'s key finding was that entrepreneurs benefit from a more diverse network because it provides access to more diverse information, leading to more innovative ideas and access to a richer array of resources. Merely relying on family would be detrimental because these discussion networks are more homogeneous and less rich. Thus, the structure and diversity of the network influence the mechanism underlying access to information. In contrast, when taking a closer look, it becomes clear that Brüderl and Preisendörfer's study actually points to a different mechanism, namely (emotional) support, which appears important to entrepreneurial success. Thus, on a superficial level, from a business network perspective, we might conclude that these are different, conflicting findings—positive versus negative network effects of family ties. However, considering the underlying mechanisms, we view the findings as complementary. In sum, both the support from family members and the access to diverse information provided by a diverse discussion network (not limited to a closed family network) are important.

The business network perspective captures the content provided through network ties in a couple of ways. First, the content and the ties are regularly studied simultaneously by, for instance, examining an "advisor" network, "support" network, "marketing" network, or "reputation" network (e.g., Lechner and Dowling 2003; Newbert, Tornikoski, and Quigley 2013; Vissa and Chacar 2009). Lechner and Dowling's (2003) study is a good example because it distinguished different types of entrepreneurial networks, each referring to a particular type of content. The authors argued that their approach provides a better explanation than merely looking at network size. In a follow-up study, they tested the role of the relational mix of five network types (social, reputational, marketing, coopetition, and cooperative technology networks) on entrepreneurial performance (Lechner, Dowling, and Welpe 2006). Interestingly, the results pointed out that reputation networks, or, more specifically, network ties to prominent players in the field, have a positive effect

on early-stage venture development. In later stages, marketing information networks and coopetition networks become more beneficial.

Another approach to capture the content of ties is to distinguish between the network ties, on the one hand, and the content provided by network ties, on the other hand (Batjargal 2003; Rodan and Galunic 2004). In this approach, network ties are conceptualized in terms that are more general. In theory, the ties could carry multiple types of content, or different types of networks could provide similar content. In particular, Johannisson et al. (2002) argued that the networks of individual entrepreneurs are difficult to understand without accounting for the overall networking pattern among businesses within a specific context. Moreover, they point out that entrepreneurs do not rely on only one type of network, but obtain relevant information through different networks simultaneously. Accordingly, Johannisson and colleagues (2002) distinguish between substantive embeddedness, which represents the content of networks, and systematic embeddedness, which represents their structure. Next to that, they advance a multilayered picture of network embeddedness, differentiating between the personal, business, and institutional levels. Jointly, these levels explain how entrepreneurship is shaped in a certain context or, conversely, how entrepreneurs can create their ventures in specific settings. For instance, interpersonal networks can be the locus of perseverance and idea generation (Berends, Van Burg, and Van Raaij 2011), whereas formal interfirm collaboration forms the locus of innovation (Powell, Koput, and Smith-Doerr 1996), developing and exploiting new products by combining new external knowledge with existing internal capabilities.

One of the main aims of the business network perspective is to find what types of networks, partner attributes, and other network conditions influence the value of these connections to an entrepreneur. Therefore, Batjargal (2003) introduced the concept of *resource embeddedness*, capturing to what extent the partner's content complements existing internal resources. However, it is difficult for entrepreneurs to determine up front which relationships are really helpful—a problem aggravated by changing needs in the different phases of the venturing process (e.g., Martinez and Aldrich 2011) and the uncertainty of the networking process, in which even the entrepreneur sometimes does not know what the needs are (Engel, Kaandorp, and Elfring 2017). Therefore, some entrepreneurs may decide to go ahead with an initial and limited set of connections, whereas others may test different network connections to find the helpful ones (Porter and Woo 2015). In fact, existing relationships form an important source of other potential partners and the quality of those partners, and help build relationships with them (Vissa and Chacar 2009).

Consistently, studies in the business network tradition have shown that the spatial dimension of the network largely influences the value those networks provide (Johannisson 1998; Rivera, Soderstrom, and Uzzi 2010). Studies on geographical clusters have highlighted how co-location may bring benefits through easy access to knowledge, resources, and support. Proximity facilitates the natural and often informal exchange of knowledge through formal and informal networks between co-located firms (Boari and Lipparini 1999; Deeds, DeCarolis, and Coombs 2000; Saxenian 1996). However, clusters also bear the risk of lock-in in a closed network. In fact, Saxenian (2002) showed how immigrants and their ties to their home countries played a crucial role in the development of Silicon Valley, providing new ideas and new markets. Thus, the main lesson of the existing literature on clusters and proximity is that entrepreneurs need a combination of "bonding" (i.e., homogeneous, cohesive, strong networks) and "bridging" (i.e., diverse networks with weak ties) social capital (cf. Adler and Kwon 2002).

The business network perspective typically pictures the network with its content and the value of this content for the entrepreneur, taking into account the network type, size, and diversity, as well as the proximity of network connections. Such accounting forms the strength of this perspective. Entrepreneurs benefit from the information, resources, and support they obtain through their ties. However, the weakness of this perspective lies in the loose way it often defines different network types and applies those definitions to a variety of (different) interactions (Brüderl and Preisendörfer 1998). Underlying this issue is the problem that it often assumed content to be a characteristic of relationships by modeling them as "support networks" or "knowledge networks," thereby lumping together the network and content characteristics. Multiple studies have considered—but *implied*—the resources and information provided by the network ties and the effects of such content on important outcomes such as opportunity identification and venture performance. They have not *directly* assessed or disentangled from other network effects (e.g., reputation of the connections) the content in the form of ideas, resources, and signals flowing through the ties (Borgatti, Brass, and Halgin 2014; Stuart and Sorenson 2007). Nevertheless, the type of content and its characteristics appear to matter. For instance, tacit knowledge is difficult to share through weak ties but, instead, requires strong ties (Hansen 1999). Due to the looseness of the network definition in this perspective, comparing and combining insights from different studies become notoriously difficult. Such lack of conceptual and empirical rigor inhibits the accumulation of knowledge. Therefore, there is a need to develop theoretically sound explanations

centering on a core set of causal mechanisms as to why particular network makeups influence important entrepreneurial outcomes.

Social network perspective

The social network perspective, drawing heavily on social network analysis techniques, addresses some weaknesses of the business network perspective of entrepreneurship (see Table 2.1 for overview). Social network analysis is heralded for its rigorous methodology (Scott 2000) and therefore has the potential to contribute by systematically analyzing the effects of specific relational and structural network properties on entrepreneurial outcomes. Building on social network research in sociology (see Scott 1988, 2000, for an overview), social network analysis devised key network concepts around the central idea that relationship patterns among actors influence outcomes. Such key concepts include the strength of ties, density, structural holes, and centrality (e.g., Kilduff and Tsai 2003; Scott 2000). The key insight of studies employing these concepts is that "social structures determine the opportunities available to, as well as the constraints binding, actors. . . . Actors' positions in webs of relationships determine the level of social and economic benefit they attain" (Stuart and Sorenson 2005, 211). Thus, in the social network perspective, the focus is on both the relational aspects and the structural dimensions of networks. The strength-of-ties argument dominates the discussion about the relational aspects, whereas concepts such as centrality and structural holes are key to the structural dimension. Furthermore, there is agreement on how to measure these network constructs, and researchers have developed analytical tools to analyze the network data (e.g., Lin 2001; Marsden 1990; Scott 2000).

Many social network analyses in entrepreneurship research focus on the ego network, depicting the entrepreneur and the people with whom the entrepreneur has relationships. This focus on ego networks is the result of the fact that the entrepreneur's network is open-ended; it does not have a "natural" boundary like an organizational network would have. Here, in particular, the strength-of-ties measure captures *relational embeddedness*, referring to the strength of the ties between the ego and the network ties, and ranging from very weak to very strong. Many studies referred to weak ties as connections with acquaintances and to strong ties as relationships with friends and family. Granovetter's (1973) seminal study broke down the strength of ties into four dimensions: frequency of interactions, emotional intensity of the relationship, degree of trust in exchanging information, and level of reciprocity. Scholars

have measured each dimension and have aggregated them into a composite score. However, measuring all four dimensions turned out to be difficult in many cases, and scholars settled for a more restricted measurement, typically including both emotional intensity and contact frequency (Kim and Aldrich 2005). Accordingly, in this restricted measurement, strong ties are then defined as relationships with high emotional commitment and high contact frequency, and weak ties as relationships with low emotional commitment and low contact frequency (Martinez and Aldrich 2011). The drawback of this measurement is, however, that the affective component of ties is largely neglected (Krackhardt 2003).

Structural embeddedness refers to the structure of the network and the position of the entrepreneur within that structure (Granovetter 1985; Uzzi 1996). A network can be characterized as dense or sparse. *Network density* refers to the amount of people in the network who are connected to each other. A high-density (or cohesive) network indicates strong relationships between a set of people, whereas in a sparse network, only a few members are (strongly) connected. These measures of connectedness at the network level translate into comparable indicators at the individual level. A *structural hole* in a network exists when the people connected to the focal entrepreneur are not connected to each other. Thus, a network rich in structural holes relates to the concept of a sparse network. Conversely, the higher the number of an entrepreneur's network ties that are connected to each other, the fewer structural holes (Burt 1992a).[1] Related to the concept of structural holes is the idea of bridging ties (McEvily and Zaheer 1999). A *bridging tie* bridges a structural hole by connecting an entrepreneur to a cluster or community in which the entrepreneur had no connections. Finally, *centrality* is an important network measure that indicates how central the entrepreneur's position is in the network and refers to the distance between the entrepreneur and the other members of a network.

In the social network perspective, it is important to distinguish between *ego-network* and *whole-network* analysis. The latter is concerned with issues at the network level and requires a distinct boundary of the people involved in the network (for instance, all people in one organization). Ego-network analysis, typically the only analysis applicable to the open-ended network of entrepreneurs, deals with the network at the individual level. It is concerned with the network ties of ego, which in this case refers to the entrepreneur or

[1] The amount of structural holes is measured by "network constraint," which can be defined as the extent to which all of the entrepreneur's relational investments involve a single network contact (Borgatti, Jones, and Everett 1998).

(emerging) venture. In ego-network analysis, the key issue is to generate the names of the network contacts in the ego-network. The most frequently used method is name generator questions, wherein people mention other people (typically five) with whom they interact regularly (Campbell, Marsden, and Hurlbert 1986). Next, for each of these contacts, a couple of questions aim to gather information on the characteristics of the tie.

The difficulty with this type of research is in ascertaining the validity of the number of weak ties because people tend to remember strong ties much better than weak ties (Lin 2001). Various research approaches have been recommended to minimize this problem (Elfring and Hulsink 2003). Some scholars use the position generator instead, asking respondents to list the names of individuals they know in particular positions, such as advisors, public administration officials, accountants, and so on (e.g., Batjargal 2003; Lin and Dumin 1986; Zhang 2015). If the respondents indicate they know someone in that position, they are asked to provide details about the strength of the relationship with that person. Burt's (1992a) work has added questions about whether these network contacts know each other. The more they know each other, the more they are constrained, and the less new information is available to the entrepreneur. Using this approach, Burt found that structural holes—the opposite of network constraints—have a positive effect on many performance measures.

Thus, the strength of the social network perspective lies in its rigorous way of measuring structural and relational aspects of social networks. As a result, knowledge about the role of social capital in entrepreneurship has burgeoned, showing that social capital most often has positive effects on entrepreneurial outcomes and, in particular, venture performance (Stam, Arzlanian, and Elfring 2014). However, the literature is plagued by noise from uncomplimentary and inconsistent findings. For instance, some studies reported positive effects of an entrepreneur's network with structural holes (e.g., McEvily and Zaheer 1999; Nicolaou and Birley 2003), whereas others reported a negative influence (e.g., Batjargal 2010; Xiao and Tsui 2007). As demonstrated in a couple of studies, network size, in general, is believed to have a positive effect on firm performance (e.g., Hansen, Mors, and Løvås 2005; Raz and Gloor 2007), but other studies showed no consistent, significant results (e.g., Batjargal 2003; Lechner, Dowling, and Welpe 2006). Importantly, a meta-analysis indicated that contextual differences (e.g., between established and emergent economies) have an important influence on such performance implications of social capital (Stam, Arzlanian, and Elfring 2014). These conflicting findings, as well as the need to identify contingencies, suggest that it is not yet clear when particular network characteristics and compositions have

a positive or negative effect in specific contexts (cf. Gedajlovic et al. 2013). These conflicts point at a need for further theorization of the underlying mechanisms.

One area within the social network perspective that warrants more theoretical development is the role of content in these networks. Because the social network analysis method mainly captures structural and relational dimensions, the content of these networks is often implied or assumed, rather than actually operationalized. In particular, large-scale structural social network analyses typically focused on the configuration of connections (Borgatti and Foster 2003) and under-theorized the nature and effect of the content "flowing" through the ties—despite repeated calls for including more content and meaning in network analysis (e.g., Beckert 2010; Fuhse 2009; Levinthal 2007; Pachucki and Breiger 2010; Phelps, Heidl, and Wadhwa 2012; White 2008). Indeed, some have argued that this neglect points to the need for a different theorization, one in which content is more directly studied and attention focused on deciphering ways in which content not only is implicated in network configurations, but also plays a formative and mediating role in the very ties that are forged and lead to entrepreneurial success (e.g., Beckert 2010; Levinthal 2007; Stuart and Sorenson 2007). A better understanding of such causal patterns is important because it may better explain the way in which content both flows through ties and is a constitutive force behind the formation, form, and effect of those ties (Stuart and Sorenson 2007). Therefore, we now turn to an overview of key action mechanisms that cut through these two different perspectives and point to the underlying (shared) explanations.

Proposing a mechanism-based approach

We build on this review of entrepreneurship studies in these two traditions. We elaborate in turn the network mechanisms through which network content and structure are related and that explain how these dimensions turn into social capital that provides value to the entrepreneurs. A *mechanism* clarifies why a certain outcome is produced in a particular context (Hedström and Wennberg 2017; Hedström and Ylikoski 2010; Ylikoski 2012). Thus, social network mechanisms in entrepreneurship should explain how social network structures, relationships, and content create value for an entrepreneur. In essence, a mechanism is a causal notion—in this case, referring to how entrepreneurs and other network actors participating in a certain process (e.g., networking) generate a particular effect (e.g., venture performance; Van Burg and Romme 2014). It is important to note that mechanisms are

not a black box; they have a clear structure or specific process that clarifies how the participating entities produce a particular effect. A combination of mechanisms can co-produce a particular outcome.

Turning to such network mechanisms provides analytical precision that helps identify core arguments in each of the two traditions while cutting through different research paradigms, such as constructionist qualitative research and (post-)positivist quantitative studies (Van Burg and Romme 2014). The notion of mechanisms is not entirely new to social network studies. In fact, many well-established concepts directly relate to network-related mechanisms, such as brokerage, information access, social status, and embeddedness (Burt and Merluzzi 2014; Stuart and Sorenson 2007). We draw on the mechanisms—or building blocks of mechanisms—identified in prior research (Table 2.2) and synthesize them into broader, higher-level mechanisms that provide important integrations of existing insights (for a systematic review of these mechanisms, see Van Burg, Elfring, and Cornelissen 2021). Next, we discuss these five mechanisms and subsequently we turn to a separate discussion of the dark sides of each of the mechanisms.

Mechanism 1: Embedding

Entrepreneurial networking involves creating new relationships (e.g., Hallen and Eisenhardt 2012; Vissa 2012), transforming personal relationships into business connections (e.g., Gomez-Mejia et al. 2011), revitalizing dormant relationships (e.g., Levin, Walter, and Murnighan 2011), reusing existing ties repeatedly (e.g., Baker, Miner, and Eesley 2003), and leveraging unexpected encounters into useful contacts (e.g., Sarasvathy 2001). Through these networking processes, entrepreneurs embed themselves relationally and structurally in a network, sometimes even without a clear goal (e.g., Engel, Kaandorp, and Elfring 2017). *Embeddedness* refers to the extent to which entrepreneurs are part of a concrete and ongoing system of social relations (Granovetter 1985) and arguably has a positive effect on the venture, such as through support (Nanda and Sørensen 2010). This social embeddedness forms the context in which entrepreneurs gather, or sometimes intentionally search for, their resources, ideas, and new additional contacts.

Many studies argue that entrepreneurs' structural embeddedness in a social context is beneficial (Hite 2005; Jack and Anderson 2002). For example, getting trusted information or trusted feedback from multiple sources on opportunities benefits entrepreneurs' decision-making (Hite 2005). In addition, structural embeddedness provides the flexibility to reach out quickly to

Table 2.2 Network Mechanisms

Mechanism	Content Dimension	Structural Dimension	Positive Side	Dark Side
1. Embedding	Information and resources	Strong ties, density	Referral and strong ties invoke weak ties leading to resources. Resource-poor entrepreneurs can rely on relationally embedded ties for opportunity recognition and resource acquisition, directly or through referral. Getting trusted information.	*Lock-in*: Limited scope of information and resources. Adaptation of structure is difficult; reduced exploration of new ties. Increase pressure to reciprocate leading to non-productive time and resource commitments.
2. Accessing	Information and resources	Size, weak ties	Access to resources and new information. Quick and flexible maneuvering.	*Information overload*: Too much potential information. Time consuming.
3. Transferring	Information and resources	Strong ties	Acquisition of resources and tacit knowledge. Access to indirect ties via referrals.	*Limiting flexibility*: Adaptation of structure is difficult. Reduced exploration of new ties. Cognitive limitations to absorb information and resources. Limited scope and reduced search.
4. Diversifying	Information and resources	Diversity, structural holes, centrality	Intentional network exploitation. Information and resource diversity, complementarity, and recombination.	*Difficulty to recombine*: In case of a lack of combinatory skills, information and resource diversity may be inefficient.
5. Socializing	Legitimacy	Size, centrality	Reputation increases. Reputation makes referral process more efficient in adding ties.	*Tainted reputation*: Association with "wrong" network ties reduces opportunities.

new, unconnected ties through existing strong ties, and thus gives improved access to opportunities and resources (Hite 2005; Uzzi 1996). However, at some point, the costs related to over-embeddedness outweigh the benefits of being embedded. The underlying processes of building an embedded position in a network of relevant resource holders that were once key to success turns into a liability at some point.

The process of building embeddedness, rather than the mere outcome of embeddedness, thus centers on the process of building a set of ties that may have positive (or negative) outcomes for the entrepreneur and the venture, such as through accessing and transferring resources, as we discuss in the next subsections.

Mechanism 2: Accessing

Through their network ties, entrepreneurs learn about the availability of resources, of information, and of other helpful contacts. The *accessing* mechanism refers to the process through which entrepreneurs build or transform relationships to determine how collaborating can create value (e.g., Clough et al. 2019; Porter and Woo 2015). This process can be amplified by social media that give easy access to large sets of existing and potential network connections and provide information on the content these connections could provide (cf. Fischer and Reuber 2011). The result of this process is that entrepreneurs learn, for instance, about potential opportunities they can co-create and exploit, resources they can potentially acquire, markets they can enter, and potential partners that could help them create more value.

The mechanism of getting access is fundamental from both the business network and the social network perspectives. Whereas the social network perspective often treats access as a given, business network studies stress the role of agency, focusing on how entrepreneurs form network ties driven by their search for access to resources (e.g., Hallen and Eisenhardt 2012). As such, entrepreneurs intentionally reshape their networks by upgrading their weak ties to strong ties (Elfring and Hulsink 2007). Access to strong ties may be seen as especially important to entrepreneurs for access to more complex or tacit knowledge. It requires a trust-based relationship in order to assess the potential value of this type of resource, and for the entrepreneur purposefully to upgrade the relationship (Vissa 2012). Furthermore, a study by Zhang, Soh, and Wong (2010) showed that the knowledge or content of indirect ties facilitates the focal entrepreneur to leverage weak ties to contact content-rich indirect ties.

A number of key network characteristics importantly influence the mechanism. We know that network size has a significant positive effect on venture performance (Stam, Arzlanian, and Elfring 2014). The underlying explanation is that a large number of network ties gives entrepreneurs access to many persons who may provide relevant resources or information. Among many more, these network ties may include access to customers, suppliers, informal investors, external advisors, lawyers, and family (Dubini and Aldrich 1991; Lechner, Dowling, and Welpe 2006). A large set of ties offers multiple options; when one tie is not able to provide the required resources, others may be able to deliver them. A large set of network ties also provides access to abundant information, which is, for instance, highly relevant for finding or creating new opportunities (e.g., Arenius and Clercq 2005). Besides the effect of the network size, weak ties in particular provide improved access to novel information (e.g., Jack 2005).

Thus, the reviewed studies collectively point to a general accessing mechanism, with which individual entrepreneurs communicate and exchange with others to enrich and diversify their networks and gain access to resources and information.

Mechanism 3: Transferring

The third network mechanism is of transferring resources and information points at the actual transfer or use of resources and information. Transfer requires that ties be activated or upgraded and that a joint agreement—formal or informal (Clough et al. 2019)—is established about what will be transferred and under what conditions. Next to that, the network ties need the right characteristics to enable transfer. An important structural dimension of ties that allows resource transfer is their strength. Weak ties may be able to transfer information, but more complex resources or tacit knowledge need stronger ties (Hansen 1999). Knowledge is just not a resource that can be transferred as a commodity, and tacit knowledge in particular requires rich social and personal interaction (Hardy, Phillips, and Lawrence 2003; Reagans and McEvily 2003; Nonaka 1994). By having deep interpersonal contact, both articulated knowledge and tacit knowledge can be shared. Thus, strong, trusted ties that frequently interact are essential to develop deep understanding of implicit, non-articulated aspects. Therefore, the focus of most researchers has been on the strength-of-tie argument. They showed that the particular mix of strong and weak ties has implications for the type of content being transferred. A network with a relatively large share of strong ties makes it relatively easier for an

entrepreneur to acquire tacit knowledge than does a network consisting of a dominant share of weak ties.

Most studies that deal with transferring resources through network ties followed the social network tradition and stressed the influence of the relational and structural makeup of the network on the ability to acquire resources and information. However, some scholars also examined how entrepreneurs can intentionally develop, upgrade, and exploit strong ties to facilitate transfer (e.g., Elfring and Hulsink 2007; Hallen and Eisenhardt 2012). The focus here is on how entrepreneurs are motivated by the potential content they can acquire through these strong ties. Here also, in particular, strong ties play a key role because through these ties, entrepreneurs can effectively acquire access to indirect ties. Jack (2005) argued, for example, that strong ties may invoke indirect weak ties. Access to these indirect weak ties is seen as important because they offer a wider scope of information than do direct ties (Kim and Aldrich 2005). The entrepreneur intentionally adds these indirect ties and may use them to acquire resources when they appear to possess relevant resources. Thus, the potential content of indirect ties may also motivate change in social networks.

Mechanism 4: Diversifying

Diversifying refers to the process through which entrepreneurs get or build diverse networks, including a range of network contact types—including family members, friends, and business associates—that provide access to different ideas, resources, support, and distant networks. The basic idea is that such a mixture gives a broader set of opportunities and resources (Hite and Hesterly 2001). Entrepreneurs can change their network in search of relevant resources that complement the resources to which they already have access. An entrepreneur motivated by the search for content therefore can intentionally adjust the network. For instance, a few studies showed how event participation (Stam 2010) and casual dating (Hallen and Eisenhardt 2012) may lead to new ties and thereby change the network structure.

A diverse range of network ties, including the potential to bridge structural holes, may give access to a diversity of resources and information, providing entrepreneurs with the ability to combine different resources in novel ways. Several studies showed that network diversity has a positive effect on performance (e.g., Martinez and Aldrich 2011; Renzulli, Aldrich, and Moody 2000), and this effect was confirmed in a meta-analysis (Stam, Arzlanian, and Elfring 2014). The argument, often implicit, is that this diversity of network structure

allows entrepreneurs to combine these diverse inputs into new products and services. Similarly, structural holes offer the chance to broker between disconnected contacts (Burt 1992a), and entrepreneurs may profit from this potential advantage by recombining the diverse content in novel ways (Rodan and Galunic 2004). As Obstfeld (2017) has pointed out, brokering not only refers to connecting disconnected alters, but also includes changing the relationship between two (maybe loosely) connected people (cf. Obstfeld, Borgatti, and Davis 2014; Halevy, Halali, and Zlatev 2018). In the latter case, for instance, an entrepreneur can connect two former colleagues and point out their mutual interest in a certain development, which they did not know the other was interested in. To gain from diversity and structural holes, networking strategies may focus on adding ties that provide connections to network contacts of different backgrounds from within the existing portfolio of connections.

Mechanism 5: Socializing

The socializing mechanism centers on the act of connecting to others to gain status and reputation, resulting in venture legitimacy. Even though there is overlap with the other mechanisms (i.e., embedding), socializing differs in its content and motivation, as this mechanism focuses on status and reputation that are pursued through connecting to others. Entrepreneurs face the liability of newness (Stinchcombe 1965) and lack legitimacy at the start of their ventures. Connections to prominent players in the market may in turn help entrepreneurs legitimize their venture by signaling that the ventures and operations are sound (Stuart, Hoang, and Hybels 1999). The underlying logic can be characterized as a performance-enhancing effect of legitimacy, which is derived from a particular network structure (Stuart, Hoang, and Hybels 1999). Such reputation and legitimacy, established through connections to others, serve as proxies for trust by other potential connections in the new or unknown venture. The trust is not yet established, but starts to develop through the signal that well-reputed network connections have approved this venture or, sometimes, through the explicit information those connections provide (Hite 2005).

In the business network tradition, studies have demonstrated that some entrepreneurs purposefully try to link up with high-status players to establish a good reputation and its resulting advantages (Shane and Cable 2002). One such advantage is that it leads to the entrepreneur's much more efficient search for new, relevant contacts. In addition, entrepreneurs also work intentionally on their own status to be able to attract valuable contacts (Zott and

Huy 2007), which subsequently help them garner a better reputation, often resulting in improved access to resources.

Obviously, these network mechanisms can and often do operate together in a causal chain or in tandem. For instance, accessing and transferring are causally ordered mechanisms (e.g., Clough et al. 2019), whereas accessing often brings reputational effects through the socializing mechanism. The next chapters lay out how these mechanisms—individually, simultaneously, or sequentially—influence entrepreneurial opportunity identification, resource mobilization, and legitimization.

The dark side of network mechanisms

Whereas the literature typically pictures the positive aspects of these five social capital mechanisms, they also have their negative, dark sides. Thus, we explicitly pay attention to how the benefits of social capital may turn into social liabilities. For instance, Light and Dana (2013) narrated the interesting story of the Alutiiq people in Old Harbor, Alaska. The Alutiiq are well embedded in their networks and have abundant social capital; as such, they put the accessing and acquiring mechanisms to work. However, the Alutiiq typically do not exploit their strong ties and established embeddedness for entrepreneurship, but only for community-related activities and private and social goals. In other words, as long as these people do not add "entrepreneurial content" to their use of the existing networks, the positive effects of social capital on entrepreneurship does not materialize. In fact, these social networks deplete their own resources because their network ties draw on their business resources for social purposes. Thus, we must understand the need to attend to this negative "dark" side because it is as important as the positive side. In this section, we aim to explore conditions under which the effects of the specific mechanisms turn from the light to the dark side.

Mechanism 1: Lock-in

Over-embeddedness is the result of an overabundance of embedded ties, including ties connected to each other. It leads an entrepreneur to become locked into a network that is, in itself, actually helpful. However, a network that is helpful in one phase of the venture might be detrimental in the long run because it comes at the cost of flexibility to address the needs for the next

phases (Martinez and Aldrich 2011). This structural rigidity is shown by the difficulty in contacting new parties, partly fueled by contractual obligations to existing network partners, and as such is especially influenced by the type of network connections. Only a few studies have examined explicitly the role of over-embeddedness by including it as a construct of interest (e.g., Burt 1992b; Mariotti and Delbridge 2012; Steier and Greenwood 2000; Uzzi 1997), often by modeling it as a curvilinear effect of network size and network quality (e.g., Ferriani, Cattani, and Baden-Fuller 2009; Semrau and Werner 2014).

As Uzzi (1997, 1996) pointed out, it is not the sheer size of the network but the composition of strong and weak ties that determines both the positive and the negative embeddedness effects (see Lechner, Dowling, and Welpe 2006). In a start-up firm's movement toward an embedded network (e.g., Elfring and Hulsink 2007; Hite 2005), there is a moment when the firm becomes over-embedded by having too many strong ties relative to the number of weak ties (Elfring and Hulsink 2003; Uzzi 1997). This reduces the entrepreneur's flexibility to attract new partners, creates redundant knowledge, and reduces the provision of new and diverse information.

Furthermore, the context of strong ties matter. Khavul et al. (2009) and Rooks et al. (2016) showed that rural ties in Africa can negatively affect the venture's performance, given the obligations that these ties bring (see also Klyver, Evald, and Hindle 2011 for an overview of other examples). Relatedly, Light and Dana (2013) showed that the abundance of social capital, if those ties are mainly used for social purposes, can prevent entrepreneurs from using the ties for economic purposes.

Mechanism 2: Information overload

The main dark side of the accessing mechanism is that too many ties may lead to information overload, which may have detrimental consequences for a venture (see Mariotti and Delbridge 2012; Uzzi 1997). In general, more ties are better because they impart more access to information, as well as redundant sources, which allow flexibility in hopping from one source to another. However, too many contacts may also give too much information, which makes it difficult to discern the most helpful source. Next to that, maintaining many ties leads to high costs, particularly in terms of precious time (Adler and Kwon 2002)—which can come at the cost of other important tasks in building a venture. Moreover, the time consumed by maintaining a large set of weak ties can hinder investment in upgrading to a set of crucial strong connections that might lead to actual acquisition of resources.

Most of the literature about the dark side of social capital has focused on the detrimental consequences of specific network structures, especially dense networks (e.g., Anderson and Jap 2005; Soda and Usai 1999). However, we question how this structure with negative performance implications emerged. In the co-evolution of structure and content, we see in most cases positive feedback loops between adding ties, thereby increasing access to relevant information and resources. At what moment does the process of adding ties turn from being a beneficial process into one with a negative impact? At some point, the costs associated with overload overshadow the positive effect of increasing access. There must be a tipping point at which the costs of having more ties outweigh the benefits of a certain number of ties. This tipping point, however, appears obscured by the different ways of measuring network size and is probably case-dependent. Semrau and Werner (2014) recently analyzed the conflicting results concerning network size and observed that studies of ventures with ties ranging from 1.5 to 8.3 ties report positive performance effects, whereas in studies showing negative performance effects of network size (Batjargal 2003), the number of ties is about 35. Thus, we might infer that the tipping point is somewhere between 8 and 35, but it might be more interesting to look into ways to manage and overcome overload in specific cases (see Mariotti and Delbridge 2012).

Because people generally have only limited capacity to deal with social connections and (new) information, there is a natural boundary to the maximum number of connections. Too many connections lead to network overload, as previously discussed. In terms of access to resources and information, two sub-mechanisms dealing with overload can be distinguished. The first is *capacity overload*, implying that entrepreneurs cannot manage an overly large set of network connections. In networks that have grown too large, the entrepreneurs cannot oversee the information and resources available in the network. The second mechanism is *cognitive overload,* in which access to knowledge from a particular partner may prevent seeing the actual value and difference in knowledge that another partner could provide (Hansen and Allen 1992). Such overload thus blinds entrepreneurs to established ways of knowing.

Mechanism 3: Limiting flexibility

Similar to the accessing mechanism, the transfer mechanism has the potential for cognitive overload. More importantly, the strong ties needed for resource acquisition and transfer may lead to entrepreneurs upgrading only these ties

at the expense of a broader set of potentially helpful ties and at the cost of diversity in a set of strong ties. This often results in a limit to divergent thinking (Zahra, Yavuz, and Ucbasaran 2006). Because strong ties bring the obligation to reciprocate, it becomes hard for the entrepreneur to add more new ties, given the costs of time and resources. Thus, having strong relationships with a couple of partners may prevent relationships with others (see Aldrich and Kim 2007; Gargiulo and Benassi 2000; Uzzi 1997). Besides the often-implicit obligations that strong ties bear with them, there might be formal, contractually binding conditions that significantly reduce options to engage with other partners. As Berends et al. (2011) showed in the context of the aircraft industry, strong connections with one supplier have long-lasting effects on the possibility to engage with others, even though these others may give better prospective for innovation.

For both mechanism 2 (accessing) and mechanism 3 (transferring), individual differences in networking style, influenced by psychological traits (Borgatti, Brass, and Halgin 2014; Gulati and Srivastava 2014), cause some individuals to handle larger networks better than others. For team ventures, the team composition and organization—especially the team specialization—also influence how large a network can be handled well while maintaining efficiency and flexibility (Maurer and Ebers 2006).

Mechanism 4: Difficulty recombining

Diversity in an entrepreneur's social capital is important for innovation, which often results from combining seemingly unrelated bits and pieces. Similarly, bridging unconnected ties can bring competitive advantage to the focal entrepreneur. At the same time, underlying the importance of developing cognitive social capital (e.g., Presutti, Boari, and Fratocchi 2016), such combinatory and bridging processes require that the entrepreneur, or the entrepreneurial team, has the oversight to see the potential fruitful combinations and possesses the skills to meaningfully combine unrelated bits of information into a coherent representation or frame. That frame may then form the basis for a new opportunity or venture. Such combining involves an ongoing process of interaction and communication to build "common ground" and to develop boundary objects that can link unrelated concepts, resources, and people. However, if entrepreneurs lack sufficient combinatory skills, this bridging might result in a waste of time and resources, as they might move from one unsuccessful combination to another without hitting upon a good one.

Mechanism 5: Tainted reputation

Having well-established network ties provides legitimacy; having connections with partners with bad reputations or that develop bad reputations over time—for instance, by engaging in criminal activities—could also hinder the focal actor's legitimacy. As studies outside the entrepreneurship field have shown, such connections can ruin (corporate) reputation (e.g., Brass, Butterfield, and Skaggs 1998; Jonsson, Greve, and Fujiwara-Greve 2009). Moreover, network partners can also intentionally decide to sanction non-reciprocating or free-riding network members (Hillmann and Aven 2011; Parker 2008). Thus, building reputation through network contacts not only has positive effects, but also involves inherent risks.

Each of these five mechanisms suggests that negative mechanisms, or negative outcomes associated with the mechanisms (except for sanctions and negative associations), predominantly result from structural network characteristics that initially determine the content that "flows through" the social network (see also Lechner, Frankenberger, and Floyd 2010).

Conclusion

Detailing the entrepreneurship as networking perspective, this chapter presents core social capital mechanisms that connect the business network and social network perspectives and that may have both positive and negative effects. Of the core mechanisms highlighted, the mechanisms of getting access, transferring resources and information, and creating embeddedness have been often researched; creating diversity and establishing reputation received comparably less attention. Through this overview of mechanisms, we contribute a more complete picture of the key causal processes through which network structure and content are related in the context of entrepreneurship. Furthermore, we point at the negative counterparts of the positive mechanisms, which often are not well researched, and describe conditions that may cause the mechanisms to turn from the positive to the dark side. The next chapters turn to a discussion on how these mechanisms have important effects on entrepreneurial endeavors in the processes of opportunity identification, resource mobilization, and legitimization of new ventures.

3
Network agency and network dynamics

Introduction

Often explicitly or implicitly relating to the "network success hypothesis" (Brüderl and Preisendörfer 1998; Witt 2004), researchers have used entrepreneurs' networks to explain various types of entrepreneurial outcomes, such as identification of opportunities (Ardichvili, Cardozo, and Ray 2003; Bhagavatula et al. 2010; Singh et al. 1999), entry to entrepreneurship (Sørensen 2007), resource mobilization (Bhagavatula et al. 2010; Rooks, Klyver, and Sserwanga 2016), survival (Raz and Gloor 2007; Zhao and Burt 2018), and growth (Johannisson 2000). However, our current understanding of such entrepreneurial outcomes relies predominantly on static pictures of the networks, and thus is potentially incomplete and inadequate. Such explanations are often temporary. As long as the social-interactive nature of network dynamics and network development are not sufficiently incorporated into the analysis, our conclusions and understandings could be flawed (Ahuja, Soda, and Zaheer 2012; Obstfeld, Ventresca, and Fisher 2020; Slotte-Kock and Coviello 2010). Brass et al. (2004, 809) noted, "Cross-sectional analysis of networks can often leave causal relations ambiguous." This stance is echoed in entrepreneurship, with Nicolaou and Birley (2003, 353) maintaining that only "dynamic analyses of the evolution of entrepreneurial networks will generate critical insights into the genesis of firms," and Newbert et al. (2013, 293–94) empirically revealing "that theorizing about or empirically examining the composition of networks at discrete points in time is not sufficient in order to understand entrepreneurial success."

Thus, understanding the social-interactive nature of network dynamics is crucial, specifically for three reasons related to *network change*, *situation change*, and *network agency*. First, entrepreneurs may experience competitive advantages due to their network structure but simultaneously experience their network in a state of flux. Accordingly, the competitive advantages may disappear or be strengthened over time (Buskens and Van de Rijt 2008) (*network change*). Situations in which networks change relatively quickly might be especially prevalent in emerging industries (Stam and Elfring 2008) or in new

Entrepreneurship as Networking. Tom Elfring, Kim Klyver, and Elco van Burg, Oxford University Press (2021). © Oxford University Press. DOI: 10.1093/oso/9780190076887.003.0003

fast-growing organizations (Hite 2005). This condition clearly calls for understanding network dynamics. Second, an entrepreneur's challenges and tasks may slowly change during the entrepreneurial process, which necessitates modification and change to a network, aligning and fitting it to the new situation (*situation change*) in order for the network to be beneficial and supportive (Hite and Hesterly 2001). This also calls for a dynamic understanding of networks. Finally, actors may purposefully try to adjust the network structure (*network agency*) in a social-interactive manner (Ahuja, Soda, and Zaheer 2012). The entrepreneurs might try to "form new ties or keep them latent, maintain, or dissolve existing ties" (Vissa and Bhagavatula 2012, 286), or people in the network other than the entrepreneur might try to move and eliminate the advantages provided to the entrepreneur (Buskens and Van de Rijt 2008). This, as well, calls for a dynamic understanding of networks.

Recent empirical studies have provided evidence for the appropriateness of the network dynamics perspective (e.g., Engel, Kaandorp, and Elfring 2017; Fang et al. 2015; Hite and Hesterly 2001). For instance, Kreiser et al. (2013) found that increasing tie strength slows down start-up progress, whereas adding more ties enhances the progress. In another study, Newbert et al. (2013, 281) found that it is not the network at the starting point that matters, but rather how entrepreneurs over time develop their network into an "increasingly diverse set of relatively stronger and weaker ties." Further, research into technology-based new ventures showed that adding more external partners increases the ventures' survival rates under environmental jolts and uncertainty (Venkataraman and Van de Ven 1998), as well as their innovativeness compared to competitors (Baum, Calabrese, and Silverman 2000). Thus, theoretical and empirical evidence supports the appropriateness and importance of looking at network dynamics.

In this chapter, we delve deeper into theories, perspectives, and empirical results related to network dynamics and its social-interactive nature. The chapter is organized and structured according to the social-interactive network dynamics framework graphically illustrated in Figure 3.1.

We first introduce the four essential debates on network dynamics, then move on to discuss the various dimensions of network dynamics through social interaction with a focus on the entrepreneur's ego-network. With whom is the entrepreneur connected, and in what ways do the relations (i.e., nodals/nodes), ego networks, and their content change? With regards to the nodal or node changes, we are interested in the number of ties and the entrepreneur's changes in that number by adding or dropping ties (Ahuja, Soda, and Zaheer 2012). We are also interested in the changing character of the ties in terms of *tie strengthening* (Hite 2005) or the reverse, *tie decay* (Burt 2000). Finally, we discuss ego-structural

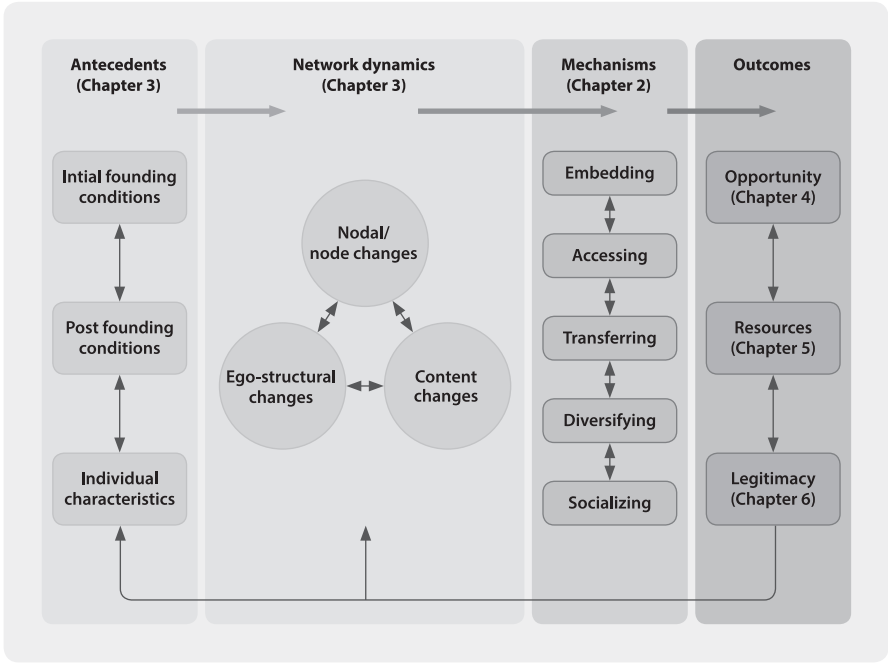

Figure 3.1. Social-interactive network dynamics framework.

changes in the network specifically related to size and structural holes (Ahuja, Soda, and Zaheer 2012), as well as changes in content flowing through the ties (Klyver, Honig, and Steffens 2018). Altogether, these discussions elaborate on the social-interactive nature of network dynamics. These network changes are drivers of opportunity development (Chapter 4), accessing and acquiring resources (Chapter 5), and gaining legitimacy (Chapter 6), and function through the networking mechanisms described earlier (Chapter 2).

After this exploration of the dimensions of network change, in order to understand how and why networks are changing, we discuss first initial founding and post-founding conditions, followed by individual characteristics and agency as antecedents of network development. We end the chapter with considerations of how to move the research into network dynamics forward, with four specific suggestions for future research.

Debates around network dynamics

The debate around network dynamics is heterogeneous, involving a range of topics discussed sometimes very explicitly related to network dynamics

and sometimes more implicitly. For instance, the literature often implicitly assumed, rather than explicitly discussed, strategic and instrumental elements in entrepreneurs' networking. Engel et al. (2017, 35) problematized this, stating that the current and dominating assumptions in entrepreneurship perceive "entrepreneurs as heroic captains charting a route to acquire predefined networking targets."

The topics debated include antecedents (e.g., Hallen and Eisenhardt 2012), processes (e.g., Elfring and Hulsink 2007), consequences (e.g., Vissa and Bhagavatula 2012), and theoretical perspectives of network changes (e.g., Jack 2010), as well as debates related to methodological implications of network dynamics (Slotte-Kock and Coviello 2010). From the variety of issues discussed in the entrepreneurship literature, we have identified four key debates. They do not cover every corner of the discussions, but the most essential parts. We do not take a specific position in these debates or prefer one perspective over another. Rather, we see these as perspectives that are contingent on situational circumstances and that may well work separately as well as in combinations. Throughout the book we try to use, combine, and bridge the various perspectives in our development of an entrepreneurship-as-networking perspective.

Instrumental versus embeddedness networking

The first debate relates to whether entrepreneurs act purposefully and intentionally as instrumental decision-makers (also termed *strategic networking*) to shape and maintain efficient networks (e.g., Hallen and Eisenhardt 2012; Hite 2005; Vissa 2011). Or are they, for better and for worse, embedded in networks as preexisting conditions to which they can only adapt (Jack and Anderson 2002; Klyver, Evald, and Hindle 2011)? Accordingly, the discussion is divided into an *instrumental perspective*, in which networks are seen as a tool that entrepreneurs use to achieve their goals, and an *embeddedness perspective*, in which entrepreneurs are more constrained and only able to adapt to those network conditions. The distinctiveness of the two perspectives are shown in Table 3.1.

The embeddedness perspective perceives entrepreneurs' networks as something that both facilitates and constrains the opportunities and actions available to the entrepreneurs but in a relatively deterministic way (Klyver, Evald, and Hindle 2011). Networks have history, and entrepreneurs carry with them their networks from their past. Thus, their past lives shape the structure and quality of their future networks and, in this way, "the past sets the conditions

Table 3.1 Two Perspectives on Entrepreneurial Networking

Characteristic	Instrumental	Embeddedness
Basic assumption	Voluntaristic	Deterministic
Metaphor	Tool	Condition
Behavior	Goal directed, intentional, instrumental	Non-intentional
Network role	Facilitate	Facilitate and constrain
Time perspective	Future oriented	History oriented
Purpose of networking	Shape efficient conditions	Adapt to conditions

for the future" (Jack and Anderson 2002, 483). Accordingly, there is a core of the network carried from the past—probably created for purposes other than entrepreneurship—that sets the conditions for the entrepreneurs. Their available option is not to create a completely new network for the occasion of starting a business, but to adapt and mingle within the existing network and its conditions. This mingling involves periodically activating, reactivating, and changing latent and dormant ties in the social structure to capitalize from them or to gain access to a wider social structure (Jack 2005). Anderson and Jack (2002, 207) emphasized that a network resource "may lie dormant for periods but becomes enacted when circumstances require its use." On this issue, Klyver et al. (2011, 153) elaborated "that history opens or closes the window of opportunities on network participation. So, individuals simply cannot choose to network with everyone—they need some sort of past direct or indirect connection." In this way, the embeddedness perspective on entrepreneurial networks assumes networks are something carried from the past, rather than created purposefully for the present or future. It therefore advocates that networks are conditions that entrepreneurs should adapt to and mingle within, rather than a tool they can instrumentally use.

The instrumental perspective, on the other hand, perceives networks as a tool that entrepreneurs purposefully use. Hallen and Eisenhardt (2012, 36) described entrepreneurs as reflexive actors who "actively shape their approach to tie formation through thoughtful agency." Several connotations are used and affiliated with the instrumental perspective: networking as something strategic, purposeful, goal-directed, and intentional. It advocates that entrepreneurial networking is motivated by the need to identify opportunities, access resources, or gain legitimacy and, therefore, is distinct from networking for friendships (Elfring and Hulsink 2003). This motivation makes entrepreneurial network instrumental rather than spontaneous or random.

This perspective assumes agency and voluntarism, in that entrepreneurs purposefully create efficient networks that they efficiently exploit. The focus has been on how entrepreneurs purposefully select, maintain, or drop specific ties to include in the network based on a *criterion of utility*. The criterion of utility considers whether ties currently or in the future would be beneficial in identifying opportunities, mobilizing resources, or gaining legitimacy. Although the instrumentality of networking involves decisions related to both tie formation—tie dropping and tie persistence—as well as exploitation of existing ties, Hallen and Eisenhardt (2012, 35) specifically operationalized this utility criterion related to tie formation. They argued that a tie is created in an efficient way when it "(1) results in a completed tie, (2) is secured with relatively little time and effort, and (3) yields ties with desired partners."

Compared to the embeddedness perspective in entrepreneurship, the instrumental perspective dominates. Although most scholars remained silent about affiliation with the instrumental perspective, some explicitly complied with it. For instance, in contrast to the embeddedness perspective, Vissa (2012, 492) stressed that entrepreneurs are not passive networkers "hemmed in by the inertial forces of prior network structures." Stuart and Sorensen (2007, 211) advocated that "most entrepreneurs and young ventures are strategic in their formation of relations." As an intriguing twist to the instrumental perspective, Casciaro et al. (2014) found that when individuals are pursuing predominantly professional goals, networking that is instrumental by nature may impinge on individuals' morality and potentially make individuals feel "dirty." This suggests that morality sets boundary conditions on the level of instrumentality that can be involved in networking, obviously depending on how comfortable entrepreneurs are with being instrumental in their networking (Wanberg, Kanfer, and Banas 2000) and in which culture they are embedded (Klyver and Foley 2012).

A new variant of the instrumental perspective, termed *the effectual perspective*, is emerging (Engel, Kaandorp, and Elfring 2017). It continues to assume agency of entrepreneurs as a reliable way to achieve success, but de-emphasizes the goal-directed component due to the uncertainty that characterizes entrepreneurship (McMullen and Shepherd 2006; Sarasvathy 2001). It argues that networking is constrained by uncertainty. The effectual perspective, which is more consistent with the "creation" view than the "discovery" view of opportunities (Alvarez and Barney 2007; Alvarez, Barney, and Anderson 2013), assumes that networking is driven by both self- and collective motivations and is restricted by a predetermined level of affordable loss (Engel, Kaandorp, and Elfring 2017; Kerr and Coviello 2020). Entrepreneurs constantly engage in assessing available means in the network and negotiating

pre-commitments with self-selected stakeholders because they network with existing ties as well as forming new ties. By this effectual networking, entrepreneurs "may intentionally inject randomness and induce 'valuable accidents'" (Engel, Kaandorp, and Elfring 2017, 45), or serendipity, that they may harvest and benefit from during their entrepreneurial process.

Behavioral and psychological explanations

Two theoretical perspectives separately try to explain network dynamics: a behavioral perspective interested in networking as behavior and action, and a psychological perspective interested in individual traits and cognition.

The *behavioral perspective* approaches entrepreneurship as a social process (e.g., Starr and MacMillan 1990) in which entrepreneurs interact with contacts in their proximate and distant environments. This interaction is conceptualized as networking behavior and defined as "individuals' attempts to develop and maintain relationships with others who have the potential to assist them in their work or career" (Forret and Dougherty 2004, 420). More specifically in an entrepreneurial context, such networking behavior should be understood as actions directed to develop and maintain relationships with others to assist in identifying opportunities, mobilizing resources, and obtaining legitimacy from third parties (Elfring and Hulsink 2003; Havnes and Senneseth 2001).

Within the behavioral perspective, we identify four key takeaways related to network dynamics. The first puts attention on how entrepreneurs form and drop ties (Hallen and Eisenhardt 2012; Vissa 2011; Vissa and Bhagavatula 2012). We elaborate further on this in the section discussing nodal changes to the ego network. The second takeaway focuses on how networks change based on with whom entrepreneurs network, often distinguishing between networking with strong and weak ties (Elfring and Hulsink 2003; Jack 2005; Ruef 2002). Given key contingencies related to the organizational life stage (e.g., Evald, Klyver, and Svendsen 2006; Hite 2005; Hite and Hesterly 2001) and challenges, including developing opportunities, mobilizing resources, and gaining legitimacy from third parties (e.g., Baer 2010; Elfring and Hulsink 2003), various balances of strong and weak ties are needed. The third takeaway emphasizes the variation in how entrepreneurs network—that is, their networking style (see Rawhouser, Villanueva and Newbert 2017 for a review). For instance, based on inductive theorizing, Vissa (2012) distinguished between network-broadening actions aimed at shaping new ties and networking-deepening actions aimed at maintaining prior ties. Finally, the

fourth takeaway focuses on explaining network dynamics according to how intensely or frequently entrepreneurs network (Newbert, Tornikoski, and Quigley 2013; Watson 2007). Entrepreneurs who intensely and frequently engage in networking will be exposed to more opportunities, have easier access to resources, and be facilitated to gain legitimacy—although with limits, depending on how beneficial their networking is (Watson 2007).

In contrast to the behavioral perspective focusing on entrepreneurs' actions, the *psychological perspective* targets its attention toward different psychological factors that relate either to the social network structure or to how entrepreneurs interact with their networks. Despite rising interest in the psychology of social networks, the literature on it is still scarce, especially considering the enormous number of studies that emphasized structure (Stam and Elfring 2008). Referring to the microfoundation of social network analysis, Burt (2012) stated, "Though often raised, the question has received too little attention to allow a general response" (545). His argument that network agency is often assumed away was supported by others (e.g., Casciaro et al. 2015; Tasselli, Kilduff, and Menges 2015).

Although studies of network dynamics from a psychological perspective were fewer than those focused on structural characteristics, they more often elaborated on how various psychological characteristics function together and in combination with the network structure. They tried, in different ways, to incorporate network agency into the understanding of networks, including in their analyses both psychological features and structural network characteristics and the interplay between them. Figure 3.2 graphically illustrates the various combinations of psychological and network characteristics and their effects on entrepreneurial outcome.

Overall, psychological variations may function as an antecedent for individuals' positions in social networks and may influence entrepreneurial outcomes through this path (mediation model 1). Social networks may function as an antecedent for psychological characteristics and may influence entrepreneurial output through this path (mediation model 2). Alternatively, psychological characteristics may provide the contingencies for when certain network structures or network changes lead to certain desirable entrepreneurial outcomes (interaction model).

Mediation model 1 suggests that individuals with certain psychological characteristics are more likely than those without such characteristics to occupy beneficial structural positions in social networks (e.g., Klein et al. 2004; Oh and Kilduff 2008; Zhao, Frese, and Giardini 2010). However, the causal sequence potentially might be the opposite: namely, that network structure (or network structure change) influences and shapes entrepreneurs'

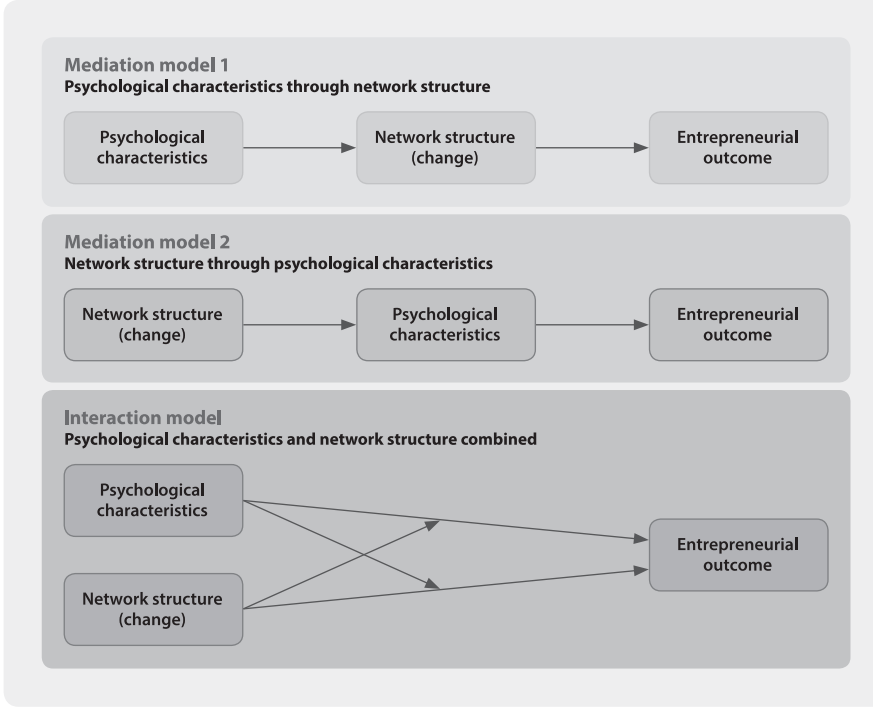

Figure 3.2. Combinations of psychological and network effects.

psychological characteristics (mediation model 2) and through a structure-psychological path influences entrepreneurial outcomes (e.g., De Carolis, Litzky, and Eddleston 2009; De Carolis and Saparito 2006). This path from structure through psychological characteristics represents a more deterministic understanding compared to the more agentic orientation from psychology to structure.

Alternatively, according to the interaction model, the psychological and network effects on entrepreneurial output may also interact and function in combination. Empirical evidence revealed that, among other characteristics, individuals' conformity (Zhou et al. 2009), openness to experience (Baer 2010), social skills (Nielsen and Klyver, forthcoming), and need for cognition (Anderson 2008) moderate beneficial network positions.

In an entrepreneurial context, in addition to those psychological features already mentioned, characteristics such as individual networking orientation (Ebbers 2014), *tertius iungens* orientation (Ebbers 2014; Obstfeld 2005), networking comfort (Wanberg, Kanfer, and Banas 2000), and propensity to connect with others (Totterdell, Holman, and Hukin 2008) may be of particular importance for entrepreneurs' tendency to take advantages of structural

network position or changes in their social structure and to occupy beneficial positions in their networks. For instance, Buskens and Van de Rijt (2008, 397) noticed that entrepreneurs vary in their "inclination or courage to step up to strangers and build bridging ties, or they just may not observe these brokering opportunities."

Managing network relations: Efficiency and time

More than two decades ago, Aldrich and Reese (1993) asked whether networking was paying off among nascent entrepreneurs trying to start a business. Surprisingly, they found that relatively established and standardized measures of networking activities—including network size, time devoted to developing ties, and time devoted to maintaining ties—had no influence on the businesses' survival or performance. In the wave of this study, interest in how intense entrepreneurs should be networking, together with how to balance developing new ties versus maintaining ties, has emerged. The debate relates mainly to the instrumental perspective, because it focuses on instrumental and strategic networking issues (e.g., Hallen and Eisenhardt 2012; Vissa 2012).

The time and resources spent on developing and maintaining ties are quite significant. Greve and Salaff (2003) estimated that entrepreneurs spend on average 6 hours maintaining existing ties and 6 hours developing new ties every week, with variation depending on the venture life cycle. Together, this adds to 12 hours, which even given long workweeks, is a considerable amount of time.

Time spent on networking is not without opportunity costs (Semrau and Werner 2012, 2014). In fact, Semrau and Werner (2012, 160) "argue that dedicating time to maintain a larger network and to intensify the quality of relationship within the network is an investment that does not always pay off." The time spent networking takes away from other important tasks necessary to successfully start a business, such as mounting a sustainable business model, developing prototypes and products, creating legal identity, accessing external funding, and organizing the start-up team (Arenius, Engel, and Klyver 2017; Katz and Gartner 1988). At the same time, network ties are reciprocal, meaning that despite having " 'no books recording the exchanges' (Johannisson 1988, 84), in the long run the exchanges between two partners need to be balanced" (Witt 2004, 403). For these two reasons, the relationship between the intensity of maintaining and developing ties is positive but nonlinear with diminishing returns (Semrau and Werner 2012, 2014; Watson 2007). Thus, there is an upper limit to how beneficial networking is (Watson

2007). At some point, resources used for networking take away from other important tasks, or the benefit from networking comes with such high expectations of "payback" that the networking becomes less efficient or unproductive per se.

To what extent developing and maintaining ties are beneficial is not universal—it depends on the way entrepreneurs manage and approach their ties, as well as their abilities to do so. For instance, Ebbers (2014) distinguished between individual networking orientation—that is, entrepreneurs' orientation toward building potential valuable ties for personal gains—and *tertius iungens* orientation, meaning that the entrepreneurs facilitate tie formation among the others. Other scholars have argued that entrepreneurs vary in their "ability to interact effectively with others" (Baron and Markman 2003, 41) and, in this way, that their advantages from further networking vary (e.g., Baron and Tang 2009; Fang et al. 2015). All of these orientations—networking, *tertius iungens*, mediation brokerage, separation orientation, and social skills—would expectedly affect how much time is efficient to use on, respectively, maintaining and developing ties.

Networking under predictable versus uncertain conditions

The fourth debate around network dynamics relates to the conditions under which the networking is performed. The dominating view in the entrepreneurship literature pictures networking as "a linear process in which entrepreneurs' volition, based primarily on rational self-interest (e.g., resource seeking), leads to goal setting and planning activities (e.g., targeting a 'desirable' partner), which, in turn, lead to purposeful action to achieve previously predicted outcomes (e.g., 'efficient tie formation')" (Engel, Kaandorp, and Elfring 2017, 39). This perspective assumes risky, although predictable (certain), environments.

However, a recent stream of literature has argued that entrepreneurs are not networking under certainty. It emphasized that entrepreneurship and entrepreneurial action are often described as fundamentally involving uncertainty characterized by "unknown unknowns" (e.g., McKelvie, Haynie, and Gustavsson 2011; McMullen and Shepherd 2006; Milliken 1987). Engel et al. (2017, 40) described this uncertainly as "concerned with the power of temporality in drawing a veil over the future, thereby concealing preferences as well as outcomes." In the process of starting a business, entrepreneurs are not sufficiently knowledgeable about which resources are, or will become, important

for their venturing effort and from which ties such important resources are available.

These newer studies challenged the dominating view of entrepreneurial networking as a linear process under risky but predictable conditions. Instead, entrepreneurial networking involves unpredictability, goal ambiguity, and an ever-changing interactive environment in which uncertainty acts as a boundary condition that both enables and constrains networking. Under uncertainty conditions, entrepreneurs are encouraged to act more altruistically and pro-socially and to be open to unexpected contingencies that might be stimulated by serendipity. Rather than networking being something that shapes entrepreneurship, networking should be seen as an essential part of entrepreneurial action. Dew (2009, 748) suggested "that entrepreneurs may be able to engage in social networking behaviors that make it more likely that contingencies (hence serendipities) happen to them, i.e. they may deliberately engage in behaviors that semi-endogenize contingency." Despite these four central debates around network dynamics, the previous literature did not discuss the dimensions of network change in depth. Often, it was ambiguous as to what dimension of network change it referred. Therefore, more in-depth discussion of these dimensions is warranted.

Dimensions of network change

There are several dimensions of the social-interactive nature of network change. *Nodal changes* relate to adding and dropping ties, as Vissa and Bhagavatula (2012) proposed through their concept of network churn as well as upgrading and downgrading ties (Burt 2000; Elfring and Hulsink 2007; Jack 2005). *Ego-structural changes* relate to changes in size and structural holes (Ahuja, Soda, and Zaheer 2012), and *changes in content flow* relates to the dynamics in what is being exchanged.

Nodal change: Adding, dropping, and changing ties

We know much more about forming ties than about dissolving, deleting, or dropping ties. Vissa and Bhagavatula (2012, 287) noted, "There has been little research attention devoted to [. . .] tie dissolution." This is probably due to the difficulties associated with detecting the dissolution of ties compared to the formation of ties. Whereas tie formation is a discrete event, tie dissolution is the absence of such an event, and even though tie persistence cannot

be observed within a certain period, it is impossible to conclude that it will not happen sometime in the future. In this way, investigations of dissolving or dropping of ties are always victims of the future.

Adding ties

When in need of resources not already possessed, entrepreneurs may decide to turn to their networks for availability (Levine and Prietula 2012). However, other forces might inhibit their turn to the network. For instance, network assistance often comes with some social cost in terms of how the entrepreneurs appears to others (e.g., incompetent), the entrepreneurs may be uncomfortable with the feeling of indebtedness caused by network reciprocity, or they may believe the likelihood of a positive response is low (Baker 2014).

Several forces explain tie formation. Guided by the theory of planned behavior, Vissa (2011) explained tie formation intention and behavior as a result of social similarity and task complementarity. Baker (2014) emphasized that tie formation is often influenced by homophily (similarity), the power and status of individuals, and the importance of the request related to the tie formation. He also explained how tie formation results from direct reciprocity and generalized reciprocity in the forms of upstream and downstream reciprocity. Tie formation following upstream reciprocity happens when entrepreneurs form ties, either when they reciprocate by helping a third party in the entrepreneurial community or when a third party in the entrepreneurial community helps them by paying it forward. Tie formation following downstream reciprocity happens due to reputation: Ties are formed when entrepreneurs have a reputation for being helpful and as resource providers themselves.

At other times, entrepreneurs add ties because of opportunities and convenience. This explanation focuses on how ties are shaped and formed through trust, convenience, and referrals (Ahuja, Soda, and Zaheer 2012). The central idea is that entrepreneurs form new ties to third parties because it is convenient—that is, because the entrepreneurs and the third party share similar values, norms, and ideas (e.g., McPherson, Smith-Lovin, and Cook 2001; Ruef, Aldrich, and Carter 2003; Vissa 2011)—or because they trust the third party based on a referral (Gulati 1995; Gulati and Gargiulo 1999; Shane and Cable 2002).

Dropping ties

However, tie formation and tie dropping are two distinct processes. The same factors that initially cause entrepreneurs to form ties do not necessarily make them keep or drop the ties later (Dahlander and McFarland 2013). Whereas tie formation happens in uncertain contexts when unfamiliar individuals

meet, tie dropping happens within an existing tie history. Although few studies in entrepreneurship have investigated tie dropping, a couple of important findings prevail. For instance, Vissa and Bhagavatula (2012) found that an entrepreneur who "seeks to combine social and business relations with his/her existing network contacts" (276) is less likely to delete ties. The deletion leads to greater exchange of resources and causes the entrepreneur to re-evaluate and modify his/her actions continuously. They also found that an entrepreneur who "paces his/her relationship with existing contacts based on temporal markers (rather than need)" (276) is more likely to delete ties because multiplex ties are generally more long term and persistent.

In addition, Elfring and Hulsink (2007) found that ties—especially weak ties—are dropped when they do not deliver the expected new knowledge or fail to complement the entrepreneur's resources and skills. The entrepreneur drops such ties to reduce network overload and eliminate problems of dependency. Elfring and Hulsink noted that tie dropping "has hardly been discussed explicitly, while our study indicates that it is a process that takes place on a substantial scale" (1864).

Changing ties

Change is not only about adding or dropping ties. Sometimes existing ties change in content or strength. Changes in content here often refer to making ties multiplex, for instance by turning friends into customers (e.g., Godin 1999), family into financiers (e.g., Gomez-Mejia et al. 2011), and advisors into resource providers (e.g., Greve and Salaff 2003). Entrepreneurs can change their ties through either a strategic, purposeful process or through a process of inertia. In line with the strategic purposeful process, Elfring and Hulsink (2007, 1864) wrote about ties being upgraded: "Some weak ties develop into strong ties. This process of upgrading confirms the findings of Hite (2003) and Jack (2005), who argue that trust and proven usefulness are two important requirements for becoming a strong tie." Such newly developed strong ties have high value in terms of low costs related to search and selection of ties and in providing access to complementary resources and trust. Thus, as Dubini and Aldrich (1991, 308) noted earlier, "networking involves expanding one's circle of trust," turning weak ties into strong ties (Jack, Moult, and Anderson 2010), weak instrumental ties into strong multiplex ties (Larson 1992), or identity-based ties into calculative-based network ties. These changes are accompanied by a change in the balance toward more arm's-length ties, more structural holes, and more intentional management networks (Hite and Hesterly 2001). Hite (2005) referred to this conversion as *social leveraging processes* and *trust facilitation*. Most often, as Ebbers (2014) noted, networking with weak ties is

expected to eventually lead to stronger ties—termed *upgrading of ties*—but also does not preclude strong ties from developing into weak ties over time. In one possible explanation, it is perhaps equally likely that strong ties are downgraded over time to weak ties if such strong ties do not continue to add and to align with the entrepreneur's needs. Burt (2000) termed this process of detaching from the old *tie decay*. Strong ties may even become latent and dormant ties until they are later reactivated (Jack 2005). This process of "downgrading ties," however, has been less explored in the literature.

Network ties can also change as a consequence of inertia (Ahuja, Soda, and Zaheer 2012). Through their habits, routines, and reciprocity, entrepreneurs tend to reproduce ties and network patterns over time. In this way, prior history functions as momentum for the continuation and persistence of ties and network patterns (Gargiulo and Benassi 2000). Grodal, Nelson, and Siino (2015) suggested that helping behavior in networks among employees over time develops into organizational routines that subsequently form and shape future helping behavior. Such historical and inertial mechanisms obviously enhance network stability and persistence, but may also be counterintuitive as an engine for network tie change. For instance, even in situations of changing challenges and tasks, entrepreneurs may routinely return to their existing (strong) ties. However, in such situations, the content exchanged and roles taken by ties might change. Examples of changes in content and role exchanges include a family member or a friend becoming an advisor (Arregle et al. 2015), a colleague becoming a partner (Ruef, Aldrich, and Carter 2003), or a family member or friend providing investments (Klyver et al. 2017). These changes in tie functionality caused by shifting entrepreneurial situations are then the main source for changes in the relationship strength and type.

Ego-structural change

We concentrate on change in size (Roberts et al. 2009) and change in structural holes (Zaheer and Soda 2009) as the central features of network dynamics on the ego-structural level, although change in other network characteristics (e.g., network diversity, centrality, or range) might also be relevant. Both size and structural holes change because of the nodal change of adding and dropping ties.

Network size is normally understood as "the number of direct links between a focal actor and other actors" (Hoang and Antoncic 2003, 171), but sometimes also includes indirect ties conceptualized as anchorage points (Steier and Greenwood 2000). For entrepreneurship research, an important distinction is made between *active networks* and task-specific and task-activated networks, also sometimes termed the *action-set* (e.g., Aldrich and Zimmer 1986; Hansen

1995). The active network "refers to alters [network ties] that ego feels they have a personal relationship with, and make a conscious effort to keep in contact with (Hill and Dunbar 2003), or alters whom ego has contacted within the last 2 years (Killworth et al. 1998)" (Roberts et al. 2009, 138). On average, individuals have 72 people in their active networks, ranging from 10 to 168 (Roberts et al. 2009). However, what is relevant for entrepreneurs is the network size of the task-related network or action-set—the network activated during the entrepreneurial process. The network size of the action-set influences access to diverse information and resources (Zhao, Frese, and Giardini 2010) and thereby promotes new venture opportunities (Singh, Hybels, and Hills 2000) and the growth of new ventures (Hansen 1995).

The size of entrepreneurs' action-sets changes over time. In the emergence stage, the "first task of the entrepreneur is to make contact with a sufficient number of these ports of access to necessary resources" (Steier and Greenwood 2000, 182). In agreement, Newbert and Tornikoski (2012, 146) maintained, "Enlarging the number of individuals with whom the nascent entrepreneur has a personal relationship may enable the nascent entrepreneur to overcome the resource deficiencies faced early on in the emergence phase." In this way, the start-up process can be characterized as networking practice (Anderson, Dodd, and Jack 2010), involved in becoming embedded in the social structure by building networks (Jack and Anderson 2002). Although networking is expected to increase the entrepreneur's network size over time, there are limits to how large such networks should be (e.g., Watson 2007). Further, this does not eliminate the possibility that networks might also decrease in size over time. For instance, entrepreneurs might experience disadvantages related to redundancy, network overload, and reduced efficiency in maintaining and exploiting ties if the network becomes too large (Semrau and Werner 2012), and these experiences may motivate them to reduce their network size.

Meanwhile, as Burt (1992a, 69) emphasized, size matters only when it increases the range of "ports of access to clusters of people beyond." Therefore, structural holes have become another important feature in understanding network structure and network change because they provide access to diverse and non-redundant information and resources.

A structural hole in an entrepreneur's ego network exists when two individuals in the network are disconnected. A network consists of more structural holes when more people in the network are disconnected. Often, on the ego-network level, structural holes are perceived as the reverse of closure, operationalized as the number of ties among nodes divided by the potential ties among nodes. Structural holes provide advantages in the form of brokerage opportunities. Because of these brokerage opportunities, Burt (1992a)

encouraged entrepreneurs to minimize their network constraints by increasing the numbers of structural holes. As Buskens and van de Rijt (2008, 393) summarized, "They optimize relationships in terms of brokerage opportunities, initiate relationships with others who are otherwise unconnected, and resolve relationships if they are not cost effective in terms of access and control benefits."

Despite the advantages of structural holes, there are at least two reasons why purposefully connecting two unconnected alters may benefit entrepreneurs, although they at first may seem counterintuitive. Purposefully eliminating a structural hole by closing the triad (Burt 2002), the entrepreneur may avoid *network imbalance* (Ozdemir et al. 2016) and generate *bridge reciprocity* (Ebbers 2014).

Network imbalance

Through networking, entrepreneurs try to change network imbalance to solve two basic problems, namely creating a resource pool and simultaneously mobilizing resources from that pool (Fang et al. 2015). Creating a resource pool is supported by network brokerage and many structural holes, whereas mobilizing resources is enhanced by the opposite—a cohesive and closed network. As networks grow, it becomes increasingly difficult and time consuming for an entrepreneur to keep everyone disconnected (Steier and Greenwood 2000). Further, the entrepreneur benefits from connecting more network ties, thereby transforming the networks from one characterized by brokerage and many structural holes to a more balanced network of brokerage and cohesiveness. As a consequence of the bridge decays, more time becomes available, enabling the entrepreneur to solve both the tasks of building a resource pool and mobilizing from that pool.

Ebbers (2014) described connecting unconnected others as *altruistic bridging behavior* that creates generalized reciprocity and goodwill. Such behavior, stimulated by a *tertius iungens* orientation (Obstfeld 2005), provides entrepreneurs with larger resource pools and enables them to better mobilize from those pools. Specifically, Ebbers (2014, 7) argued, "The partners that benefited from selfless brokering behaviour by entrepreneurs could be returning their favour by connecting them to potentially valuable partners in their network."

Changes in content

There are several ways the last dimension of network change—content of ties—might change; specifically, emergence of multiplex ties (Ferriani, Fonti,

and Corrado 2013), modification of dependency (Ahuja, Soda, and Zaheer 2012), and development of resource exchange (Klyver, Honig, and Steffens 2018). First, single-dimensional ties might over time develop into multiplex ties. Multiplexity "refers to the extent to which two actors are linked together by more than one relationship in a network" (Ferriani, Fonti, and Corrado 2013, 7). In the entrepreneurship literature, this is often discussed as ties that are both social or private and business oriented (Rooks, Klyver, and Sserwanga 2016) or that include social and economic components (Uzzi 1996). Understanding the development of tie multiplexity is important because investigating only a single dimension of a multidimensional tie relies on simplified and false assumptions about motivation and reciprocity among actors (Shipilov and Li 2012).

According to Ferriani et al. (2013), emergence of multiplex ties can happen through different starting points, each with their own logic. First, social ties might develop into multiplex ties through the logic of social interaction; more specifically, through mechanisms of informational accrual and better monitoring. Second, economic ties might develop into multiplex ties through the logic of economic exchange; particularly, through relational proximity and redundancy. Ferriani et al. also speculated and showed that most likely, social ties develop into multiplex ties. Qualitatively, Larson and Starr (1993, 5) developed a model that "explains the transformation of exchange relationships from a set of relatively simple, often single-dimensional dyadic exchanges into a dense set—a network—of stable, multidimensional and multilayered interorganizational exchange relationships."

Second, the dependency of ties might change over time. As shown by Newbert et al. (2013), to avoid dependency on few ties and loose negotiation power, entrepreneurs are wise to develop a portfolio of ties over time that is "composed of a diverse mix of individuals with whom they share history of exchange characteristics by greater and lesser degrees of multiplexity" (286). Entrepreneurs may modify their dependency by reducing their own dependency on network ties or by increasing network ties' dependency on them through nodal changes of adding and dropping strategic ties (Ahuja, Soda, and Zaheer 2012).

Finally, the type of resources exchanged among ties might change over time. In various stages of the entrepreneurial process, entrepreneurs need different types of resources (e.g., Klyver and Hindle 2007; Larson and Starr 1993; Sullivan and Ford 2014). In a recent article, Klyver et al. (2018) suggested that the type of support needed during firm emergence changes from emotional toward instrumental support as the entrepreneur's primary struggle in the

beginning, related to entrepreneurial identity issues, is replaced with primary struggles related to practical transition toward starting the business.

Antecedents of network development

Why do differences in network change exist? We suggest that answers to this question can be divided into three broad categories that supplement each other: initial founding conditions (e.g., Elfring and Hulsink 2007; Hite and Hesterly 2001), post-founding entrepreneurial processes (e.g., Elfring and Hulsink 2003, 2007), and individual characteristics and agency (e.g., Baron and Tang 2009; Ebbers 2014; Fang et al. 2015).

Initial founding conditions: Initial network

Individuals who decide to start a business have different starting points. They vary in terms of not only experience, knowledge, and financial capital, but also their initial network. Hite and Hesterly (2001, 283) emphasized that "not all emerging firms are equally endowed in terms of initial network connections and these differences matter." Conceptually, consensus prevails about entrepreneurs changing their networks as their tasks and challenges change during the entrepreneurial process. Cohesive networks with strong ties are generally helpful when entrepreneurs search for "hard to find" resources (despite limited scope and high cost), whereas diverse networks increase their chances of finding help and resources of the appropriate scope and fit, foster more innovative solutions, and come with fewer reciprocity commitments (Martinez and Aldrich 2011). How networks develop over time and balance between cohesive and diverse networks is still debated. For instance, some studies empirically showed that entrepreneurs start with a relatively high proportion of strong ties that slowly transforms into a network of mostly weak ties to support diverse resource access (e.g., Hite and Hesterly 2001). Other studies showed that entrepreneurs start with a high proportion of weak ties to support their opportunity identification, but that this structure slowly transforms into a network with more strong ties (Steier and Greenwood 2000). The initial conditions are important because entrepreneurs might be "trapped in their own network" (Gargiulo and Benassi 2000) and struggle to maneuver out of the expectations that, for instance, family members hold regarding career targets, and that they are not strategically trying to avoid.

Alternatively, they may be left with resource-poor networks that do not help them successfully start their businesses.

Sullivan and Ford (2014) found that those with large networks at pre-founding develop even larger networks with a higher proportion of strong ties; those with proportionally many weak ties at pre-founding continue this path by developing networks of fewer strong ties and more numerous weak ties. Sullivan and Ford suggested that entrepreneurs manage their ties to reduce resource dependency and constraints related to over-embeddedness in high numbers of strong ties. Milanov and Fernhaber (2009) emphasized how the network size and centrality characteristics of initial partners, through imprinting, are crucial for how entrepreneurs' networks develop.

The idea that initial network conditions shape future networks—termed *tie transitivity* by Vissa (2011)—follows a causal mechanism of referrals (Gulati 1995; Gulati and Gargiulo 1999; Shane and Cable 2002) in that "formation of new interpersonal ties is a function of prior interpersonal ties" (Vissa 2011, 139). However, Hallen and Eisenhardt (2012) observed that in some cases, entrepreneurs are not in a privileged situation of having a relevant portfolio of ties because they are novice entrepreneurs (Mosey and Wright 2007) or are outsiders to the industry (Elfring and Hulsink 2007). In such situations, according to Vissa (2011), two causal mechanisms are in play. The first relies on the homophily argument: the more similar the potential contact is, the more likely the focal entrepreneur will establish a new tie. The second mechanism depends on the degree to which the potential contact represents a significant task complementarity; in other words, the potential contact possesses relevant resources that the focal entrepreneur is lacking.

Post-founding entrepreneurial processes

The entrepreneurial context is different from friendship or stable organizational settings. Uncertainty, large potential payoffs, and lack of resources fuel the observations that entrepreneurs network in strategic and purposeful ways. Entrepreneurs try to adapt their networks strategically to the situations and challenges they are experiencing (Klyver and Hindle 2007; Larson and Starr 1993; Sullivan and Ford 2014). Eflring and Hulsink (2003) identified three types of key activities that may shape the specific needs for network support: identifying opportunities, mobilizing resources, and gaining legitimacy. Each key activity is described in depth in their own chapters; therefore, we only marginally touch upon them here.

Identifying opportunities

During the entrepreneurial process after founding, entrepreneurs might continuously aim to identify new opportunities and develop their existing ones (e.g., Ardichvili, Cardozo, and Ray 2003; Singh, Hybels, and Hills 2000). To do so, they might adapt their networks to facilitate opportunity identification, refinement, and development by, for instance, developing more structural holes, as Bhagavatula et al. (2010) suggested.

Mobilizing resources

During the entrepreneurial process, entrepreneurs also experience change and variation in the types of resources needed. They may shift from needing market information to needing various types of finance, and therefore may apply various resource-acquisition (Rawhouser, Villanueva, and Newbert 2017) or resource-management strategies (Sirmon and Hitt 2003) and accordingly change their network.

Gaining legitimacy

Finally, entrepreneurs over time continue to struggle to gain legitimacy due to the liability of both newness and smallness. They may therefore try to gain legitimacy by linking with high-status third parties and ties that can provide them credibility as entrepreneurs (Shane and Cable 2002).

Individual characteristics: Personal traits, skills and human capital, and orientations

Apart from the initial founding conditions (initial network) and post-founding conditions (identifying opportunities, mobilizing resources, and gaining legitimacy), the entrepreneurs' characteristics also are important to understanding network development. As Burt et al. (2013, 536) stated, "But everyone knows that networks do not act—people act. Networks can facilitate or inhibit action, but people are the source of action." Through their lives, entrepreneurs strategically and non-strategically form and build social networks that may be available to them at the stage of their life when they intend to start a business. The kind of networks they form may depend highly on their individual differences. In a study of individuals playing virtual games, Burt (2012) found that about one-third of the network characteristics in terms of structural holes and closure is consistent across the roles the people play. This supports the idea that individual characteristics matter for the positions that individuals and entrepreneurs take within networks. Some

of these characteristics remain stable, whereas others are dynamic and change over time and thus become an additional source of change. Prior evidence suggested that three key individual differences matter in explaining network changes and network dynamics: personal traits, skills, and orientations.

Personal traits

Being extroverted is probably the most intuitive, obvious personal trait expected to affect how networks are developed, in that extroverted individuals are expected to network more intensively (Wanberg, Kanfer, and Banas 2000) and tend to develop larger networks (Asendorpf and Wilpers 1998). However, other personality traits are also important, especially in an entrepreneurial context. For instance, Baer (2010) found that openness to experience involving individuals' ability to "integrate and reconcile different perspectives and approaches" (594) is important for their changes to benefit from network size, weak ties, and high network diversity in their creative efforts. In a similar vein, Zhou et al. (2009) found that conformity negatively moderated the curvilinear effect of the number of weak ties on creativity. Individuals high on conformity are less likely to explore and exploit novel ideas and opportunities that might be available in their networks and, therefore, are less likely to benefit in terms of creative behavior.

Finally, but not exhaustively, research on self-monitoring provides a psychological explanation analogous to the structural-holes explanations dominant in more sociological literature (Burt, Kilduff, and Tasselli 2013). Self-monitoring captures individuals' "active construction of public selves designed to achieve social ends" (Gangestad and Snyder 2000, 546). It is expected that individuals high on self-monitoring have unconnected ties, generating networks with many structural holes (Mehra, Kilduff, and Brass 2001; Oh and Kilduff 2008).

Apart from psychological perspectives that assume stable traits are the primary explanatory variables of network change, more dynamic psychological explanations prevail. For instance, Porter and Woo (2015) conceptually developed a model of strategic networking that explains how networking among relations at different development stages (i.e., initiation, growth, or maintenance) affects the relational schemas of those networking, and how these relational schemas matter for their expectations of and motivation to further engage in networking. Relatedly, Kaandorp et al. (2020) showed how entrepreneur's evaluations of self, others, and the networking process lead to particular networking actions. In this way, they pictured strategic networking as a dynamic psychological phenomenon in which evaluations play a crucial role in networking actions.

Skills and human capital

Skills, specifically entrepreneurs' social skills (Baron and Markman 2003; Baron and Tang 2009; Fang et al. 2015), are individual elements that can explain how entrepreneurs change their networks during the entrepreneurial process. Under the umbrella of social skills, various overlapping ideas and constructs, such as social skills (Baron and Markman 2003), social competence (Baron and Tang 2009), networking ability (Sigmund, Semrau, and Wegner 2015), and political skills (Fang et al. 2015), reflect "both interpersonal perceptiveness and the capacity to adjust one's behavior to different and changing situational demands and to effectively influence and control the responses of others" (Witt and Ferris 2003). In their seminal article, Baron and Markman (2003, 41) reasoned that entrepreneurs with social skills have "the ability to interact effectively with others."

Prior research showed how entrepreneurs high on social skills more effectively mobilize resources (Fang et al. 2015) and perform better with their new ventures (Baron and Tang 2009; Sigmund, Semrau, and Wegner 2015), for instance in terms of financial success (Baron and Markman 2003). Their social skills enable them to form, delete, and upgrade ties in ways that benefit their ventures due to their capacity to adjust their behavior and control others.

More broadly, in addition to social skills, human capital in the form of knowledge and experience impacts network and network dynamics. Individuals with high human capital are more attractive as networking partners (Shane and Stuart 2002) and their capital enhances not only their entrepreneurial performance but simultanously their networking (Bhagavatula et al. 2010; Stam 2010). A central element underlying discussions related to networks and human capital is their mutual interplay. More particularly, this involves whether networks, knowledge, and experience are complementarily utilized as co-productive and thereby reinforcing each other, or whether they are substitutes and are compensatorily utilized as alternatives to one another (Klyver and Schenkel 2013; Semrau and Hopp 2016).

Orientations

Finally, various behavioral orientations matter for how entrepreneurs develop and change their networks. As already discussed, Ebbers (2014) distinguished between individual networking orientation (i.e., entrepreneurs' orientation toward building potential valuable ties for personal gains) and *tertius iungens* orientation (i.e., entrepreneurs facilitating tie formation among others). Both orientations might help with understanding entrepreneurs' network dynamics. In a similar vein, although on the firm level, Stam and Elfring (2008) suggested that new ventures should aim to develop networks high on

centrality and with extensive bridging ties in order to exploit their entrepreneurial orientation.

Grosser et al. (2019) added to the *tertius iungens* orientation the concepts of mediation brokerage orientation and separation brokerage orientation. *Mediation brokerage orientation* is the role of being an intermediary between ties who cannot or prefer not to engage with each other, whereas *separation brokerage orientation* is the role of maintaining separation among one's ties (cf. conduit in Obstfeld 2017).

Vissa (2012) showed how networking styles, divided into a *network-broadening style* aimed at shaping new ties and a *network-deepening style* aimed at maintaining existing ties, influence future exchanges of resources. In general, the various resource-mobilization strategies (Rawhouser, Villanueva, and Newbert 2017) that entrepreneurs apply affect their social approach to their surroundings and how they develop their networks.

Methodological considerations

Although the field has made many achievements related to understanding network dynamics and network agency, there are still many black boxes, weaknesses, and areas where it can improve. A significant amount of the weaknesses will benefit from openness to new methodologies and approaches. Here we suggest three areas that deserve particular attention in future studies.

Longitudinal studies

To understand the dynamics in entrepreneurs' social networks, future studies need to explore new and promising ways to capture this dynamic nature over time. Variations in such longitudinal methods include experience sampling methodology (Uy, Foo, and Aguinis 2010), mixed methods in the form of network ethnography (Berthod, Grothe-Hammer, and Sydow 2017), and other types of mixed methods (Jack 2010). We need more research that varies in study length and the pace and frequency of capturing snapshots of networks, attending to the time dimension of network dynamics (Ahuja, Soda, and Zaheer 2012). Besides studies that use historical archival data useful for capturing network dynamics over long periods, one type of study that might be particularly interesting for capturing network dynamics over shorter periods is experience sampling methodology (Uy, Foo, and Aguinis 2010). This

method potentially allows scholars to capture real-time network data related to whether the most important conversation happens with existing ties or with new ties, what is discussed and why, the unitary or multiplex roles of the ties, and, most importantly, how this develops over relatively short periods during the start-up process. In a similar vein, diary methods—concerned with collection frequency and detailed data on networking actions, accompanied with personal reflection on past, present, and future—might be an insightful new method to obtain longitudinal data on networking. Although different variations of diary studies exist, they have been characterized typically by fine-grained, unstructured, self-reported data collected on a frequent basis (Ohly et al. 2010; Van Burg and Karlsson 2020).

Multiplexity

We support Kim and Aldrich's (2005, 22) observation that future research may benefit from new studies involving tie multiplexity and an explicit recognition of content and the related mechanisms. To date, far too many studies have relied on information related to simplex roles in ties, despite the ties often performing multiplex roles. Understanding the multiplexity and its development over time is crucial for understanding the motivations, mechanisms, and drivers behind entrepreneurial networking (Ferriani, Fonti, and Corrado 2013). We need more information on how multiplex ties emerge and how their initial starting points, for example, as social or business ties, might affect identifying opportunities, mobilizing resources, and gaining legitimacy.

Networking uncertainty

We also need more research that challenges the dominating instrumental and strategic approaches to entrepreneurial networking as a linear and goal-directed process; in particular, we need studies that incorporate uncertainty and thereby supplement Engel et al.'s (2017) conceptual study. Relaxing the assumptions of entrepreneurial networking and trying to understand how entrepreneurs network—still strategically but not goal directed—when they are unknowledgeable about what resources are needed or who can provide them presents not only an interesting, but also a crucial, avenue for future research.

Conclusion

In this chapter, we have examined, elaborated, and discussed theories, perspectives, and empirical results related to social-interactive network dynamics and network agency, and have developed a framework that explicates the social-interactive network dynamics in the entrepreneurship-as-networking perspective. The framework shows how various antecedents of network change drive dimensions of network change through combinations of networking mechanisms, enabling entrepreneurs to develop opportunity, access and acquire resources, and gain legitimacy. Finally, we discussed potential avenues for future research.

4

Perceiving and capturing opportunities through social interaction

Introduction

Perceiving, evaluating, and acting on opportunities are key processes in entrepreneurship (Shane and Venkataraman 2000). For instance, in the 2020 Corona-crisis, caused by the COVID-19 pandemic, entrepreneurs may see the opportunity to produce much-demanded personal protective equipment or may even consider producing advanced medical equipment like ventilators. Evaluating these opportunities, they ponder that there clearly is a need, yet, they need to build up investment capital, capacity, knowledge, and supply chains quickly in an unstable and uncertain environment. Moreover, an important question is: how many entrepreneurs would consider producing such equipment? Could that result in an oversupply and thus in wasted efforts? Only if entrepreneurs answer such questions positively, consciously or maybe unconsciously, set out to garner the means needed, and take the risk involved, will they be able to act on this opportunity. Researchers have devoted much time and effort to understand these processes of opportunity perception, evaluation, and action. Even though the debate on the origins and nature of opportunities and opportunity-related processes is not settled, clearly much insight has been gained (e.g., Short et al. 2010), and the importance of the concept of opportunities for understanding entrepreneurship is without doubt (Ramoglou and Tsang 2017; Shane and Venkataraman 2000; Stevenson and Gumpert 1985).

Most research on entrepreneurial opportunities takes a cognitive view, which centers on individual creativity and information processing (Shepherd and Patzelt 2017). However, entrepreneurial opportunities fundamentally consist of subjective and internal, as well as objective and external, elements (Dimov 2016). Thus, we argue that the interaction with social connections is not only a means to understand opportunity perception and pursuit, but also a cornerstone of any opportunity-related process. Therefore, this chapter points at the important role that entrepreneurial networking plays

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in opportunity-related processes. We structure this discussion around the processes of perceiving, evaluating, and acting on opportunities and, for each of these processes, review the role of the five network mechanisms (see Chapter 2), with attention to both positive and negative aspects of these mechanisms.

Interactive view on opportunities

Many definitions and views of entrepreneurial opportunities populate the literature, some more internally consistent than others (Davidsson 2015). Some researchers have expressed doubt about the appropriateness of the opportunity concept altogether. For instance, Dimov (2011, 59) observed that the concept of entrepreneurial opportunity is "theoretically exciting but empirically elusive" because no convention exists on how an entrepreneurial opportunity can be observed. Similarly, Davidsson (2015, 674) discussed several "inherent and inescapable problems with the 'opportunity' construct," and therefore proposed to split the concept into objective "external enablers," subjective "new venture ideas," and "opportunity confidence." Views on opportunities as being discovered versus being created (e.g., Alvarez and Barney 2007) are vulnerable to the issues contained in these critiques. The *discovery view* assumes that opportunities exist in the present, whereas the *creation view* considers opportunities as future outcomes of a creation process. Both views tend to conceptualize entrepreneurs as unitary actors operating separately from their contexts, which serve "either as ex ante sources of opportunities in the 'discovery' school, or as post hoc arbiters of creative efforts in the 'creation' school" (Garud, Gehman, and Giuliani 2014, 1177). Thus, indeed, the actual opportunity is more or less elusive (Dimov 2011) because the opportunity is uncertain ex ante and can only be confirmed after it has been acted upon.

As a way forward, we attend to the view that an entrepreneurial opportunity needs to be conceptualized as a relational-interactive construct, containing elements such as products, technologies, and customers (Crawford, Dimov, and McKelvey 2016), as well as entrepreneurs who see and construct the relationship between these elements to actually get at something potentially valuable (Dimov 2016; Fletcher 2006; Wood and McKinley 2010, 2017). Moreover, enacted, evolving opportunities are parts, rather than snapshots, of the entrepreneurial process (Dimov 2007; McMullen and Dimov 2013), which implies attention to the temporal dimension. Thus, this interactive view on opportunities is a way to steer away from a discussion on the nature of opportunities

and toward processes related to opportunity perceptions and action (e.g., Garud and Giuliani 2013; Wood and McKinley 2010).

Therefore, we consider an entrepreneurial opportunity as an idea to be developed into a new product or business form (Hansen, Shrader, and Monllor 2011) in interaction with the entrepreneur's context. This concept captures both a more entrepreneur-external perspective that views opportunities as market imperfections and a more entrepreneur-internal perspective that sees opportunities as imaginations co-created by entrepreneurs and stakeholders. Even though in practice these processes may overlap and interact, we disentangle them analytically in three parts: perceiving an opportunity (third-person, thus opportunity for somebody else), evaluating that the opportunity is desirable and feasible to be acted upon (first-person, opportunity for yourself), and then acting upon that opportunity (McMullen and Shepherd 2006; Wood and McKelvie 2015).

Given the central role of the entrepreneur's perception in these processes, most research to date has taken an individual-cognitive perspective (Shepherd and Patzelt 2017). Such studies have addressed how entrepreneurs, influenced by their prior knowledge and interaction with technologies, perceive opportunities (e.g., Autio, Dahlander, and Frederiksen 2013; Shane 2000) and form beliefs that this opportunity is something they want to pursue based on alignment with what they already know (e.g., Grégoire, Barr, and Shepherd 2010; Mitchell and Shepherd 2010) or want to do (e.g., Keh, Der Foo, and Boon Chong Lim 2002; Wood, McKelvie, and Haynie 2014). However, most of these studies are "undersocialized." The social and material world in which an entrepreneur operates only fulfills the role of supplying information and providing "external enablers" (cf. Shepherd and Patzelt 2017).

Here, the entrepreneurship-as-networking perspective provides fundamental insights into how opportunity-related processes intertwine with the social world. The relation not only involves using this social world as a source of information about potential opportunities (e.g., Kirzner 1997; Ozgen and Baron 2007), but also points to multiple network mechanisms through which entrepreneurs with their stakeholders shape and transform opportunities into business concepts while simultaneously shaping their (social) context. As such, entrepreneurs identify and create opportunities through their actions, as well as through interactions with others and the material world (cf. Venkataraman et al. 2012). For instance, for many entrepreneurs their family ties form the first resource to draw on, to get inspired for new opportunities, to gather feedback on these opportunities, and to act on them (e.g., Arregle et al. 2015; Chua et al. 2011; Zahra 2010).

Through their actions and interactions, entrepreneurs imagine, identify, and form opportunities as social structures of which most elements preexist, except for radical new-to-the-world opportunities (Dimov 2016). Like other social structures, entrepreneurial opportunities contain both objective (i.e., social, material) and subjective (i.e., imagination, interpretation) aspects that entrepreneurs weave together in their interaction with these elements (Dimov 2016; Selden and Fletcher 2015; Wood and McKinley 2010). As an example of how these subjective and objective elements go together, we turn to resources that can be gained through network connections. The value of resources provided through network ties depends on what the entrepreneur wants to do with the resources. For some purposes, a set amount of financial capital still represents a shortage, whereas for other purposes, the same amount of cash provides a huge opportunity to develop a new product (Dolmans et al. 2014). Similarly, for instance, some entrepreneurs see scrap material as a loss. Others, in the same context, see opportunities to deploy the very same material (Baker and Nelson 2005; Van Burg et al. 2012). Interpreting the value of these resources and deploying them to new uses through novel combinations is a social-interactive process. To illustrate, an entrepreneur might envision cheap and reliable new ways to maintain aircraft by using automobile parts. However, because customers do not want to fly in such creatively maintained aircraft, and airworthiness authorities prescribe the use of original spare parts, this opportunity would not be viable because of the social and institutional context in which the entrepreneur operates.

Thus, an interactive view on opportunities points to the objective connections needed in the forms of material, monetary, and social elements, as well as at subjective elements in the form of sense-making that jointly constitute opportunities. At the same time, this interactive view attends to process, because these connections are not instantly there but are created, recreated, and changed over time.

Figure 4.1 presents an overview of the processes of perceiving, evaluating, and acting on opportunities and gives examples of the objective and subjective elements involved in these processes. A crucial element of this model is that entrepreneurs, together with their social ties, make sense of these elements and jointly enact them. This initially results in a perceived opportunity as the outcome of the process of perceiving opportunities. Then, this perceived opportunity is evaluated through a process of objectifying subjective elements (cf. Wood and McKinley 2010). In other words, the entrepreneur and stakeholders probe the imagined connections between the elements of the artifact-in-the-making while iteratively changing these connections by (analytically) going back to the opportunity-perception process. Finally, they

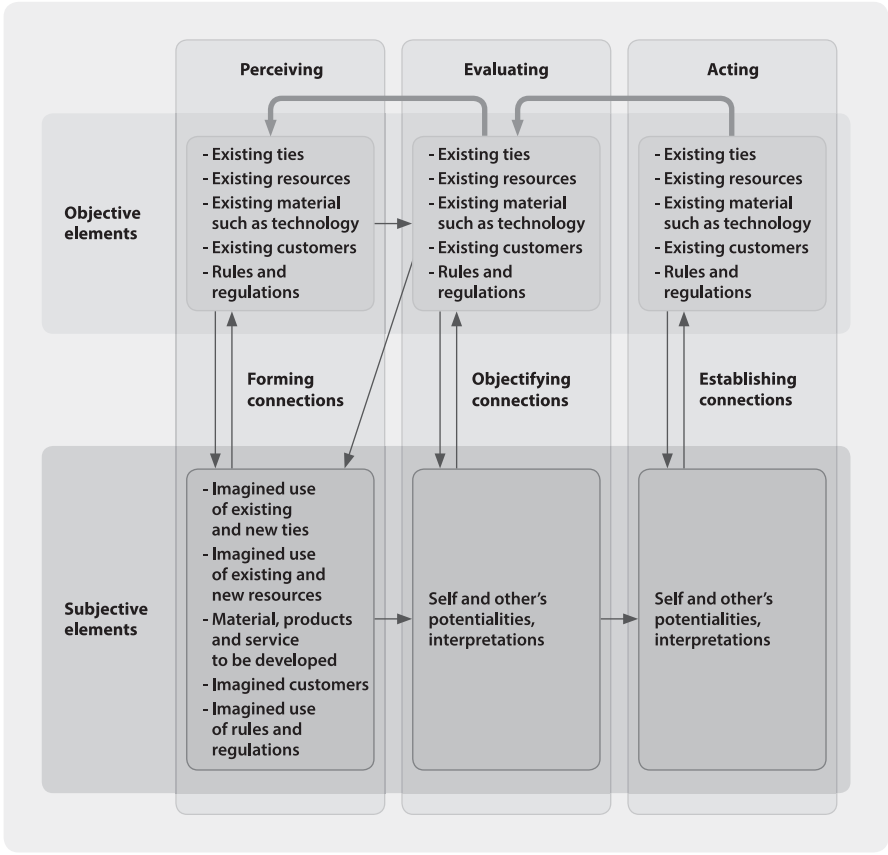

Figure 4.1. An interactive model of opportunity perception, evaluation, and action.

act upon these connections while trying to establish and re-establish them. If these connections break down, then the opportunity will vanish or will need reconstruction (Wood and Mckinley 2017)—returning the entrepreneur to opportunity perception and evaluation, or in fact resulting in failure of the venturing efforts.

The connections that thus constitute the "glue" between the different elements of opportunities are social, interactive connections. For instance, two friends get the idea to develop solar power parks, enabled by their existing ties, experience in developing property, and the government-guaranteed energy price for solar energy. They contact banks and learn that multiple banks want to invest in and actually own such projects but do not have the capabilities to develop and manage the parks. Thus, using the capital provided by the banks, these entrepreneurs hire technicians, start to buy locations from farmers, and subcontract the actual installation of the solar panels to a third

party. In sum, the connections between the material (solar cell technology and land) and the team interaction, as well as the connections with the technician, the investors, and the third-party installer, constitute the opportunity. The social interactions and connections developed and maintained by the entrepreneurial team link these different elements.

Given the importance of these social connections in perceiving, evaluating, and acting upon opportunities, we now turn to the enabling and constraining network mechanisms for each of the three processes. Table 4.1 provides an overview of the different networking mechanisms and their effects on entrepreneurial opportunity-related processes.

Perceiving opportunities

How and when entrepreneurs perceive opportunities has been a key question in entrepreneurship, resulting in insights into the sources of opportunity identification. For instance, Eckhardt and Shane (Eckhardt and Shane 2003) pointed at four sources: access to information, changes in demand and supply, value creation through productivity enhancement and rent-seeking, and regulatory changes. As most researchers have argued, for any of these opportunity sources—or rather, opportunity *elements* in our framework—the entrepreneur's perception, imagination, or judgment that there is an opportunity is crucial. Thus, the process starts with perceiving opportunities by imagining connections between different elements that, together, create an opportunity for entrepreneurial action that would likely result in profits or social and environmental gains.

Embedding: Networking to get opportunities

Many scholars have taken a more or less deterministic view on entrepreneurs and social networks. They emphasized that structural and relational network embeddedness determines what types of and how many opportunities entrepreneurs perceive (e.g., Arenius and Clercq 2005; Singh et al. 1999). Subsequently, these network characteristics also determine to what extent entrepreneurs can successfully exploit the opportunity (e.g., Bhagavatula et al. 2010). Indeed, many entrepreneurs encounter opportunities for which they had not searched. It just happens that they see an opportunity, often through information provided by their trusted network contacts (Baker, Miner, and Eesley 2003) because, at least initially, they tend to rely on such close, relationally embedded ties (Hite and Hesterly 2001).

Table 4.1 Networking Mechanisms and Effects on Opportunity Perception, Evaluation, and Action

Mechanism	Opportunity Perception	Opportunity Evaluation	Opportunity Action
Embedding	+ Perceiving opportunities through embedded ties, information, new partners. + Establishing network embeddedness to get to opportunities. – Tending to reproduce existing opportunities rather than innovate. – Reduced access to novel information.	+ Joint sense-making and co-creation of opportunities. – Confirmation bias as a cohesive network evaluates opportunities.	+ Selecting team members from close ties, which in turn provide access to their networks. + Embedding delivers redundancy, contributing to stability and certainty in acting on the opportunity. – Reduced network efficiency; reduced access to other ties and their resources.
Accessing	+ Access to novel information leading to more innovative opportunities. – Access must be processed into entrepreneurial imagination.	+ Rapid evaluation by a relatively large number of connections. – Risk of delayed and superficial information due to a lack of commitment.	+ Access to dispersed knowledge needed to act on opportunities. – Risk of leakage of knowledge and resources to competitors.
Transferring	+ Social support to engage in opportunity pursuit.	+ Social support to carry on with an opportunity.	+ Gathering resources through strong ties. + Shaping and changing the world through action. + Social support providing stamina to carry on.
Diversifying	+ Idea networking, leading to more innovative opportunities. – Time and effort needed to build common ground.	+ Gathering diverse feedback. + Pivoting using different, sometimes newly created, network ties.	+ Enabling flexibility through diversity in network connections, facilitating different courses of action.
Socializing	+ Establishing initial reputation, leading to information access. – Reputation infringes access to insights from the margin.	+ Evaluating and shaping the opportunity through telling narratives to network partners.	+ Maintaining opportunity confidence. + Influencing institutional logics through network action. – Risking tainted reputation if teaming with partners with bad reputations.

+ Indicates an enabling effect of the mechanism; – indicates a negative effect.

The closure argument in social network theory states that information and resources are more readily available through a network with structurally embedded ties—connections with strong ties among each other (Coleman 1988, 1990). Strong, embedded ties give the easy and quick feedback needed to enable finding quick solutions to problems. Through the actual transfer of tacit knowledge and resources, entrepreneurs can engage in joint problem-solving, leading to new opportunities (Elfring and Hulsink 2003; Uzzi 1996). Such embeddedness also helps bring about entrepreneurial opportunities suitable in a certain settings (Jack and Anderson 2002). It provides the so-called cognitive capital of a shared system of meaning (Nahapiet and Ghoshal 1998) that gives entrepreneurs the capacity to interpret the local situation and make sense of information (De Carolis and Saparito 2006). Such cognitive capital might also push entrepreneurs to frame their opportunity as similar to other businesses, thus harnessing initial legitimacy and reputation (Aldrich and Martinez 2001; Greve and Salaff 2003).

Other research highlighted the disadvantages of embedding. Network closure decreases the number and innovativeness of opportunities that entrepreneurs identify when they are unable to draw on a diversity of insights and connections (Arenius and De Clercq 2005; Ucbasaran, Westhead, and Wright 2008). The entrepreneurs might feel the pressure of their cohesive set of connections to do whatever is deemed appropriate by these connections (Martinez and Aldrich 2011). This is a typical picture in many developing countries: tens, if not hundreds, of the same shops in a row selling the same stuff for the same price. Imitation here is seen as a risk-avoiding way of entrepreneurship, often through self-employment in a type of business with a supposedly low failure rate (Alvarez and Barney 2014). Especially under conditions of scarcity, such perceived low risk is important for entrepreneurs as they aim to fulfill basic needs such as physiological (e.g., food, water, and safety) and financial needs (Dencker et al. 2019). The picture we get in many emerging economies shows not only that entrepreneurs imitate others, but also that it is difficult to break from social expectations. If entrepreneurs' close connections feel they should start a small shop—like everyone else has done—then it is difficult to come up with something radically different and to convince immediate stakeholders about its value and to take the risk involved. The social environment influences whether or not something is framed as an opportunity. Slade Shantz, Kistruck, and Zietsma (2018) found in a study in the impoverished regions of northern Ghana that social obligations, in the form of providing capital and supplying goods to the community, prevented entrepreneurs from exploring divergent businesses. They felt pressure to sell known products instead of offering new products and services. In addition, existing strong ties

might prevent reaching out for new knowledge and to new partners (Edelman et al. 2004; Van Burg, Berends, and Van Raaij 2014), thus blocking the effective formation of connections between the subjective and objective elements of new opportunities that might have resulted in new combinations.

One limitation of the closure argument (as well as the bridging argument discussed later) is that it assumes preexisting network embeddedness and considers only its effects (e.g., Ahuja, Soda, and Zaheer 2012; Davidsson and Honig 2003; Gulati and Gargiulo 1999; Stam, Arzlanian, and Elfring 2014). However, a key reason that entrepreneurs become embedded in a network is that they perceive an opportunity and engage others in its pursuit. In fact, some entrepreneurs engage in a conscious search for opportunities, scan all kinds of information sources, or engage in deliberate networking. Such networking can consist of adding ties, bridging previously unrelated parts of the network, or changing the content of existing ties (see Chapter 3). A main reason people go to conferences and business forums is to add ties and stay in touch with the current trends and state of the art in a certain field—and research has shown that this behavior indeed leads to perceiving more opportunities (Ozgen and Baron 2007; Stam 2010). Other entrepreneurs perceive opportunities because they encounter problems with current products and services (Van Burg et al. 2012)—and not because they gain opportunities through their network. Entrepreneurs also select themselves into opportunity-rich environments (Bingham, Eisenhardt, and Furr 2007). An important example of such self-selection processes are entrepreneurs who opt for incubator services. Although these entrepreneurs may already have an opportunity and initial business plan in mind, an incubator often also provides matchmaking services that help identify technologies that might lead to opportunity refinement or even to other opportunities (Cooper and Park 2008; Sagath et al. 2019).

As soon as entrepreneurs encounter a potential opportunity, they may more instrumentally reach out to new contacts in order to further explore, evaluate, and act on that opportunity (Baker, Miner, and Eesley 2003; Hite 2005; Hite and Hesterly 2001). As such, the type of embeddedness indeed influences and mediates the process of opportunity perception but, at the same time, the *embedding* process is part of that very process of opportunity perception. Opportunities are not pre-packaged concepts waiting to be delivered by network connections; instead, they require the entrepreneur's alertness (e.g., Gaglio and Katz 2001; Kirzner 1997; Tang, Kacmar, and Busenitz 2012) and combinatory skills (Baker and Nelson 2005; Dimov 2016; Schumpeter 1934). In the more interactive view on opportunities we take in this chapter, opportunities are constituted by subjective and objective elements, and the entrepreneur's actions are needed to bring this opportunity to life in interaction with the social context.

Accessing: Getting to novel information

Entrepreneurs with larger networks, in particular those with mostly weak ties, are likely to identify more entrepreneurial opportunities. This directly follows from the basic premises of social network theory (i.e., Granovetter 1973) and was confirmed in multiple studies (e.g., Arenius and De Clercq 2005; Elfring and Hulsink 2003; Ozgen and Baron 2007; Ramos-Rodríguez et al. 2010; Singh et al. 1999). Not only do entrepreneurs identify more opportunities if they have a larger set of relationships to draw upon, but they also see a larger variety of opportunities (Gruber, MacMillan, and Thompson 2012). However, although a larger network with weak ties indeed provides access to a rich variety of information, there is no automatic link between a diversity of network connections and perceiving a variety of opportunities because entrepreneurs must process the information they get and form images about the potential opportunities (Eckhardt and Shane 2003).

Transferring: Receiving social support

During the initial phase of opportunity perception, resources such as financial capital are not of immediate importance; instead, strong ties are important in this phase to provide affective support to continue (Martinez and Aldrich 2011). Without their network of embedded ties, many entrepreneurs might not learn of some opportunities or may not have the courage to take them further (Hite 2005). For instance, entrepreneurial parents provide an important role in supporting their children in entrepreneurial careers. Social capital thus transforms into human capital through role modeling (Coleman 1988). Similarly, entrepreneurial friends and neighbors provide support and role models (Davidsson and Honig 2003), and business mentors are important for both social support and help in perceiving more opportunities (Ozgen and Baron 2007). They not only provide ideas for new opportunities, but also stimulate actual engagement with those opportunities.

Diversifying: Idea networking

Through a diversity of network connections, entrepreneurs are able to collect different insights and recombine them into new and innovative opportunities (Nahapiet and Ghoshal 1998). In their sample of high-profile innovative entrepreneurs—think Jeff Bezos, Michael Dell, and Scott Cook—Dyer et al.

(2008) found that these entrepreneurs actively engaged in "idea networking," seeking new connections that provide divergent ideas. Diversity is important when it comes not only to the content of ties, but also to their location. More diverse spatial networks help entrepreneurs see and pursue more entrepreneurial opportunities (Martynovich 2017). Theoretically, entrepreneurs who reach beyond their immediate networks, bridging "structural holes," could see more diverse and innovative opportunities (Burt 1992a, 2004). For instance, in a study of the Indian handloom industry, Bhagatavula and colleagues (2010) showed that entrepreneurs who have multiple structural holes in their networks identify more opportunities. The master weavers who make the saris need to keep up with changing customer demands in terms of patterns. Apparently, if they can tap into relatively unconnected networks, they develop more creative ideas to turn into entrepreneurial opportunities. Indeed, Stam et al.'s (2014) meta-analysis showed a significant effect of structural holes on venture performance and indicated that network diversity has a significantly larger effect than other network measures. Thus, we might infer that structural holes and network diversity in general are especially important, not least in the early stage of opportunity perception.

However, diversity as such does not automatically spill over into novel opportunities. Diverse information requires absorptive capacity and combinatory skills from the side of the entrepreneur(s). Entrepreneurs need to build "common ground" with different ties and diverse types of information. Such common ground is developed iteratively and hence involves a process that takes time and effort—which entrepreneurs then cannot devote to other entrepreneurial tasks—and thus might come at the cost of venturing progress (Watson 2007). Next to that, building common ground requires the effort and commitment of those ties in order to actually engage in the translating, sharing, and recombining different types of knowledge processes (cf. Carlile 2004) and to transform them into elements of an opportunity.

Socializing: Establishing initial reputation

When perceiving opportunities, an entrepreneur's reputational position comes with the advantage that the entrepreneur can easily create connections to others based on an already established reputation. Moreover, new ideas from this entrepreneur may have more credibility up front. At the same time, reputation might bring the risk that perceiving more innovative opportunities becomes more difficult because more marginal actors and insights from the fringe may not be deemed relevant for a well-established business. Conversely,

such entrepreneurs might also prefer to engage with reputed others, thus missing novel insights provided by controversial and unfamiliar sources (cf. Zahra, Yavuz, and Ucbasaran 2006).

Evaluating opportunities

Entrepreneurs evaluate opportunities in interaction with their environment, especially in the uncertain early phase. During this evaluation, they test the different elements of opportunities to see if the objective (existing) and subjective (imagined) elements that constitute the opportunity make sense (Haynie, Shepherd, and McMullen 2009), and test the connections between those elements. In this way, the entrepreneur's and others' potentialities and interpretations are "objectified" and more tightly connected to existing opportunity elements. Thus, entrepreneurs form a judgment about whether the entrepreneurial opportunity indeed is personally desirable and feasible to be pursued (Haynie, Shepherd, and McMullen 2009; Shepherd, McMullen, and Jennings 2007; Wood and McKelvie 2015).

Often, this evaluation is informal and sometimes even unconscious (Ardichvili, Cardozo, and Ray 2003). Multiple studies have taken a cognitive perspective (for an overview, see Wood and McKelvie 2015), attending to mental models of circumstances and their attractiveness, integration of different types of knowledge, and how entrepreneurs form these evaluations by assessing the congruence between their cognitive representations of the environment and aligning them to their knowledge structures and imagined opportunities (e.g., Grégoire, Barr, and Shepherd 2010; Shepherd, McMullen, and Jennings 2007). Here, however, we argue that a more socialized, interactive understanding, in which others not only provide information, but also actually actively engage in testing and shaping opportunities, is needed.

For instance, consider Timmy, an ex-politician and former aviation-mechanic student, who had earned quite some money, as well as social connections, through his political career. He has been involved in supporting an aviation-training program as a board member of that program. Based on the stories and experience of his pilot friend, Timmy considers buying a small aircraft to serve a rural part of Indonesia, with the idea that the program could train locals as pilots and use the revenue to benefit the rural society. However, the feasibility of this idea depends on whether Timmy gathers the funds, the right people (i.e., pilots, mechanics), and permission to operate. Through his pilot friend, he is able to access a second-hand plane from Australia; through former political connections, he obtains commitment from a couple of

experienced mechanics; and someone else helps him to negotiate a bank loan. With these results, he considers that he can continue to pursue the opportunity. Thus, these connections do not just deliver information; more importantly, they also commit themselves and thus make the opportunity feasible for Timmy. At the same time, this example shows that opportunity evaluation and opportunity action, while theoretically different, in practice typically go hand in hand. Now, we turn again to the network mechanisms that operate in the opportunity-evaluation process.

Embedding: Joint sense-making and co-creation

The contacts with whom entrepreneurs engage, such as friends, potential investors, and customers, are also involved in joint sense-making and co-creating opportunities (Engel, Kaandorp, and Elfring 2017; Sarasvathy and Dew 2005). The opportunity the entrepreneurs start tossing around is not the same one they end up with in this process of engaging with their ties. As such, evaluation and action cannot be separated. In many cases, entrepreneurs do not shift from Plan A to Plan B radically, but gradually—and sometimes unconsciously—change and reframe the attributes of their opportunities in a process of internalizing others' perspectives (Cornelissen and Clarke 2010; McMullen 2010; Sarason, Dean, and Dillard 2006). These iterations are essential to "objectify" the opportunity through consensus among the entrepreneurs' network connections (Tocher, Oswald, and Hall 2015). Feedback and critique from important connections can lead to adjustments and new iterations because entrepreneurs want to keep the others on board. The connections they use for these co-creation processes are typically strong "pre-committed" peers whom they trust (Baker, Miner, and Eesley 2003; Sarasvathy 2001) and find knowledgeable to evaluate their ideas. Alternatively, and especially under conditions of uncertainty, entrepreneurs must first build trust with their contacts before they enroll these contacts in the opportunity upon which they want to act (Burns et al. 2016). As soon as they find—or build—consensus among these peers, entrepreneurs are likely to take further action. However, if they cannot create consensus, they are likely to abandon the opportunity (Wood and McKinley 2010) and pivot to something radically different, or end up as a "failed" venturing effort.

The risk of using only strong, close ties to evaluate ideas is that this might give a *confirmation bias* due to that network's cohesion (Tocher, Oswald, and Hall 2015). The information and feedback provided by these ties thus might lead in the wrong direction, and people who are not direct peers might

evaluate the opportunity being pursued differently (De Carolis and Saparito 2006). Moreover, the entrepreneurs might value such feedback from trusted ties based on who gave the feedback rather than on its content, which could hinder proper evaluation of opportunities and lead to suboptimality (Zahra, Yavuz, and Ucbasaran 2006).

Accessing: Search for feedback from a community of inquiry

Evaluating opportunities is not an individual task; opportunities are fundamentally co-constituted with the social and material environments (Dimov 2016). Without customers who want to pay for the product or service, there is no opportunity, and without production facilities to produce a certain technology, the opportunity vanishes (e.g., Roscoe, Discua Cruz, and Howorth 2013). Thus, the opportunity as an idea needs to be put into a test environment. Entrepreneurs sometimes engage in a "frantic search" for potential stakeholders and customers to be able to assess the feasibility and value of the opportunity (Elfring and Hulsink 2007, 1857). The search process is nowadays facilitated by social media, which enables scanning many potential ties. This can be a driver for network dynamics by adding new ties and changing the content of existing ties (Chapter 3). For most entrepreneurs, this process involves rapid tests, which sometimes change the content of existing ties—a concept further popularized in the lean start-up movement (Ries 2011). Thus, entrepreneurs engage a *community of inquiry* (Pardales and Girod 2006) to seek out if their ideas make sense, if they actually want to pursue this opportunity further, or whether they would rather divert from their current path. However, if this community of inquiry consists mainly of weak ties, their responses might be delayed or superficial because they are not fully committed.

Transferring: Social support to carry on with an opportunity

Emotional and instrumental support are most important in the early stages of firm emergence (Davidsson and Honig 2003; Klyver, Honig, and Steffens 2018). This important aspect influences the evaluation of the desirability of acting on opportunities (Treffers et al. 2018). Support has been found to be more important for younger than for older entrepreneurs. This suggests that,

especially during the relatively uncertain opportunity identification and evaluation phase, providing emotional support is important to encourage the entrepreneur's identity formation as an new entrepreneur, while providing resources confirms that the entrepreneur is on the right track (Davidsson and Honig 2003; Klyver et al. 2018). Thus, it is very relevant who is in someone's direct network. For instance, Nanda and Sørensen (2010) showed that colleagues in a work setting have an important influence on whether someone actually transits toward entrepreneurship and proceeds with the opportunity they perceived.

Diversifying: Gathering diverse feedback

To be able to constructively evaluate opportunities, prepare for different insights, and collect both positive and negative feedback from different viewpoints, entrepreneurs need a community of inquiry with substantial diversity (Tocher, Oswald, and Hall 2015). Diverse functional connections, such as financers, manufacturers, competitors, and potential customers, provide fresh perspectives and give an impression of the strong and weak elements of the opportunity. Moreover, these connections are essential to indeed "objectify" and turn some of the imagined elements into actionable elements.

The result of evaluating an opportunity within the community of inquiry can be disappointing: The opportunity may not be viable, feasible, or actually an opportunity "for me." As a result, entrepreneurs may engage in more or less radical "pivots," changing key elements of the opportunity or shifting to a different one (Crilly 2018; Grimes 2018). Such pivots often need different social connections because the previous partners committed to support that particular opportunity, and their commitment might not reach to the changed or different opportunity. Thus, pivoting often implies engaging in broadening and diversifying the network in search of new and different committed partners.

Socializing: Probing reputation

A diversity of network connections helps not only to evaluate the opportunity, but also to probe the reputation of the opportunity and the entrepreneur pursuing it (for more extensive discussion, refer to Chapter 6). In the process of reputation probing and credibility building, narratives and storytelling are important for two reasons (Garud, Gehman, and Giuliani 2014;

Lounsbury and Glynn 2001; Martens, Jennings, and Jennings 2007). First, there is not yet an end product or service, so there is nothing yet to be sold or marketed. Basically, there is only a story—an idea—that might be somewhat materialized or objectified already, but not to its full extent. Second, narratives are flexible and enable entrepreneurs to shape the opportunity strategically along the process or by telling about it. Through this process of telling and retelling, entrepreneurs gain confidence in the story that best connects the opportunity's different elements, as well as the story that best justifies that opportunity (Garud, Gehman, and Giuliani 2014; Garud and Giuliani 2013).

Acting on opportunities

Evaluating and acting on opportunities go hand in hand. As network contacts co-create and jointly evaluate opportunities, positive reactions will likely directly turn into actions, and negative reactions into adjustments or pivoting (Grimes 2018; Treffers et al. 2018). Through actions, the connections between the different elements of the opportunity are realized and, as they are turned into actions, the subjectivity of the mental images starts to disappear. Or, if these connections between elements of the opportunity are not enacted, the opportunity in fact vanishes and it is time to pivot to another idea, or come to an early stop of the venturing efforts (as many people do). In these actions, network connections are essential. Therefore, we turn to an overview of the main contributions of the network mechanisms toward acting on opportunities.

Embedding: Bringing close ties into the firm

Entrepreneurs need others for social support and feedback, as well as for more tangible resources such as finance, material, and customers. Being embedded in a local setting through strong ties gives entrepreneurs the ability to draw on support and resources from that setting, which facilitates exploiting opportunities effectively (Jack and Anderson 2002; Schnell and Sofer 2002). Entrepreneurs tend to strengthen their embeddedness when acting on their opportunities in two ways.

First, entrepreneurs tend to gather team members from their strong ties, focusing on people who are similar, and thus reinforcing their existing embeddedness (Ruef, Aldrich, and Carter 2003). One reason for this focus might be that team diversity brings the risk of conflict; and so, by selecting similar people, they might reduce that risk (Steffens, Terjesen, and Davidsson 2012).

Second, entrepreneurs typically select their first employees through their network, often by bringing close ties (e.g., Baker, Miner, and Eesley 2003), in particular family members, into their ventures (Martinez and Aldrich 2011). These family members are committed and reliable and may be more willing to make sacrifices of time and money.

The resources that existing and strengthened ties provide also shape the course of action because many entrepreneurs tend to start with the means they have at hand (Baker, Miner, and Eesley 2003; Sarasvathy 2001). Moreover, embeddedness provides redundancy, connecting the entrepreneur to others in multiple ways. This provides stability and ensures longer-term collaboration because the entrepreneur is, for instance, not just dependent on a single linkage to a resource provider (Steier and Greenwood 2000).

Nevertheless, embeddedness can also hinder the pursuit of entrepreneurial opportunities, as Light and Dana's (2013) research showed. In their study of the Alutiiq people in Old Harbor, Alaska, they found that although the Alutiiq are well embedded in their networks and have abundant social capital, they do not exploit their embeddedness for entrepreneurship, but only for other community-related activities. In other words, as long as these people do not decide to use their local embeddedness for entrepreneurial rather than social purposes, the positive effect of social capital on entrepreneurship does not materialize. Such local support is not always sufficient to run an enterprise, and over-embeddedness makes it difficult to draw on sources outside the immediate network (Schnell and Sofer 2002; Uzzi 1997). Entrepreneurs acting on opportunities in rural situations are often better off if they can bridge those local networks with more distant networks. Drawing on resources and ideas provided by these connections (Kloosterman 2010), they sometimes intentionally create ties to compensate for the lack of resources in the locally embedded setting (Korsgaard, Ferguson, and Gaddefors 2015).

Similarly, selecting close connections as team members or first employees bears the risk that the network diversity the entrepreneur could tap into would be fairly limited, although these networks can play a significant role in venture endeavors. For instance, Bizri (2017) portrayed an interesting venture in which not only the refugee-founder, but also the employees, form a strong pack and operate together, using similar ways of bootstrapping and bricolage in their resource-scarce environment in Lebanon. When a generator broke down in the restaurant, the waiter took the initiative to borrow another from his brother-in-law. Other employees asked their mothers or wives to help out in the kitchen when an employee was sick. In these ways, through a strong identity and embeddedness in the intrafirm network, the employees' strong ties could be leveraged for the venture.

Accessing: Accessing dispersed knowledge

Acting on opportunities fundamentally requires collaboration because one actor typically does not hold the knowledge required to act on a perceived opportunity; such knowledge is dispersed over multiple people. Thus, although entrepreneurship often is assumed to be the process of an individual heroic entrepreneur, a closer look reveals that opportunity action involves collective action (Corner and Ho 2010).

Interestingly, Pahnke and colleagues (2015) added a novel negative aspect to the otherwise positive mechanism of accessing. They argued that access goes both ways: if an entrepreneur obtains access, someone else gets access to that entrepreneur and the entrepreneurial firm. Especially if the entrepreneur is the weaker party—often the case, for instance, with venture capitalists and other partners—essential information might be shared through the entrepreneur's contacts with others, including competitors. Pahnke et al. showed that such competitive information leakage in particular happened through relatively weak ties, namely through less committed and more distant venture capitalists in their study.

Transferring: Gathering resources, shaping the context

To carry on with an opportunity, the entrepreneur requires stakeholders who provide resources, become their workforce, and turn into customers. The more support from stakeholders, the more likely entrepreneurs are to actually start exploiting an opportunity (Choi and Shepherd 2004). The initial group of ties that entrepreneurs typically draw upon is the core, embedded network of friends and family members, who often become members of the founding team (Greve and Salaff 2003; Ruef, Aldrich, and Carter 2003). In addition, a wider network with strong ties fulfills an important role, as discussed in more depth in Chapter 5.

Nevertheless, entrepreneurs are not determined by preexisting ties. While acting on their opportunities, they shape and transform their context, not the least through the new strong ties they form (Hallen and Eisenhardt 2012) as a result of network dynamics (see also Chapter 3). For instance, entrepreneurs start with their initial set of committed peers and gradually expand that set when they need more and other resources than those initial connections can supply (Sarasvathy and Dew 2005). One important approach to adding tie types is strategically using referrals from existing connections (Vissa 2012). This is an effective strategy to convert newly formed ties into resource

providers because it increases the resource providers' confidence to actually provide those resources (Hsu 2004; Shane and Stuart 2002).

Through such networking actions, entrepreneurs shape and transform the world. Often, entrepreneurial transformations are considered attributes of products and product categories that are added, deleted, inverted, and so forth (Dew et al. 2011). However, entrepreneurs change the world not only through new ideas, products, and services, but also through changing social connections. By turning friends into customers, entrepreneurs change part of their direct (albeit small) social world. Such small changes can return big effects. The initial group of friends and enthusiasts can become an entirely new market (Sarasvathy and Dew 2005), itself transformed by the opportunity to which they are related. For instance, when Marc Zuckerberg and his friends turned their fellow college students into objects for the Facebook-marketing machine, they ended up importantly changing the world.

Acting on an opportunity requires more than just collecting and processing tangible resources. Entrepreneurs need stamina, reinforced by social support, to continue. The role of reinforcement and other types of peer "soft" support is a topic that has received relatively little attention when it comes to acting on opportunities (Kuhn and Galloway 2015). Instead, most studies have paid attention to the more tangible resources provided through network connections. However, soft support in the form of advice, ideas, and critique, as well as emotional support, is important to carry on with a particular venture or to improve that endeavor (Klyver, Honig, and Steffens 2018). This type of support is even more imperative for innovative opportunities (Samuelsson and Davidsson 2009).

It is important to stress that in our interactive entrepreneurship-as-networking perspective, ties are not unidirectional from the network toward the entrepreneurs, but also the other way around (Wood and McKinley 2010). Entrepreneurs share information about their opportunities, plans, and needs with others. Next, they are encouraged by the feedback and support they receive to carry on—or they are discouraged, if they do not receive favorable support (Treffers et al. 2018). Even though entrepreneurs run the risk of leakage to competitors, sharing knowledge through peer networks, sometimes in a formalized network, can be helpful, and the entrepreneurs may jointly benefit (Kuhn and Galloway 2015).

Diversifying: Harnessing flexibility

When acting on opportunities, entrepreneurs encounter challenges, breakdowns, and disappointments, some of which were unpredicted and unknown

due to the radical uncertainty of the endeavors in which they engage. These situations require innovative solutions, which existing ties can sometimes provide. However, the situations often need input from new connections (Engel, Kaandorp, and Elfring 2017) to provide new combinations with partly existing solutions. Thus, diversifying does not end in the perception and evaluation phase but rather is an urgent element that must continue.

Entrepreneurs who engage in diversifying their networks are therefore more flexible and more successful when acting on their opportunities. For instance, entrepreneurs with more diverse spatial networks, covering multiple areas and regions, not only see more entrepreneurial opportunities, but also less often exit their firms (Martynovich 2017). These entrepreneurs have access to more diverse sources of information, including parallel developments and different "thought worlds," giving them multiple paths to approach their opportunities (Autio, Dahlander, and Frederiksen 2013).

Socializing: Maintaining opportunity confidence and influencing institutional logics

When acting on opportunities, entrepreneurs need to maintain some level of consensus among key stakeholders that their opportunity is still valuable and viable (Wood and Mckinley 2017). Otherwise, key stakeholders, like investors, might pull back and not grant another round of financing. In addition, clients and prospective customers might feel that they do not want to buy the product because its continuity is not guaranteed. Alternatively, the entrepreneurs themselves might lose confidence in the opportunity they are pursuing due to the reduced support and consensus from their social networks (cf. Van Burg, Berends, and Van Raaij 2014). Thus, socializing and obtaining feedback through the process of socializing are important not only to gather resources (see also Chapter 5), but also to maintain stakeholder commitment and prevent dissolution of the opportunity. At the same time, teaming up with actors with bad reputations—or whose reputations over the time change for the worse—runs the risk of the new venture becoming infected by those bad reputations (Brass, Butterfield, and Skaggs 1998), which may in the end lead to failure.

One way in which social networks importantly influence the mechanism of socializing and reputation building is through the change of institutional logics (Thornton, Ocasio, and Lounsbury 2012). Because institutional logics present commonly assumed norms and practices in a certain context, larger players typically have a more significant influence on and control over these logics (e.g., Greenwood and Suddaby 2006). Most entrepreneurs thus would

have no say in changing the institutional logics. However, they can team with others and form a network movement that is able to exert social pressure, resulting in regulatory change and shaping entrepreneurial opportunities (Van de Ven 2005). For instance, Sine and Lee (2009) showed how in the US wind-energy sector, networks of environmental actors engaged in advocacy to create awareness and shape regulations in favor of wind-power businesses.

Research opportunities

To further flesh out a truly interactive perspective on entrepreneurial opportunities, more research is needed. Here, we spell out some research opportunities.

Research questions

First, most studies have focused on how networks influence opportunity perception. Therefore, a focus on evaluation and action is warranted in future studies, especially to understand the role of interaction with the social environment in these processes (e.g., Wood and McKinley 2010, 2017). Taking our view that opportunities consist of connections between the subjective and the objective elements, interesting questions relate to how network ties are convinced about certain subjective elements (thus objectifying or making these intersubjective) and how entrepreneurs can influence these processes through narratives, metaphors, actions, or even by invoking well-reputed other network actors.

Second, in interaction with a community of inquiry, pivoting will shape, change, or even replace opportunities. This raises interesting questions around how these processes actually evolve and what roles the different types of ties play in these processes.

Third, although there has been quite a bit of research on network size, strength of ties, and structural holes, the effect of network diversity on opportunity perception, evaluation, and action has been relatively unexplored (except for exploring the *notion* of structural holes). In particular, the question of how entrepreneurs, through co-creation processes with a couple of partners, combine and recombine information and resources from multiple different connections is interesting. Especially given that we know most innovations are formed through the process of recombination, research can shed light on the capacities and processes that influence how recombinations are constructed.

Fourth, because opportunities have potential to change the social environment and the wider world, it would be an interesting area of research to explore how such world-making or transformational processes take place. Such research should focus not only on how general norms (in the form of institutional logics) are changed in the community, but also on how they can change the composition of the community and the actions and roles of the people in it (e.g., Shepherd and Patzelt 2017).

Methodological considerations

The interactive, socialized view on opportunities also brings several methodological considerations as pointers for methodological innovation and improvement for future studies. First, one major drawback in many studies is that they tend to count all opportunities as equal. However, opportunities are radically different in type and size, and thus need to be qualified. It would be better, for instance, to at least categorize opportunities into distinct types and indicate projected market size in the first year of the venture. Second, multiple studies assume networks (instead of investigating them), for instance by taking locations as a proxy for a network (e.g., Arenius and De Clercq 2005). Such measurement is very coarse and needs refinement, given the current more refined status of theory development on both social capital and entrepreneurial opportunities. Third, the interactive entrepreneurship-as-networking perspective also has important implications for methods required to cover such interactive opportunity-related processes. Here especially, methods that can capture cognitive processes as well as the dynamics of network connections are required; probably diary-based methods would be helpful (e.g., Bolger, Davis, and Rafaeli 2003; Ohly et al. 2010).

Conclusion

This chapter has presented an entrepreneurship-as-networking perspective on opportunity perception, evaluation, and action. Opportunities are seen as constructed out of subjective and objective elements that become objectified and realized through entrepreneurial action and social interaction. As such, opportunities are constituted relationally; thus, social networks are a fundamental aspect of all opportunity-related processes. By discussing the different network mechanisms for perceiving, evaluating, and acting on opportunities, we pointed at both the positive and negative aspects of these mechanisms.

Importantly, the social network mechanisms have different effects for these opportunity-related processes. This points to the need for entrepreneurs to adjust their social networking efforts to different stages and conditions, with the aim to shape the best network for their endeavors, while at the same time avoiding the potentially negative effects of their networks.

5
Accessing and acquiring resources

Introduction

Securing resources is often considered a key entrepreneurial process (Starr and MacMillan 1990). Entrepreneurs rarely possess all resources they need to start their venture (Aldrich and Ruef 2006; Cooper, Woo, and Dunkelberg 1989). Therefore, among the crucial tasks in new venture creation are accessing, mobilizing, and deploying resources through social interaction (Garnsey 1998). This is a major challenge to nascent entrepreneurs and it remains a difficult task in the early stages of ventures' development. Limited financial means and lack of experience and credibility often make it harder for these entrepreneurs to generate sufficient internal and external resources. Such resources could include, but are not limited to, financial investments and bank loans, information, knowledge and knowhow, legitimacy, and help and support. Among the key survival strategies are *asset parsimony* (Hambrick and MacMillan 1984) and *bootstrapping* (Ebben and Johnson 2006; Grichnik et al. 2014). Entrepreneurs need to secure the resources at minimum cost, ideally below market price. Social transactions through network ties also play a critical role, allowing venture resources to be acquired below market price when entrepreneurs use their network advantages (Starr and MacMillan 1990).

Accordingly, entrepreneurs in emerging organizations often turn to their network ties to mobilize external resources that complement or supplement internal resources, including their human capital (Brüderl and Preisendörfer 1998). They combine external resources with internal resources to create new combinations to seize entrepreneurial opportunities. The literature often has identified entrepreneurship as the management and commercialization of new resource combinations (Lichtenstein and Brush 2001). The management of resources, defined as the process of bundling internal and external resources to pursue opportunities, is thereby a key element in the entrepreneurial process (Kotha and George 2012; Sirmon, Hitt, and Ireland 2007).

In the literature, the issue of access to and acquisition of external resources has been examined extensively with both structural (e.g., Stam, Arzlanian, and Elfring 2014) and more agentic explanations (e.g., Rawhouser,

Entrepreneurship as Networking. Tom Elfring, Kim Klyver, and Elco van Burg, Oxford University Press (2021). © Oxford University Press. DOI: 10.1093/oso/9780190076887.003.0005

Villanueva, and Newbert 2017). The majority of scholars have focused on the acquisition of external resources and how they provide value to the ambitions and growth of the entrepreneurial venture (Clarysse, Tartari, and Salter 2011). External resources typically range from funding to knowledge and family support; these resources are inaccessible in markets (e.g., family support) or are obtained below market price (Brush, Greene, and Hart 2001; Davidsson and Honig 2003; Semrau and Hopp 2016). Besides types of external resources, other studies have examined tactics and strategies to access and acquire them (Cornelissen and Clarke 2010; Lounsbury and Glynn 2001; Zott and Huy 2007), and some have emphasized the importance of using the entrepreneurs' relationships in that mobilization process (Hallen and Eisenhardt 2012; Rawhouser, Villanueva, and Newbert 2017; Semrau and Werner 2014; Villanueva, Van de Ven, and Sapienza 2012).

Despite the explanatory power of mobilizing external resources through network ties to predict entrepreneurial success, conflicting findings concerning the beneficial effects of networks (Stam, Arzlanian, and Elfring 2014) indicate the need for further theorization. In line with this, some studies have characterized the field as "murky"' (Rawhouser, Villanueva, and Newbert 2017), signaling ambiguous network perspectives and failure to acknowledge the agency of entrepreneurs to shape their network (Vissa and Bhagavatula 2012) and the uncertain conditions under which this takes place (Engel, Kaandorp, and Elfring 2017). Regarding dependence on external resources, the literature has neglected both the search for these valuable resources (Foss and Ishikawa 2007) and the dynamics of changing resource bundles (Clarysse, Tartari, and Salter 2011) by adding, deleting, or changing ties (Ahuja, Soda, and Zaheer 2012).

Underlying these issues is the problem of uncertainty. Uncertainty exists first about the potential value of (re)configuring internal and external resources (Grossman, Yli-Renko, and Janakiraman 2012) and, second, about the ability to benefit from future and existing network relations. In particular, the question remains of what networking actions may be pursued when the required ties are unknown in advance (Engel, Kaandorp, and Elfring 2017). This uncertainty has far-reaching implications for our theorizing about the role of network relations in the ways entrepreneurs identify new resource combinations and as part of the processes of accessing, acquiring, and combining resources into productive bundles (e.g., Engel, Kaandorp, and Elfring 2017; Sarasvathy 2008).

Further, our understanding from numerous studies that have examined various elements of resource access, mobilization, and deployment suffers

from fragmentation: Most studies have explained only one small step in the larger, complicated, and holistic process. Thus, the literature has provided an incomplete picture of what types of networks are productive overall, because different network characteristics are productive for certain elements in the resource-combination process (e.g., creating resource availability or mobilizing resources) but potentially less productive, or even destructive, for other elements (Ozdemir et al. 2016).

In this chapter, therefore, we aim to provide a more integrative picture of the various elements and steps in the resource-combination process with a special focus on social-interactive networking and the related network mechanisms and effects for each step. We aim to improve our understanding of how social-interactive network agency brings external resources into the uncertain, iterative, and subjective judgment process of developing new combinations to capture value from acting on opportunities (Teece 2012). We build on, combine, and extend the social-interactive network and resource-based perspectives to develop a "network-based resource model" to explain entrepreneurship in terms of building and exploiting networking relationships to develop new combinations.

A network-based resource model

To develop our network-based resource model, we draw on and combine recent developments in two perspectives—the networking agency perspective and the dynamic resource-based perspective—to address the question of how entrepreneurs identify, select, and develop new resource combinations under conditions of uncertainty and how these simultaneously feed back to the stability or dynamics of network ties.

Social-interactive network agency and network dynamics

Recent networking research departs from the deterministic accounts of network effects (e.g., Dahl and Sorenson 2012; Kwon and Arenius 2010; Sørensen 2007). The emerging networking agency approach, with its social-interactive focus, instead emphasizes how entrepreneurs strategically shape their network (e.g., Hallen and Eisenhardt 2012; Rindova et al. 2012; Vissa 2011; Vissa and Bhagavatula 2012) with different expectations for different ties on how they may contribute with resources (Klyver, Schenkel, and Nielsen 2020). This new

social-interactive approach (described in detail in Chapter 3) deals with the entrepreneurs' ability to initiate, adjust, and use network ties to check (partly simultaneously) the value of different resource combinations and select and retain the most promising ones for further development. The search for and use of relevant ties to mobilize resources takes effort and skill (Fang et al. 2015). Entrepreneurs' networking agency may differentiate which resources are available to them and which they can put into action (Klyver and Schenkel 2013). Under conditions of uncertainty, particular network tactics and strategies appear to pay off (Burns et al. 2016; Grichnik et al. 2014; Rindova et al. 2012) and result in networking dynamics beneficial for outcomes (Newbert, Tornikoski, and Quigley 2013). In particular, networking agency may help us theorize about the way network dynamics contribute to the reiterative process of combining and recombining resources to realize novel solutions to capture value from acting on opportunities.

Dynamic resource-based view

From resource-based view to dynamic resource-based view

Traditional research in the resource-based view has emphasized how combinations of existing and internal resources controlled by the firm generate value (e.g., Barney 1991; Rumelt 1987; Wernerfelt 1984; see Kraaijenbrink, Spender, and Groen 2010 for a review). This view relies on assumptions of heterogenous resources and imperfect resource mobility (Barney 1991; Wernerfelt 1984). The key proposition is that firms gain competitive advances through internal sources in the form of valuable, rare, inimitable, and non-substitutable resources—often termed VRIN—combined with an organization that is capable of absorbing and applying those resources (Barney 1991, 2001; Kraaijenbrink, Spender, and Groen 2010). Although with certain differences in their primary focus, several related theories—including dynamic capabilities (Teece, Pisano, and Shuen 1997; Eisenhardt and Martin 2000), the knowledge-based view (Alavi and Leidner 2001; Grant 1996), and work on core competences (Prahalad and Hamel 1990)—share this key proposition. Despite its significant influence to the management and strategy fields, the resource-based view has also received substantial critique (see review by Priem and Butler 2001). Kraaijenbrink et al. (2010) summarized the critiques into eight key points: the resource-based view has no managerial implications; it implies infinite regress; its applicability is limited; sustainable competitive advantages are not achievable; the view is not a theory; VRIN is neither necessary nor sufficient to achieve competitive advantages; the value of resources

is indeterminate; and the definition is unworkable. They perceived some of the critiques as more serious than others and suggested a move "into a humanly constructed world in which value creation starts from our imaginings and leads to constructive and explorative action," with the consequence that "the practical assessment and evaluation of resources involve subjectivism, knowledge creation, and entrepreneurial judgment (Kraaijenbrink, Spender, and Groen 2010, 364). This takes us toward the dynamic resource-based view.

Dynamic resource-based view

Extending the resource-based view to include entrepreneurs facing conditions of uncertainty and lack of resources, the value-assessment processes need to be reconsidered to include potential external resources as well (Foss et al. 2008). Instead of relying on markets that give resources a certain price, value assessment depends on the entrepreneurs' subjective judgment (Kraaijenbrink, Spender, and Groen 2010; Foss and Ishikawa 2007). "This moves us beyond the closed universe of discourse that characterizes much of neoclassical economics and, given its neoclassical roots, much of the RBV [research-based view] discourse and into a humanly constructed world in which value creation starts from our imaginings and leads to constructive and explorative action" (Kraaijenbrink, Spender, and Groen 2010, 364). It is a reiterative process of combining and recombining resources in which the entrepreneurs and their network partners do not know in advance which resources are available or whether they need to be modified or (re)combined to realize novel solutions to seize opportunities (Burns et al. 2016; Chiles et al. 2010). Part of this dynamic process is imagining or perceiving different solutions and resource combinations (Foss et al. 2008; Kraaijenbrink, Spender, and Groen 2010; McMullen 2015). Thus, our focus is on processes of imagined or perceived new combinations, rather than on value assessment for one new combination.

Combining network agency and dynamic resource-based views

Uncertainty drives the generation of various potential new combinations in which entrepreneurs proactively pursue building and exploiting relationships through which they anticipate deriving external resources (Chiles et al. 2010; Foss and Ishikawa 2007). Under conditions of uncertainty, networking becomes more important (Engel, Kaandorp, and Elfring 2017; Garnsey and Leong 2008; Sarasvathy 2008). This reiterative process of combining and recombining is closely related to the use and involvement of network ties.

"Under conditions of uncertainty, the enrolment process (involving network ties) cannot be based on the attributes of opportunities, but instead must be based on the attributes of the entrepreneur" (Burns et al. 2016, 98). Thus, the characteristics and social-interactive networking agency of entrepreneurs are essential in our understanding of entrepreneurial endeavor and its outcomes. Networking agency is not only about generating variations. In fact, the more crucial aspect under conditions of uncertainty may be the selection and retention of ties and related external resources that provide the most promising new combinations to pursue a particular opportunity (Garnsey and Leong 2008). We build on the observation that, in high-velocity markets, the more crucial aspect of evolution is selection, not variation. Variation happens readily in such markets. In contrast, selection is difficult because it is challenging to figure out which experience should be generalized from the extensive situation-specific knowledge that occurs and which of the many experiences should be incorporated into the ongoing routines (Eisenhardt and Martin 2000, 1115–16).

Figure 5.1 graphically illustrates our integration of social-interactive network agency and the dynamic resource-based perspectives. It demonstrates

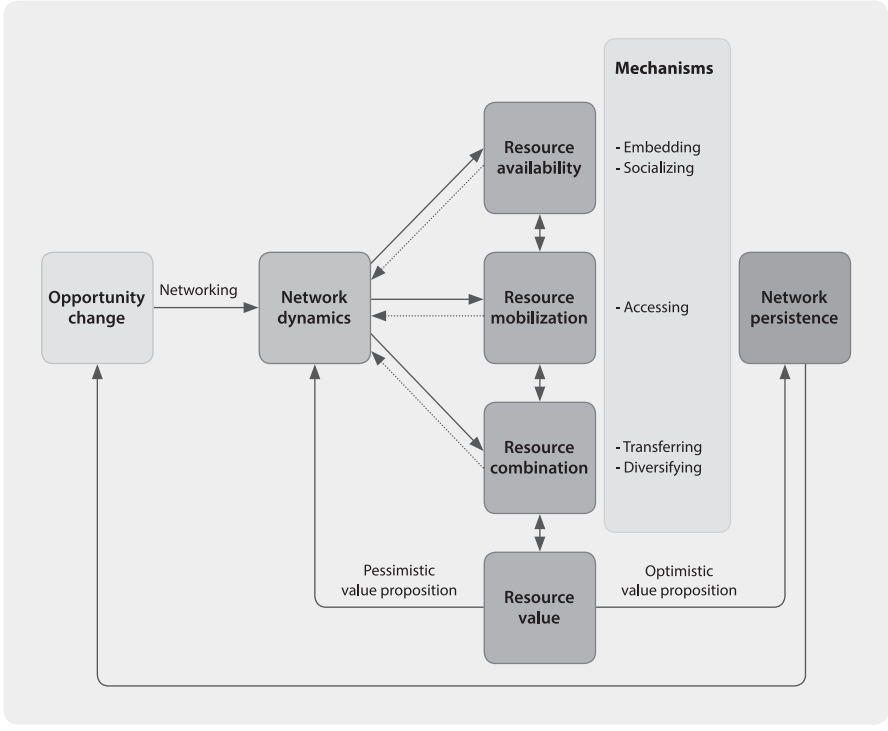

Figure 5.1. Network-based resource model.

how networking, through network dynamics and initiated by change in opportunity, influences the various steps in resource combination by various networking mechanisms (described in Chapter 2). It further explains how entrepreneurial judgment of resource value (Foss, Foss, and Klein 2007; Foss and Klein 2012) results in further search and network dynamics or in network stability and network persistence (Ahuja, Soda, and Zaheer 2012). Optimistic value propositions result in network persistence, whereas pessimistic value propositions result in continuous search and network change. We further elaborate the various resource-combination steps—availability, mobilization, combination, and value—in the following sections. Although each step is conceptually distinctive, they in practice overlap and often are performed simultaneously. Consequently, although we suggest a certain sequence of steps, it is not impossible for other sequences to occur or for an important feedback loop to appear.

Resource availability

Although entrepreneurs to some extent live within the same pool, or population, of potential ties and resources, they vary in their access to resources through network ties. The lives that entrepreneurs lived before entering entrepreneurship limit who among their ties is approachable and who is not (Jack and Anderson 2002), and whom they can add as ties. Entrepreneurs' life histories shape the nature and, more importantly, the range of who can be expected to participate in their networks. Given family conditions, vocational decisions, and other types of important life decisions they make in life, individuals meet, remember, and become acquainted with a diverse set of people. This set of people varies in size and nature. In addition, it is also expected that individuals' personalities impact whether they are remembered and known to those with whom they have interacted with in the past.

It is reasonable to assume that entrepreneurs cannot easily activate or add just anyone from the population of potential ties; some sort of prior direct or indirect connection facilitates the tie formation and activation (Jack 2005). With individuals living completely different lives, we may assume that such prior direct and indirect established ties vary significantly over a lifetime and have a huge impact on the "reservoir of potential network members" (Klyver, Evald, and Hindle 2011, 153).

Thus, entrepreneurs are embedded in a population of potential ties, among which they may have latent or dormant direct ties to some (Jack 2005), which constitute their broader network. The broader network involves everyone in

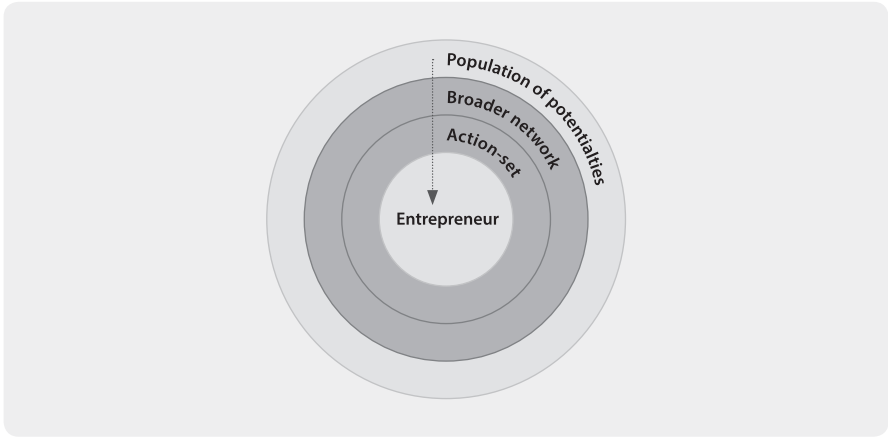

Figure 5.2. Network levels and available resources through broader network (patterned).

the population with whom the entrepreneur, given the lived life, has some direct or indirect tie, regardless of whether they are in a dormant or latent state. It constitutes the window of opportunities for tie formation and defines the boundaries of such opportunities in the sense that not everyone is approachable or possible to add (Figure 5.2). The size, range, and nature of the entrepreneurs' broader networks define and shape which resources the entrepreneurs have available to them in their pursuit of opportunities.

Resource mobilization

To benefit from their broader network, entrepreneurs need to mobilize available resources. They could potentially follow several key mobilizing strategies, among them asset parsimony (Hambrick and MacMillan 1984), bootstrapping (Ebben and Johnson 2006; Grichnik et al. 2014), crowdsourcing (Brabham 2008), and bricolage (Baker and Nelson 2005; Garud and Karnøe 2003; Senyard et al. 2014). All these strategies help entrepreneurs secure resources at minimal cost, ideally below market price. In addition, entrepreneurs might use various tactics and approaches, such as symbolic management (Zott and Amit 2007), inductive reasoning (Cornelissen and Clarke 2010), framing (Värlander, Sölvell, and Klyver 2020) and storytelling (Lounsbury and Glynn 2001) to engage and enroll network ties and access resources. However, more importantly for our agenda, the extensive literature also emphasized the importance of entrepreneurs using relationships in a social-interactive manner

for this mobilization process (Hallen and Eisenhardt 2012; Lavie 2006; Rawhouser, Villanueva, and Newbert 2017; Rindova et al. 2012; Semrau and Werner 2014).

Accordingly, from their broader network, entrepreneurs bring people temporarily together through various strategies and tactics as ongoing networking behavior. They keep a specific entrepreneurial endeavor in mind and subsequently form their action-set (Aldrich and Zimmer 1986). This happens when entrepreneurs add new ties available from the broader network or drop or change existing ties. Thus, apart from being influenced by social-interactive network agency, network churn is conditioned on the broader network of which the action-set is a subset. Entrepreneurs rely on their action-set through their social-interactive network agency to access and mobilize external resources (Figure 5.3).

An essential part of the resource-mobilizing process in which entrepreneurs activate dormant or latent ties from the broader network into their action-set is characterized as *stakeholder enrollment* (Burns et al. 2016). When deep psychological bonds—acquiescence, instrumental, commitment, and identification (Klein, Molloy, and Brinsfield 2012)—are established between stakeholders and the entrepreneurial endeavor, the stakeholders enroll in the entrepreneurial endeavor through their provision of resources.

Given the high uncertainty characterizing entrepreneurial endeavors "without precise knowledge about which particular resources will be best suited to the organization over time" (Grossman, Yli-Renko, and Janakiraman 2012, 1764), entrepreneurs will search to create an action-set. They will enroll stakeholders consisting of "high-potential" ties, rather than identifying

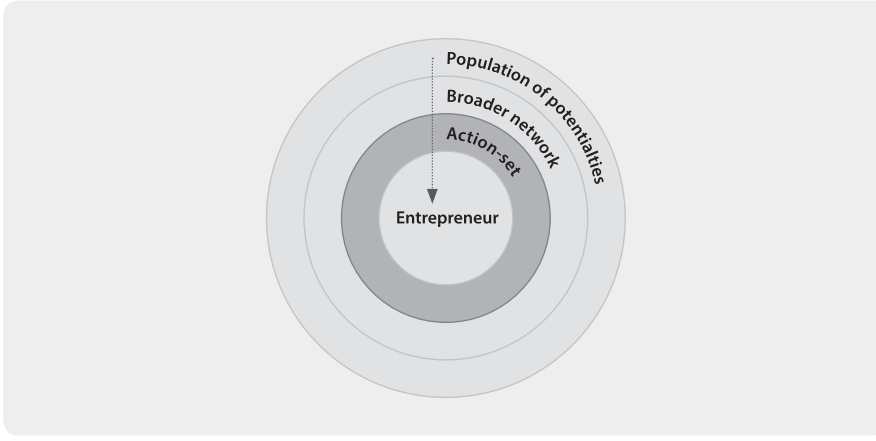

Figure 5.3. Network levels and mobilized resources through action-set (patterned).

resources first and then searching for ties to provide them. They will "seek out network contacts who are perceived to offer potential access to the widest variety of resources" (Grossman, Yli-Renko, and Janakiraman 2012, 1764), compromising between securing access to fundamental blocks of resources and enduring economies of scope in their network by keeping the number of contacts relatively small and manageable.

Just as entrepreneurs search for "high-potential" ties, or stakeholders, to enroll in their entrepreneurial endeavors rather than searching for specific valuable resources, so do stakeholders under conditions of uncertainty rely on the entrepreneurs' characteristics, such as their charisma, to judge whether they are willing and committed to join the action-set as stakeholders (Burns et al. 2016). Although entrepreneurs might try to sell the potential of their opportunity to stakeholders and ties through various mobilizing strategies (Kraaijenbrink, Spender, and Groen 2010) such as rhetoric, power, and bargaining (Coff 1999), the key feature upon which stakeholders judge whether or not to join is the entrepreneurs' characteristics. In support of this, Porter and Woo (2015, 1482) theorized about how individuals' relational schemas guide strategic networking among individuals; these relational schemas are knowledge structures with information on the network tie and characteristics, on oneself in the particular relation, and on the history and patterns of the relation.

Accordingly, the mobilization of resources is driven by the judgment of potential—entrepreneurs' judgment of who offers access to the widest variety of resources, and stakeholders' judgment of the entrepreneurs' potential and charisma. Importantly, and maybe counterintuitively, this leaves only limited roles in the mobilizing process for the specific resources and the subsequently generated competitive advantages to deliver value for potential customers (Burns et al. 2016; Grossman, Yli-Renko, and Janakiraman 2012).

In sum, through various social-interactive strategies and tactics, entrepreneurs search for and try to activate and enroll dormant or latent ties from the broader network into their action-set, from which they may mobilize resources. In this uncertain process, they focus on "high-potential" ties rather than identifying specific resources.

Combinations of internal and external resources

It is not the single resource that generates sustainable competitive advantages, but the bundle of resources. In line with resource-based theory, through social interactions those external resources obtained from the action-set

are combined with existing internal resources into a unique bundle of resources that generates competitive advantages and creates value for potential customers.

The entrepreneurial context is unique compared to the context experienced by established businesses in that entrepreneurs have no or few available internal resources (Cooper, Woo, and Dunkelberg 1989; Aldrich and Ruef 2006) apart from their human capital in form of knowledge and experience (Unger et al. 2011). The traditional resource-based view, concentrating on established businesses, primarily focuses on how resources already possessed (internal resources) are combined in unique ways to achieve competitive advantages. This, however, comes with some exceptions. For instance, Lavie (2006) incorporated the network resources in the form of shared and non-shared resources among interconnected firms into the resource-based framework. Nevertheless, in an entrepreneurial context, the unique combination of resources becomes a matter of not only combining internal resources, but also combining internal with external resources.

To improve understanding of what a unique combination of resources involves and what consequences it has, we need to understand first what types of resources prevail; second, the processes through which they are combined; and finally, how their combinations result in various output. We elaborate on these issues in the following subsections.

Resource types

Resources are mostly understood broadly as "tangible and intangible assets controlled by an entrepreneur, or accessible via social ties, that enable him or her to exploit an entrepreneurial opportunity" (Clough et al. 2019, 240) and involve everything from financial investments and bank loans, information, knowledge and knowhow, legitimacy, and help and support, not exhaustive. It is debated what types of resources are important and how to make such distinctions (e.g., Barney and Clark 2007; Brush, Greene, and Hart 2001; Kraaijenbrink, Spender, and Groen 2010). Kraaijenbrink et al. (2010) summarized the debate and critique related to the definition of resources, arguing that the field needs to "acknowledge the distinction between those resources that are inputs to the firm and the capabilities that enable the firm to select, deploy, and organize such inputs" (Kraaijenbrink, Spender, and Groen 2010, 358), as well as "how different types of resources may contribute in a different manner to a firm's SCA [sustainable competitive advantages]" (Kraaijenbrink, Spender, and Groen 2010, 359).

The solution to such conceptual and definitional issues might not be generic but conditioned on the study's purpose and focus. We therefore do not advocate for a generic final conceptualization but for careful consideration of certain dimensions in each circumstance. Specifically, we find the following dimensions of resources relevant to consider when discussing resource combinations: types (simple versus complex), application (utilitarian/instrumental versus deployment), hierarchy (generic resources, capability, core competence), and scarcity and rivalrousness (Brush, Greene, and Hart 2001; Kraaijenbrink, Spender, and Groen 2010). Resources are highly likely to have divergent functions and impacts depending on the function and therefore should be treated with such differences in mind.

Types of resources: Simple versus complex

Despite different categorizations, scholars advocating for the resource-based view well recognize that different types of resources prevail. For instance, Brush et al. (2001) divided resources into six types: human, social, financial, physical, technology, and organizational. More importantly, they suggested viewing resource types related to their complexity, wherein "simple resources are tangible, discrete, and property-based, whereas complex resources are intangible, systemic, and knowledge-based" (Brush, Greene, and Hart 2001, 67). The resource complexity is key in understanding to what extent a resource can "potentially be transformed, combined, or lead to a unique advantage" (Brush, Greene, and Hart 2001, 67), with complex resources more likely leading to unique advantages.

Resource application: Utilitarian/instrumental versus deployment

Another important distinction Brush et al. (2001) suggested relates to resource application. Whereas the firm combines and directly uses utilitarian resources as key ingredients in the business model or in the production process, instrumental resources provide value only indirectly through indirect access to other resources. Instrumental resources are eventually transformed to utilitarian resources to provide value to the firm. For instance, machinery is a utilitarian resource that earlier could have been transformed from an instrumental resource such as financial capital and then mobilized. The flexibility of instrumental resources may vary; some instrumental resources are quickly and easily transformed into productive utilitarian resources (e.g., cash), whereas others might be slower and require more effort (e.g., legitimacy, trust, and market status).

Both utilitarian and instrumental resources relate to what Kraaijenbrink et al. (2010, 361) referred to as building and acquiring resources, and a third

resource application they referred to as "the processes of deploying that capacity." Entrepreneurs with the same combinations of resources—the same resource capacity—very well may not experience similar competitive advantages because they are unequally capable of exploiting and deploying the resource combination. For instance, two firms may have collected equally extensive data on their customers' online buying behavior; however, only one firm may be capable of analyzing and utilizing the big data and transform them into useful insights for marketing campaigns. Thus, both firms have the same utilitarian resources in the form of big data on customers' online behavior but they do not have the same processes to deploy these big data. In sum, we suggest that application of resources is divided into whether they relate to building capacity (as either utilitarian or instrumental resources) or to deploying such resource capacity.

Resource hierarchy

Resources might also be viewed from different levels of abstractions (Brush, Greene, and Hart 2001). Generic resources such as raw material and supplies can be accessed, given that the entrepreneur has the necessary financial capital to purchase them. These resources are on the lowest level of abstraction and do not generate competitive advantages per se. However, as such generic resources are combined over time into bundles involving interactions and synergies among them, they are transformed into capabilities that enhance the venture's capacity to effectively deploy and implement resources in the commercialization process. Finally, as such capabilities align with the entrepreneur's mission, they transform into core competences. When such core competences are "valuable, rare, inimitable, and nonsubstitutable, they become a unique advantage for the organization" (Brush, Greene, and Hart 2001, 68).

Scarcity and rivalrousness of resources

Most often, scholars assume that resources are scarce and rivalrous (Kraaijenbrink, Spender, and Groen 2010). However, not all resources are scarce or competed for by firms; not all resources are *rivalrous*. For instance, the concept of *bricolage* is about using resources at hand—those that might not be scarce—for other purposes (Baker and Nelson 2005). Thus, the industry of transforming waste into useful products is an example of key raw materials and resources not being scarce. For instance, the Swiss company Freitag developed a bag "from used truck tarpaulins, discarded bicycle inner tubes, and car seat belts" (https://www.freitag.ch/en).

Similarly, sometimes resources are not only *not rivalrous*, but also *non-rivalrous*. *Non-rivalrousness* implies "that its deployment by one firm, or

for one purpose, does not prevent its redeployment by the same or another firm, or for another purpose" (Kraaijenbrink, Spender, and Groen 2010, 362). Knowledge as a resource is an obvious example. Several firms can deploy knowledge for several purposes without losing the value of the resource, and that value might even increase when used (Winter and Szulanski 2001). Collaborations and co-development of knowledge are therefore an example of competitors collaborating on generating unique knowledge resources that several firms can deploy simultaneously for various purposes. Thus, creating competitive advantages is not only a matter of competing for resources, but also about collaborating for non-rivalrous resources. It naturally follows that whether a resource is rivalrous or non-rivalrous has quite dramatic consequences for how a resource is transformed into a sustainable competitive advantage.

Combination process

Scholars widely acknowledged that as part of their resource management, entrepreneurs access external resources from their action-set to combine and to supplement with internal resources (De Koning 2003). However, the way this combination might take place is less understood. Specifically, Brush et al. (2001, 65) noticed that "the process of building an initial resource base from scratch is a complex task that is rarely addressed in either the strategic management or entrepreneurship literatures." We find two distinctions in the literature essential for understanding the combination process; the first relates to subtasks of managing resources (Sirmon, Hitt, and Ireland 2007), and the second relates to whether this happens intentionally or as a blind variation.

First, Simon et al. (2007, 273) described the management challenge of resource combination as a "comprehensive process of structuring the firm's resource portfolio, bundling the resources to build capabilities, and leveraging those capabilities with the purpose of creating and maintaining value for customers and owners." The challenge is to synchronize each partial sequential task of structuring, bundling, and leveraging resources in a way to optimize that customer value with the lowest firm costs. Therefore, according to Simon et al. (2007, 287), "top-level manager[s] should view their firm as a system of resources and capabilities, developing leveraging strategies that match their capabilities to the market and environmental context in order to create value for customers and owners."

A second key distinction for understanding the resource-combination process is whether the combination is intentional or blind; for instance, whether entrepreneurs actively attempt to generate resource combinations or whether the resource combinations occurred independent of entrepreneurial

intentions (Aldrich 1999). Value creation through resource combination is not necessarily a planned and intentional activity but might likely be an outcome of randomness and serendipity (e.g., Austin, Devin, and Sullivan 2012; Dew 2009; Engel, Kaandorp, and Elfring 2017; Mintzberg and Waters 1985). The role of randomness and serendipity becomes especially crucial in uncertain entrepreneurial environments where goals, means, and their relationship are unpredictable. In this way, it seems important to understand the combination process not exclusively as an instrumental and intentional management process, but also as a process that involves randomness and serendipity.

Complementary versus compensatory resources

To understand how resource combination results in various output, we rely on Semrau and Hopp (2016) and argue that the combination of internal and external resources can either complement or compensate. *Complementarity* implies positive synergy between the use of resources and bringing in a complementary external resource and that the benefits and value of internal resources increase as a consequence (e.g., Batjargal 2007; Florin, Lubatkin, and Schulze 2003). To illustrate, bringing in a new professional board member with IT experience (as an external resource) potentially has an independent external legitimacy effect. It might also simultaneously increase the firm's ability to benefit from internal resources, such as their IT system, given the board member's experience.

Conversely, *compensatory* resource combination implies negative synergy between resources, and that external resources replace existing internal resources (Klyver and Schenkel 2013). Although the external resources provide some independent value for the firm, the values of the external and internal resources also overlap.

Accordingly, judging the value of a new resource requires a broader look than at the particular resource itself; it requires that the new resource and its potential overlap and interaction with other resources be considered simultaneously.

Resource value

The availability, mobilization, and combination of resources ultimately end with a value assessment and selection of resource combinations. Brush et al. (2001) emphasized that the selection of resource combinations plays a key role in the venture's future survival and growth and that choices related to resource-combination selections "may even have negative consequences if

the wrong resources are acquired, do not fit the opportunity, or waste other productive resources" (64).

Selection of resource combination

As a consequence of the high uncertainty related to which resources will be preferable and valuable in the future (Engel, Kaandorp, and Elfring 2017; Grossman, Yli-Renko, and Janakiraman 2012), entrepreneurs through social interactions create variations in resource combinations (Chiles et al. 2010). Prior network literature has strongly focused on the value emerging from variation and heterogeneity from social networks, with the implicit assumption that "the more variation, the better." This assumption has been detailed in our discussion of the steps relating to availability, mobilization, and combination of resources.

However, the generated variation is of no value unless entrepreneurs are capable of selecting and retaining such potential valuable resource combination (Aldrich 1999; Eisenhardt and Martin 2000; Garnsey and Leong 2008). Thus, we argue that networking agency not only enables entrepreneurs to create variations in resources, but equally important, it enables them to select from these variations. Given uncertainty, many entrepreneurs postpone the selection decision until a critical event forces them to make a resource decision. Until that critical event, they keep open their options of resource combinations.

Entrepreneurs preserve the selected resource combination to the extent that the opportunity evaluation indicates a potential value of the resource combination. Thus, if the resource combination helps them to develop their opportunity or gain legitimacy, then they preserve (retain) the resource combination, with the additional consequence that the current network remains stable. Otherwise, in situations not retaining the current resource combination, entrepreneurs might go back to their previous existing resource variations, try to recombine their external and internal resources in new ways, or return to their action-set to see if they can modify it. This results in ongoing network dynamics.

Value evaluations and the role of entrepreneurial judgment

Due to uncertainty characterizing the resource process, traditional rational decision models insufficiently explain what happens in the evaluation of potential value and selection of resource combinations. As an alternative to those traditional rational models, an entrepreneurial judgment model that more appropriately explains the resource-combination process has emerged (Foss and Klein 2012; Foss and Ishikawa 2007; Foss et al. 2008). As Kraaijenbrink et al.

emphasized (2010, 364). the "practical assessment and evaluation of resources involve subjectivism, knowledge creation and entrepreneurial judgment."

Entrepreneurial judgment refers "primarily to business decision making when the range of possible future outcomes, let alone the likelihood of individual outcomes, is generally unknown (what Knight calls uncertainty, rather than mere probabilistic risk)" (Foss and Ishikawa 2007, 758). In such circumstances, no formal models or decision rules can guide entrepreneurs. Rather, in these situations, entrepreneurial judgment involves an indeterminism of the future that is both unknown and unknowable but remains possible to imaging (Dolmans et al. 2014; Foss et al. 2008). Accordingly, through imagination (Kier and McMullen 2018), entrepreneurs form estimates and scenarios of future events where the probability distribution is unknown. This happens as a process that unfolds over time. McMullen (2015) argued that entrepreneurial judgment is "based on social inferences that are frequently tested and updated as one progresses through the decision making of entrepreneurial action." He continues, arguing that entrepreneurial judgment should be regarded as "empathic accuracy," that is, "the ability to precisely infer the content of others' beliefs and feelings" (668).

In sum, we may conclude that value assessment and the selection and retention of resource combinations are based on social inferences used to form estimates and on scenarios of future events under uncertainty, rather than on a rational decision model.

Final elaborations on the network-based resource model

Developing new resource combinations to sense and seize opportunities is one of the key challenges in the entrepreneurship field. This resource-combination process has remained somewhat of a "black box" in the literature. Our model makes this resource-combination process more transparent by explicitly including the central role of external resources and the way social-interactive networking affects the generation of a set of new resource (internal and external) combinations that may allow the entrepreneur to exploit opportunities and thereby create value. Thus, we not only include the role of external resources but more specifically elaborate on social-interactive agency and ability—in particular, networking agency and ability—that drive this resource (re)configuration process. Moreover, in our view, networking is an integral part of entrepreneurial capabilities. Networking may be seen as "habitualized action patterns" (Schreyögg and Kliesch-Eberl 2007, 915) in which we

distinguish the adding, using, and deleting of network ties, as discussed in Chapter 3. Adding new ties, using existing ties, and deleting ties require action, motivation, skill, and learning—all of which develop over time. The lack of resources motivates entrepreneurs to improve access to a broad range of external resources by broadening the network portfolio, or action-set. They further need to deepen existing network ties to allow them to mobilize the external resources. They apply the networking skill and learning to see how external resources, in combination with existing internal resources, may result in new combinations they can use to exploit opportunities and thereby create value. In the early stages of emergent organizations, this networking allows entrepreneurs to think through various new combinations and assess which ones are most promising to satisfy customers and exploit opportunities. The novelty of our network-based resource model is that we show that entrepreneurial capabilities in emerging organizations are not so much about orchestrating the deployment of available internal resources, but much more about the ability to build and exploit a portfolio of ties to secure alternative external resources.

In our model, we view networking as a process over time, and the generation of multiple potential configurations of resources can be seen as one part of that process. The process also includes the selection and retention of resources and relationships from the expanded entrepreneurial solution space (Aldrich 1999; Garnsey and Leong 2008). Thus, it is not only about creating resource availability by adding ties, but also about selecting, retaining, or even dropping them to combine resources and create value. Pruning the network and focusing on a smaller set of ties can be an important capability (Sullivan and Ford 2014). Network tie selection often co-evolves with a focus on a more limited number of resource combinations. This selection often results from trial and error as some potential resource configurations appear not be viable. Resource combinations may not work for assorted reasons. For example, external resource holders may hesitate to transfer their resources to complement the entrepreneur's resources. The entrepreneur may drop a network relation and find an alternative resource provider, while also trying to intensify the initial relationship to create trust and to enroll the resource holder as a partner. Feedback loops and learning about what works are key drivers for narrowing the set of resource configurations that may be useful to exploit certain opportunities.

The insights from our model elaborate and extend the resource-based view by addressing the challenge Kraaijenbrink et al. (2010) posed: to allow for uncertainty and move away from highly predictable environments and thereby develop a dynamic view of value. We incorporate a dynamic view

by locating the source of value creation as the interaction and networking of the people involved. In fact, networking initiated to generate resource availability and mobilizing to combine resources are important drivers of network changes and volatility. This insight is important for future research because entrepreneurs with highly volatile networks may or may not be more successful than those with a stable network structure. Potentially, this high-volatility network may facilitate an "adaptive response" (Burt and Merluzzi 2016) to adjust the resource configuration in order to seize opportunities. In the highly uncertain context of entrepreneurs, networking has potential to improve our understanding of this adaptive response and its contribution to growth.

Networking mechanisms

The different steps in our network-based resource model—resource availability, resource mobilization, and resource combination—are linked in various ways to the networking mechanisms earlier described in Chapter 2. As illustrated in Figure 5.1, there are different dominating mechanisms for each of the steps. For resource availability, the mechanisms of embedding and socializing dominate; for resource mobilization, accessing and transferring dominate; and for resource combination, transferring and diversifying dominate. Although certain mechanisms dominate for each step, other less dominating mechanisms might also be in play. Table 5.1 provides examples of the different networking mechanisms related to resource availability, mobilization, and combination.

Resource constraints: An entrepreneurship-as-networking perspective

Our entrepreneurship as networking perspective leads to a network-based resource model that combines the networking agency perspective and the dynamic resource-based perspective to address how entrepreneurs identify, select, and develop new resource combinations under conditions of uncertainty. Inspired by the dynamic resource-based perspective, our model prescribes gaining access to additional resources as the solution to resource scarcity. Although this might be the dominant solution, other solutions and approaches may be relevant as well. This is even more the case in entrepreneurship, which is often characterized by personal initiative and actions taken

Table 5.1 Networking Mechanisms and Resource Availability, Mobilization, and Combination

Mechanism	Resource Availability	Resource Mobilization	Resource Combination
Embedding	+ Due to lived life, direct and indirect ties are established. + Life and life changes influence size and nature of network. – Established ties might generate obligations and commitments to others.	+ Upgrade weak ties to strong ties. – Inefficient balance between strong and weak ties.	+ Interactions related to resource combination build stronger relationship. – Entrepreneurs depend on ties with important resources.
Accessing		+ Add, upgrade, or downgrade ties. + Use different strategies to involve various resource holders (e.g., symbolic management, storytelling). – Use too much time to develop and maintain network.	
Transferring		+ Focus on high-potential ties rather than high-potential resources. + Use different strategies to mobilize and enact available resources (e.g., bricolage, bargaining, stakeholder enrollment). – Negative judgment of entrepreneur by ties.	+ Combine externally obtained resource with internal resources. – Too many inflexible, scarce, and rivalrous resources. – Too many compensatory resource combinations.
Diversifying	+ Variances in life experiences generate variances in the resources available from ties.	+ Add ties to reach more diverse contacts.	+ Use innovative combinations of resources through, e.g., bricolage.
Socializing	+ Establish reputation and legitimacy. – Established reputation might generate unproductive role expectations.	+ Upgrade and downgrade ties to create appropriate strong/weak tie balance. – Inefficient balance between strong and weak ties.	+ Interactions related to resource combination build stronger relationship.

+ Indicates an enabling effect of the mechanism; – indicates a negative effect.

despite limited resources. For instance, the literature on bricolage suggested that bricoleurs are "making do by applying combinations of the resources at hand to new problems and opportunities" (Baker and Nelson 2005, 333). Here the solution is not "more resources" but more innovative use and combinations of resources "at hand." In a similar vein, niche literature on resource constraints and organizational ingenuity emphasized individuals' or organizations' "ability to create innovative solutions within structural constraints using limited resources and imaginative problem solving" (Lampel, Honig, and Drori 2014, 465). This ability to maneuver resource constraints without necessarily accessing more resources is also a strategy applied by some entrepreneurs (e.g., Dolmans et al. 2014; Van Burg et al. 2012). Although this ability is somehow part of the combination process in the resource model developed in this chapter, the emphasis is mostly on how new resources are combined. The lesson from the resource constraint literature is, however, that this combination process can also be focused toward resources at hand and within resource constraints.

Method considerations

To extend our understanding of how entrepreneurs generate availability and mobilize and combine resources to add value, new methodologies and perspectives are needed to complement the existing ones. As research into entrepreneurs' resource mobilization has grown significantly over the last decades, our understanding has improved at a similar pace (Clough et al. 2019); however, there are still methodological issues that have constrained further improvements. We identify four key methodological issues that future research should aim to solve.

From network structure to network agency

First, we encourage future research to integrate networking agency alongside network structure to advance our understanding of resource mobilization. The deterministic account that stems from an isolated structural perspective is insufficient to understand resource mobilization. Further, it inappropriately ignores the networking agency processes involved in generating resource availability and later mobilizing and combining them into resource bundles of value. Importantly, this is not a recommendation to replace the prior dominating structural networking perspective with networking agency as an alternative perspective. We emphasize, at least at this stage, that both perspectives, when possible, should be combined. We also encourage research to explore

and incorporate the agency of entrepreneurs as both egos and their network ties. It is not only entrepreneurs who engage in networking for purposes; so do their network ties. Despite previously being almost ignored, with exceptions (Nielsen 2014; Reinholt, Pedersen, and Foss 2011), understanding the motivations and networking abilities of network ties is equally important to understand interactions and successful resource mobilization.

From variance models to process models

Theorizing on resource mobilization necessarily needs to reflect its evolutionary nature and include a process element (Clough et al. 2019). Most studies have done so, but in varying degrees. They approached the study from a variance perspective, in which various antecedents function as independent variables that correlate with resource mobilization (e.g., Rooks, Klyver, and Sserwanga 2016) or in which resource mobilization is the independent variable correlating with some sort of distal outcome such as survival or growth (Kim, Aldrich, and Keister 2006). These types of variance studies incorporated both cross-sectional designs (Semrau and Werner 2014) and longitudinal designs (Grossman, Yli-Renko, and Janakiraman 2012). Although they have been insightful, we need more studies that aim for an event-driven explanation—instead of an outcome-driven explanation—in which the focus is on how the resource mobilization unfolds itself over time (Aldrich and Martinez 2001; Van de Ven 2007), possibly as outlined in the network-based resource model. Such an approach is especially relevant for young ventures because their resource positions are very volatile (Dolmans et al. 2014).

Opening the black box

Event-driven process studies will also help open the black box of resource mobilization that currently prevails. The strong focus on antecedents and distal outcomes has left us with limited understanding of the intermediate steps that comprise the resource mobilization process. Research is needed that investigates each step—resource availability, resource mobilization, and resource combination—collectively, rather than focusing on single steps separately. The steps feed into each other and are interdependent, which is why it is fruitful to investigate them together. Also, networking might not influence each step in similar ways; a particular networking behavior conducive to creating resource availability might not necessarily benefit resource mobilization or combination. Accordingly, to understand networking and its effects on the final value created from resource combinations, the impact on each step should be looked at to the extent possible.

Focus on resource combinations rather than single resources

Our final recommendation for future research relates to the object of investigation. A significant amount of prior research has focused on explaining mobilization of a single resource, such as financial capital (e.g., Shane and Cable 2002), or on how a single resource affects various entrepreneurial outcomes (Khaire 2010), including survival and growth. Although this research has furthered our understanding, it remains limited and insufficient as to what really matters—specifically, the unique combination of both external and internal resources. Creating availability and mobilizing a particular external resource may create value, but importantly, depend completely on how creatively and uniquely that external resource is combined with existing internal resources. Therefore, to focus only on a single resource, without considering other resources with which it is combined, is too narrow an approach.

Investigating resource combinations, rather than the acquisition of single resources, is challenging. It requires scholars to dig deeper into the alternative mechanisms that drive various types of resources and to develop theories that are not in silos for a specific resource but are generalizable across various types of resources. There is certainly space for improvement. Clough et al. (2019) recently related that 64% of scholars specialize in one particular resource. Moving from theorizing that is related to a single resource to theorizing that is related to multiple resources and their combinations will potentially resolve prior inconsistencies and provide opportunities to build a cumulative body of theory of the topic (Clough et al. 2019).

Conclusion

In this chapter, we have integrated the social-interactive network and resource-based perspectives to develop a "network-based resource model" that considers social-interactive network agency, uncertainty, and the various steps in the resource process. Through networking, entrepreneurs bring external resources into the uncertain and reiterative process of developing new combinations to capture value. This happens in a stepwise process of creating resource availability, mobilizing resources, and combining resources—a process that shapes the network's dynamics. Finally, we discussed methodological implications for future research.

6
Legitimizing through entrepreneurial networking

Introduction

New ventures can survive only when their activities and contributions to the market are perceived as legitimate (e.g., Delmar and Shane 2004; Fisher et al. 2017; Lechner, Dowling, and Welpe 2006). Gaining legitimacy is imperative when starting something that is considered innovative. Generally, legitimacy originates in sociology and particularly neo-institutional theory (e.g., Meyer and Rowan 1977) and is understood as a "generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate with some socially constructed norms, values, beliefs, and definitions" (Suchman 1995, 574). Stinchcombe (1965) introduced the concept of the liability of newness, which states that young organizations face higher risks of failure than do established ones. Existing organizations already possess a set of institutional roles and tasks, stable customer ties, experienced constituents, and a shared normative framework, all of which contribute to an effective provision of goods and services and the organizations' ultimate survival. New firms, on the other hand, are more likely to fail simply because they lack support from others who do not sufficiently understand what these newcomers intend to do, or who perceive such new ventures and their products and services as unacceptable in the cultural and political environments (Aldrich and Fiol 1994; Fisher et al. 2017; Zimmerman and Zeitz 2002).

As Suddaby et al. (2017) distinguished, legitimacy can be conceptualized as a *property* (e.g., Ruef and Scott 1998; Zimmerman and Zeitz 2002), a *process* (e.g., Khaire 2014; Suddaby and Greenwood 2005), or a *perception* (e.g., Bitektine 2011; Bitektine and Haack 2015; Tost 2011). In this chapter, we predominantly view legitimacy as a process. We simultaneously distinguish processes related to types of legitimacy (as a property) and, importantly, incorporate various audiences and their judgments into the process understanding (attending to legitimacy as a perception). In this way, we try to

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bridge and integrate the various perspectives on legitimacy that Suddaby et al. (2017) conceptualized.

Thus, taking the entrepreneurship-as-networking perspective, we view the legitimization process as a social-interactive process. We distinguish between the entrepreneur as an actor with a certain degree of agency and the role of active audiences that form a judgment about all types of entrepreneurial endeavors. Developing a social-interactive process understanding of legitimacy, we address Überbacher's (2014) challenge to integrate two perspectives in the literature. The actor-centered perspective views entrepreneurs as actively involved in shaping the legitimation process in their favor. Entrepreneurs are seen in cultural entrepreneurship and impression management theories as "skilled cultural operators" who try to influence the legitimacy judgment of the relevant audiences (Gehman and Soublière 2017; Lounsbury and Glynn 2001; Thornton and Klyver 2019; Überbacher, Jacobs, and Cornelissen 2015). At the same time, audiences are assumed to be rather passive in these actor-based perspectives. The reverse is true for the audience-centered perspectives, as in institutional theories (Delmar and Shane 2004; Honig and Karlsson 2004; Liu, Schøtt, and Zhang 2019; Sine, David, and Mitsuhashi 2007). However, in those studies, typically the audiences are seen as active, whereas the entrepreneur is assumed to be more or less passive.

We distinguish three potential strategies of entrepreneurs to convince audiences that their ventures are legitimate (Fisher et al. 2017). First, audiences have to be informed about the venture's key characteristics. Storytelling (Lounsbury and Glynn 2001), impression management (Parhankangas and Ehrlich 2014), framing (Värlander et al. 2020), and symbolic actions (Zott and Huy 2007) are examples of ways to inform others about the content and meaning of the venture. In these strategies, entrepreneurs try to identify and propagate the main features of the ventures in order to convince audiences of the ventures' appropriateness and acceptability. Second, entrepreneurs may try to mimic existing organizations in terms of their organizational structures and practices (DiMaggio and Powell 1983; Meyer and Rowan 1977). Similarity between new ventures and existing organizations may make it easier for audience members to accept the new ventures as appropriate. Entrepreneurs in this case rely on organizational mimicking strategies to gain legitimacy for their new ventures. Adapting a business planning strategy to align with the audiences' expectations is a strategy that many entrepreneurs have applied and scholars have intensively debated (e.g., Delmar and Shane 2004; Honig and Samuelsson 2012; Hopp et al. 2018). Finally, because the

third strategy to manage the legitimacy of new ventures puts networking at the center, entrepreneurs may strategically use their existing network ties or create new ones with established actors (Batjargal 2010; Elfring and Hulsink 2003). Connections of new ventures to actors with solid reputations signal to their relevant stakeholders that they are legitimate (Stuart, Hoang, and Hybels 1999; Stuart and Sorenson 2007). Thus, these three strategies may enable entrepreneurs to establish and manage legitimacy.

In this interactive process between entrepreneur and audience, we view the audience also as actively involved in the interactive process of forming legitimacy judgments (Bitektine 2011; Bitektine and Haack 2015; Fisher et al. 2017). It involves evaluation of information about the venture and cognitive processing to accept or reject the new venture as legitimate (Tost 2011). Audiences are "active," putting effort into assessing the new venture's attributes as a basis of their legitimacy judgment. An entrepreneur interacts with audience members through network ties. The network characteristics influence the way audience members are able to judge the entrepreneurial venture. This can be seen as a process of mutual influencing. In the end, a venture's legitimacy and reputation reside in the eye of the beholder (Ashforth and Gibbs 1990; Fisher et al. 2017). The audience members' judgment is crucial for the entrepreneurial venture's survival because this judgment influences, among other elements, the venture's accumulation of resources and sales. This interactive process of establishing legitimacy judgments challenges a common assumption in the field, namely that of homogeneous judgments across audiences (Fisher et al. 2017; Überbacher 2014). In this chapter, we explore the consequences of this interactive process and the new insights it provides.

Uncertainty about the potential of new ventures affects the interactive process between the new ventures and their relevant audiences. Uncertainty can be defined as the "perceived inability to predict something accurately" (Milliken 1987, 136). Part of this uncertainty is the lack of information to determine whether certain opportunities are worth pursuing, which may prevent entrepreneurs from acting (McMullen and Shepherd 2006). In this chapter, we develop the argument that networking actions are key for new ventures to establish legitimacy in situations of uncertainty. We build on the work by Cattani et al. (2008), who showed that in the context of great uncertainty, network ties play a central role in establishing legitimacy. In essence, it is about enrolling (Burns et al. 2016) and self-selecting (Engel, Kaandorp, and Elfring 2017) stakeholders to create critical mass to co-create business ideas, develop opportunities, and ultimately gain legitimacy (Khaire 2014).

Legitimacy as a social-interactive process

New ventures need to achieve the approval of others; thus, gaining legitimacy is in the eye of the beholder (e.g., Fisher, Kotha, and Lahiri 2016; Fisher et al. 2017; Zimmerman and Zeitz 2002). The various definitions of the *legitimacy* of new ventures all share some key similarities that also relate to Suddaby et al. (2017) distinction of legitimacy as a perception, process, and property. First, legitimacy is based on some socially agreed-upon set of norms, values, and beliefs shared by a specific audience or, more broadly, across stakeholders in different communities. Second, legitimacy is based on a socially interactive process involving both a new venture and its relevant audiences. A key question is which features of the new venture the audience members will evaluate. A new venture can be associated with a number of benefits or risks, and the legitimacy judgments of these outcomes may vary across audiences. Suchman (1995) labeled this outcome-based legitimacy as *consequential legitimacy*. He also recognized the new venture's structure as a feature that can be a basis for audiences to evaluate its legitimacy. For example, similarity to existing organizational structures makes it easier for evaluators to judge the new venture as legitimate. Finally, Suchman (1995) distinguished the entrepreneur's background and charisma as an important feature that audiences may use to judge ventures' legitimacy.

Most definitions of legitimacy state something about the appropriateness of the new venture against the existing norms and values (e.g., Delmar and Shane 2004; Liu, Schøtt, and Zhang 2019; Pollack, Rutherford, and Nagy 2012). In our social-interactive perspective, it is important to explicitly refer to the role of audiences as they form judgments about the appropriateness or acceptability of entrepreneurial endeavors. An example of a legitimacy definition that recognizes the acceptance by others is Kostova and Zaheer (1999, 64), who defined legitimacy as "acceptance of an organization by its environment." More elaborately, Rindova, Pollack, and Hayward (2006, 55) defined legitimacy as "the degree to which broader publics view a company's activities as socially acceptable and desirable because its practices comply with industry norms and broader social expectations."

Networking ties, as the link between an entrepreneur and members of a relevant audience, play an important role in the way audience members develop their legitimacy judgment. The degree of network connectivity between an entrepreneur and audience members influences the judgment within an audience to accept or reject the entrepreneurial venture as legitimate. For example, strong ties result from mutual interactions between audience members and entrepreneurs. Cattani et al. (2008) showed that these repeated interactions

through strong network ties create consensus within an audience that this new entrepreneurial venture's features align with the existing norms and values.

Along with discussing the features of new ventures and the role of network ties in audience members' evaluation of legitimacy, it is also important to distinguish between different types of legitimacy (Bitektine 2011; Suchman 1995) as a property of organizations (Suddaby, Bitektine, and Haack 2017). The most widely used distinction is between *cognitive legitimacy* and *sociopolitical legitimacy* (Aldrich and Fiol 1994). According to Aldrich and Fiol (1994, 648), "cognitive legitimation refers to the spread of knowledge about a new venture," and the higher the level of public knowledge about the activities of a new venture, the higher the cognitive legitimacy. The ultimate level of cognitive legitimacy is achieved when the product, service, or process is taken for granted. Further, they argue, "sociopolitical legitimacy refers to the process by which key stakeholders, the general public, key opinion makers, or government officials accept a new venture as appropriate and right, given existing norms and laws" (648). Thus, public acceptance of a new venture's activities or of government subsidies are indicators of sociopolitical legitimacy.

Distinguishing between cognitive and sociopolitical legitimacy is highly relevant in our entrepreneurship-as-networking perspective because it "represents an important bifurcation point between two different paths of legitimacy assessment" (Bitektine 2011, 157). In the case of cognitive legitimacy, the evaluation is rather straightforward. When a new venture's structure and practice resemble existing organizations, it is recognized as part of a certain category of organization and thereby is assessed as legitimate. Furthermore, strong network ties between the entrepreneur and audience members allow the exchange of information and knowledge about the entrepreneurial venture. This exchange helps to create an understanding of the venture, which facilitates a positive cognitive legitimacy judgment (Elfring and Hulsink 2003). The case of sociopolitical legitimacy is more complex because the audience members also must judge the wider implications to those directly affected by the new venture and to society as a whole. In this case, weak ties may be required to make connections to different audiences and to develop an understanding of the way the venture may be aligned to the norms and values of those different audiences (Elfring and Hulsink 2003).

Moreover, diffusion of the new venture's benefits influences the sociopolitical legitimacy judgment. The benefits may be limited to a small group or spread widely across society. The term *pragmatic legitimacy* has been used to capture the degree to which a new venture represents something beneficial or of self-interest to those judging its legitimacy (Bitektine 2011; Suchman 1995). The term *moral legitimacy* not only covers individual benefits, but also

takes into account the new venture's beneficial effects for a much broader group or for society as a whole. Thus, pragmatic and moral legitimacy represent the evaluation that individual evaluators and society make through sociopolitical judgments. To illustrate the relevance of the distinction between cognitive and sociopolitical legitimacy in our social-interactive legitimacy-judgment process, we next discuss an illustrative, extreme case: that of the biotechnology company called Pharming and its struggle to gain legitimacy.

The case of Pharming

The case of the founding in 1995 of Pharming, a biotechnology company in the Netherlands (Elfring and Hulsink 2003), shows that "judgments that evaluators render can be a matter of life and death for an organization" (Bitektine 2011, 152). Initially, GenPharm—which later, after losing legitimacy battles, was renamed as Pharming—worked closely with the Dutch government's agricultural laboratories to generate Herman, the world's first genetically manipulated bull. The breeding of transgenic cows was meant for the treatment of mastitis, a cow disease. However, animal rights concerns in the early 1990s and the growing perception of unethical animal cloning posed a threat to GenPharm as an appropriate venture. In reaction, GenPharm tried to persuade public opinion through awareness campaigns in which associations were mobilized. Initially, this worked well; in 1992, the Ministry of Agriculture granted GenPharm another subsidy to continue research. However, in 1998, the Dutch Ministry of Agriculture banned animal cloning—the ultimate verdict of that activity's lack of sociopolitical legitimacy in the Netherlands—and GenPharm was divested. The resulting company, named Pharming, scaled back its operations in the Netherlands and set up a subsidiary in the United States near its research contract partner, the American Red Cross. It soon signed an agreement with Genzyme (a US-based biotech firm) to develop a treatment for Pompe disease. Later, Pharming was listed as a public company on the EASDAQ (the European equivalent of the NASDAQ).

Pharming clearly was confronted with the "liability of newness"; it lacked legitimacy or perception as appropriate by relevant stakeholders, such as government agencies and resource providers. The Pharming case clearly illustrates the importance of making a distinction between cognitive and sociopolitical legitimacy (Aldrich and Fiol 1994). Overall, Pharming's legitimacy problem concentrated on the lack of sociopolitical acceptance because its animal testing was not perceived as morally right. Cognitive legitimacy was

not seen as a major issue because the different audiences mostly understood its core features, such as the technology and firm structure. Furthermore, the case illustrates the inherently social-interactive process of legitimacy judgments. On the one hand, Pharming actively tried to establish and manage their stakeholders' legitimacy judgments through lobbying and awareness campaigns. On the other hand, the audiences were making efforts to absorb and react to Pharming's claims concerning its legitimacy. There were debates in newspapers, on television, and in parliament.

The issue of how new ventures can establish and manage their sociopolitical legitimacy through social-interactive processes has become more prominent recently (e.g., Khaire 2014; Überbacher 2014). It is particularly important when the degree of newness is substantial because radically new activities make the legitimacy problem substantially larger due to the lack of similar firms and activities.

Gaining legitimacy

There is a strong incentive for new ventures to establish legitimacy because, without it, they will have great difficulty acquiring the resources necessary to get started (e.g., Kistruck et al. 2015; Pollack, Rutherford, and Nagy 2012). As a result, new ventures take initiatives to influence their stakeholders' judgment in accepting their activities as legitimate (e.g., Khaire 2010; Nagy et al. 2012; Van Werven, Bouwmeester, and Cornelissen 2015). In the context of newness, the perspective in some entrepreneurship studies has moved from focusing on what entrepreneurs do to acquire resources to addressing the pressing issue of gaining legitimacy. In fact, Delmar and Shane's (2004) study, "Legitimacy First: Organizing Activities and the Survival of New Ventures," showed that some of the first actions of emerging organizations are legitimating activities. Zimmerman and Zeitz (2002) discussed a number of generic approaches that entrepreneurs can use to gain legitimacy for their new ventures. The first is *conforming* to the established system of norms and values. Second, *selection* refers to an approach to select a local environment favorable to the emerging organization. Their third approach refers to *manipulation* of the new venture's features to align them with the norms and values. Finally, they distinguish a *creation* approach in which a new social context is created.

The question of when and how these four legitimating approaches can be used remains largely unanswered. Kuratko et al. (2017) recently tried to provide some guidance to the question of when and what type of strategies can be used to fit these general approaches. In particular, the new venture's degree of

novelty and related uncertainty indicates which of the four approaches may work best. For example, limited novelty can be linked best to a conformity approach. This context of low uncertainty gives some guidance to the choice of strategies. A creation approach can be positioned at the other end of the continuum, characterized by high uncertainty. Halfway along this continuum, in a context of moderate uncertainty, the entrepreneur must formulate strategies that fit the general selection and manipulation approaches.

In the following two sections, we provide some guidance on what type of strategies entrepreneurs can employ to gain legitimacy in the context of moderate uncertainty. We first elaborate on the ways identity seeking, organizational association, and networking strategies may help entrepreneurs gain legitimacy. Furthermore, networking strategies are of particular importance in dealing with different audiences. Audiences differ in norms and values. When they conflict, it poses a challenge to entrepreneurs who often need the endorsement of multiple audiences. We argue that entrepreneurs' networking strategies may help them to align these various norms and values across audiences. In a later section, we elaborate on strategies that entrepreneurs use under high novelty and uncertainty. A high degree of novelty, in terms of a new technological innovation underlying the product and a new market, is a context of high uncertainty and requires creation of a new market context. In that section, we argue that pursuing and implementing a co-creation strategy is most effective and is preferred by entrepreneurs.

Legitimacy strategies under moderate uncertainty

Identity-seeking strategies

Storytelling is one way that nascent entrepreneurs can establish support for their new ventures (e.g., Downing 2005; Lounsbury and Glynn 2001; Martens, Jennings, and Jennings 2007). Telling consistent stories about the venture—what they are doing and what they are trying to accomplish—can lead to favorable interpretations of their venture's potential. This is important when entrepreneurs are confronted with lack of understanding or with uncertainty about the difficulties their venture will face in securing resources. These stories are one of the identity mechanisms Fisher et al. (2017) distinguish as accounting for the strategic use of cultural tools and identity claims to gain legitimacy. Another identity mechanism that entrepreneurs use is *impression management* (e.g., Parhankangas and Ehrlich 2014; Überbacher, Jacobs, and Cornelissen 2015). Impression management involves using language and

visual symbols to shape the audiences' perceptions (Clarke 2011). In convincing target audiences of the new venture's rationale and good intentions, entrepreneurs will try to persuade potential stakeholders of the venture's appropriateness. A final strategy, closely related to impression management, is the use of symbols—such as the correct clothing, personal appearance, and supportive visual surroundings in meetings with potential supporters—to convince them of the feasibility of their entrepreneurial ideas (Zott and Huy 2007).

Associative strategies

Organizational mechanisms to achieve new venture legitimacy account for the legitimacy-enhancing signals derived from adopting an organizational setup and structure similar to existing organizations (Fisher et al. 2017). Conforming to the standard or normal organizational structures and ways of operating within a certain field provides new ventures some degree of legitimacy according to institutional theory (e.g., Delmar and Shane 2004; Khaire 2010; Tornikoski and Newbert 2007). This theory also covers organizations' behavioral patterns, such as business planning (e.g., Honig and Karlsson 2004; Honig and Samuelsson 2012), leadership styles, human capital, and the associated outcomes (e.g., De Clercq and Voronov 2009; Tornikoski and Newbert 2007). Any reference by entrepreneurs to these templates provides audiences with information to appreciate the way they fit the norms.

Networking strategies

The legitimization process has a relational foundation (Cattani et al. 2008). In fact, different types of network relations and strategies may be needed to reach and convince different audiences. We distinguish a number of ways through which entrepreneurs' networking with actors in relevant audiences may help them gain legitimacy.

First, connections to high-status actors help entrepreneurs overcome legitimacy concerns in the market. A relationship between the entrepreneur and a high-status actor signals the market that the business is appropriate (Stuart, Hoang, and Hybels 1999). It provides a market signal or prism on which actors can rely to make inferences about the entrepreneur's appropriateness without the presence of a direct tie to provide primary information (Podolny 2001). This is especially important in situations where other quality signals are not apparent (Khoury, Junkunc, and Deeds 2013). Thus, this networking tactic

of building ties to prominent actors in the community helps entrepreneurial ventures gain acceptance despite the novelty and moderate uncertainty surrounding their prospects. This tactic refers to the socializing mechanism discussed in Chapter 2. (Also see Table 6.1 in this chapter, which summarizes

Table 6.1 Network Mechanisms to Gain Legitimacy under Different Levels of Uncertainty

Transferring Mechanism	Nascent Stage: High Level of Uncertainty	Development Stage: Moderate Level of Uncertainty
Embedding	+ Co-creating opportunities and gaining cognitive legitimacy at local level. – Potential lock-in when well established in particular audience, which may hinder reaching out to members of other relevant audiences to gain sociopolitical legitimacy.	+ Solidifying reputation, giving continued support and resource access. – Limited room to maneuver, change developing organization toward more interesting paths, and adapt to negative events, which would hamper legitimacy and trust in this closed group of connections.
Transferring	+ Collaborators providing information on new venture will enhance cognitive legitimacy in the local community. + Trusted brokers that have connections in other audiences providing information on new venture in local community.	+ Transferring information from entrepreneur to audience members to improve understanding and gain cognitive legitimacy.
Diversifying	+ Using diverse network ties to broker information across multiple audiences to establish sociopolitical legitimacy. + Distributed brokerage: it takes a diverse set of brokers to involve members of other audiences or "run in packs" to gain both cognitive and sociopolitical legitimacy.	+ Giving opportunities to turn to a different audience if legitimacy breaks down or if the venture pivots.
Socializing	+ Trusted brokers in local community with high reputation across the boundary of the local community may signal members of other audiences that venture is appropriate.	+ Connection to actor with high reputations (person or organization) signals to audiences that venture is appropriate, helping gain sociopolitical legitimacy. – Connections to persons with negative reputations (previously may have been positive but due to incident turned negative) have detrimental effects on legitimacy of new venture.

+ Indicates an enabling effect of the mechanism; – indicates a negative effect.

network mechanisms to gain legitimacy.) Entrepreneurial ventures' associations with high social-status ties has been shown to improve their ability to attract more funding, leading customers, and other benefits to improve survival chances (Stuart and Sorenson 2007).

This socializing network mechanism may also turn negative when the reputation of the high-status actors appears to be negative to some audiences or turns negative due to some incident. Connections with partners with an (emerging) bad reputation will harm the new venture's legitimacy. These negative effects may also spread to other network mechanisms because the beneficial effects of being embedded in a dense group of trusted people may be detrimental to the ease of sharing information within that dense network.

The second network tactic is that entrepreneurs may interact with their existing network ties to inform audience members about the new venture's main features. Entrepreneurs provide their stakeholders with information they need to understand the entrepreneurial venture's business model (e.g., Shepherd and Zacharakis 2003; Van Werven, Bouwmeester, and Cornelissen 2015). The more innovative the entrepreneurial venture, the more vital is the entrepreneur's task of providing information about the way the venture combines various inputs to satisfy customers. Entrepreneurs use both social interactions and networking with strong and weak ties to inform their audiences about the entrepreneurial venture's feasibility and appropriateness. This network tactic refers to the transferring mechanism, as discussed in Chapter 2 (see also Table 6.1). Stakeholders and relevant actors in the audiences will evaluate the entrepreneurial venture based largely on this information and will make their legitimacy judgments accordingly.

Involving audiences under moderate uncertainty

Although often assumed in the venture legitimacy literature, stakeholders and relevant actors in audiences do not necessarily judge and evaluate venture legitimacy homogenously (Ashforth and Gibbs 1990; Fisher et al. 2017; Überbacher 2014). Relevant audiences vary across industries and other circumstances, but often involve actors such as government agencies, investors, customers, the public, and business, tech, and local communities. They identify and rely on distinctively different institutional norms, values, or logics (Pahnke, Katilla, and Eisenhardt 2015; Su, Zhai, and Karlsson 2017) that guide how they perform their legitimacy judgment. The heterogeneity in these norms, values, and logics that guide audiences in their venture legitimacy judgments (Almandoz 2012, 2014) make it challenging for new

ventures to achieve broad legitimacy across all audiences. Often, conflict and inconsistencies prevail and need to be aligned and solved, if possible. One solution is through social interactions and networking.

The Pharming case also illustrated that audiences differ in their judgments. Clearly, the debate in the Netherlands between biotech entrepreneurs and their supporters and the more skeptical public showed differences in their judgments. The biotech community supported Pharming's type of activities, whereas the public as an audience perceived them as in conflict with existing norms and values. These differences in judgment across audiences drew the attention of scholars (Bitektine 2011; Fisher et al. 2017; Überbacher 2014), in particular because prior research largely assumed the homogeneity of judgments across audiences. Relaxing this assumption opened a research agenda on how actors in different audiences perceive new ventures' features and characteristics and the extent to which their personal backgrounds or perspectives affect their evaluation of the new venture.

Khaire (2014) showed how different actors, such as educational institutions, magazines, and designer outlets, judge legitimacy in a new industry—the high-end fashion industry in India—in different ways. Similarly, Bitektine (2011) argued that different audiences may judge new ventures with similar features differently as a result of variations in analytical processing. Social actors evaluating a new venture will look at it with a certain perspective in mind, depending very much on the audience of which they feel a part. In the case of Pharming, the biotech community perceived their activities and outcomes as an advancement of science and focused their evaluation on potential opportunities. Meanwhile, the public evaluated the same features and outcomes of the new venture against the existing norms and values in society concerning animal rights. The public audience's declining support for animal cloning, because they perceived the practice as unethical, resulted in a local ban on that type of activity. At the same time in the United States, those activities were judged more favorably, showing the local nature of legitimacy judgments (Johnson, Dowd, and Ridgeway 2006).

Networking with multiple audiences

To cope with different audiences relying on different norms, values, and logics in their venture legitimacy judgments, entrepreneurs must network to shape new important ties and modify existing ones among audience members. Through such social interactions, they achieve alignment and compromises among audiences and may, over time, obtain venture legitimacy.

The case of Pharming showed that intense social interaction with their existing strong ties in the scientific community was needed to provide convincing information about the way the entrepreneurial venture's innovative solution worked. More generally, it can be argued that strong ties between entrepreneurs and their evaluators in certain audiences and dense networks can facilitate better information flows and convey trusted information and opinions to gain cognitive legitimacy (Bitektine 2011; Elfring and Hulsink 2003).

In the Pharming case, the business community was another important audience. In terms of evaluation criteria, members of the business community differ from the other two audiences—the scientific and general public. Actors in the business community, such as suppliers and marketing and finance companies, need to be convinced that the entrepreneurial venture is viable and appropriate. However, they require slightly different information than do actors in the scientific community. Maurer and Ebers (2006) showed that during the start-up phase, the existing network ties of entrepreneurial ventures in biotech are not sufficient. Such ties are largely concentrated in the scientific community. When the venture moves from the start-up phase to the development phase, it must develop new ties in the business community. Then, in general, to enhance their visibility and gain recognition in audiences with weak legitimacy, new ventures may try to create strong links with business affiliates. They hope that through such key contacts, they eventually can convince audiences of their viability and appropriateness and thereby obtain a favorable legitimacy judgment (Elfring and Hulsink 2003). Thus, partnering and establishing relations with other organizations across communities—including the business community, as in the Pharming case—may be seen as one action entrepreneurs can take to gain legitimacy (Rindova, Petkova, and Kotha 2007).

At the same time, strong ties to the community in which the venture is already properly embedded can be detrimental to reaching a wider audience, such as the public. The Pharming case showed that its dependence on strong ties with the research community, healthcare institutions, and agribusinesses may have resulted in a blind eye to the moral concerns raised by other audiences. Protests from animal liberation groups and activists against the Pharming's cloning activities as not in line with society's norms and values influenced the legitimacy judgments of crucial regulatory bodies (Elfring and Hulsink 2003). Being embedded in a local network with dense and strong ties may have resulted in being "locked" into the positive effects of biotechnology (Gargiulo and Benassi 2000; Johannisson 2000). This can relate to not being sufficiently open to alternative points of view that may be dominant in other

audiences or the wider public. Perhaps weak ties and other informal pathways that connect entrepreneurs with other audiences in the wider environment may create a setting more sensitive to these moral societal concerns. To reach the public—more specifically, certain activist groups and regulatory bodies—as an audience, a more diverse set of weak ties may help obtain wider endorsement and sociopolitical legitimacy.

Thus, we may conclude that forming new network ties and modifying (i.e., strengthening or weakening) existing ties play an important role for the outcome of legitimacy judgments across audiences. We accept Überbacher's (2014) suggestion that audiences differ in criteria for judging entrepreneurial ventures' legitimacy. We further argue that, through status effects, network ties have a signaling function to other actors (socializing mechanism) and an information-providing role (transferring mechanism). Both are important for all audiences to form their judgments; however, their judgments can differ depending on what they are seeking. The audience close to the background or technology that underlies the entrepreneurial venture will focus more on the venture's ability to satisfy customers with their business model. In contrast, the business community as an audience is interested mainly in returns on their investment and how they can provide services such as finance, marketing advice, and logistics to create added value. Finally, the wider audience may be primarily concerned with the venture's compliance with society's values and norms. To satisfy these different audiences, entrepreneurial ventures need a diverse set of network relations. Here, the diversifying network mechanism appears important to reach a variety of audiences who may differ in their legitimacy assessment.

Legitimacy judgment under high uncertainty

So far, we have presented a very actor-centered perspective on building legitimacy (cf. Überbacher 2014). The main network mechanism is information exchange through direct transfer or through the signaling function of status effects between the entrepreneur and different audiences about the way the venture operates. The entrepreneur shapes this information and uses network ties to inform audience members, who then use this information to form a judgment about the venture's legitimacy. Although the audience members must put effort into assessing the information's value as a basis for their judgment (Bitektine 2011), they are not actively involved in shaping the legitimation process. That process assumes away the uncertainty about the venture in the initial (nascent) stages and thereby the inherent difficulty to provide

concrete information about the venture, largely because that is still unknown and changing continuously (Engel, Kaandorp, and Elfring 2017).

In situations of high uncertainty, entrepreneurial processes are inconclusive, and networking by entrepreneurs becomes part of an interactive environment rich in ambiguity. Increasingly, studies have shown that entrepreneurs network without an instrumental incentive to look for particular resources or information. Network interactions become less goal oriented and more driven by social factors; relationships are based on individual and shared passions. In a recent study on the emergence of the groundbreaking organic restaurant Chez Panisse (Elfring and Hulsink 2019), the shared passion for organic food was the main driver of network interactions. The novelty of this restaurant category and related uncertainty required extensive discussions with a number of stakeholders about ideas for innovations in growing organic produce, its quality, the supply chain, and ways of working in the restaurant. Self-selected stakeholders, such as organic farmers, bakeries, and food journalists, evolved in a community or ecosystem providing legitimacy to the Chez Panisse restaurant.

Consensus: Networks' co-creating role

Under conditions of high uncertainty, the active role of audience members as potential co-creators of the venture becomes central to the interactive legitimacy = formation process (Burns et al. 2016; Engel, Kaandorp, and Elfring 2017). While the main identity of the venture is uncertain and "under construction," potential collaborators engage with the entrepreneur because they trust the person more than the opportunity (s)he is pursuing. This also involves some self-selection on the side on these collaborators (Engel, Kaandorp, and Elfring 2017). "Under conditions of uncertainty, enrollment in an entrepreneur precedes enrollment in an opportunity and builds on prior trusting relationships and the personal charisma of an entrepreneur. Thus, in this setting, stakeholders enroll—with the entrepreneur as the target—before the opportunity they will ultimately exploit is known, even probabilistically" (Burns et al. 2016, 102). This involvement of collaborators in the entrepreneurial venture's emergence creates commitment and eagerness to spread the word that this venture is viable and legitimate. Garud, Schildt, and Lant (2014, 1486) argued for the important role of network ties in storytelling: "[This] study shows how entrepreneurs selectively incorporate some of the earlier social ties, technologies, and organizational capabilities into their stories to accomplish a modified goal. In addition, entrepreneurs also forge new ties with

social and material elements to re-establish the comprehensibility and plausibility of their revised stories." Thus, collaborators also become ambassadors of the venture and join the entrepreneur by telling convincing stories, thereby helping to gain legitimacy. This was also seen in Khaire's (2014) study of the high-end fashion industry in India, where early entrepreneurs and various fields actors, including educational institutions, magazines, and designer outlets, co-created the industry's worth and legitimacy as a whole.

Enrolled stakeholders as collaborators can influence the entrepreneurial venture's characteristics. As a result of their involvement, this select group of strong ties will, of course, grant the venture legitimacy. When primarily relying on the embedding mechanism (Table 6.1), this pocket of legitimacy may be localized, concentrated around a dense network of direct collaborators and their immediate set of network contacts (Johnson, Dowd, and Ridgeway 2006). Thus, legitimacy formation is based on embedding the entrepreneurial venture in a community or ecosystem constituted by a network of closely related stakeholders. At the same time, these close collaborators might be able to spread the word about the venture, how it operates, and its benefits to users. In situations of uncertainty, audience members may need to receive this information from not only the entrepreneur, but also multiple sources. Because these collaborators are highly involved in the new venture, they are both motivated to and capable of providing trustworthy information about the venture. Thus, their contribution to establishing the new venture's legitimacy is based also on the transferring network mechanism. More stories about the new venture from multiple sources will enhance its cognitive legitimacy in the local network (e.g., Johnson, Dowd, and Ridgeway 2006; Khaire 2014).

Further development of the venture requires accessing resources and developing client bases beyond this initial community or entrepreneurial ecosystem. Therefore, a broader population needs to perceive the venture as legitimate (Fisher et al. 2017); other audiences need to judge and accept it. Thus, the question of what entrepreneurs can do to diffuse their legitimacy and what this means in terms of their network and networking emerges.

Diffusion, distributed brokerage, and running in packs

The legitimacy diffusion literature (e.g., Johnson, Dowd, and Ridgeway 2006; Kuratko et al. 2017) informs us of how and by whom the information about the new venture can be spread beyond the local network. One key insight is that brokering plays an important role: "New venture legitimacy is positively

related to new venture legitimacy brokering activities with others outside of an entrepreneurial network resulting in legitimacy diffusion" (Kuratko et al. 2017, 133). Stakeholders in the entrepreneur's network may have connections to not only the entrepreneur, but also people outside that local network in other audiences. The entrepreneur needs to shape access to a diverse set of network ties, reaching out to those other audiences. In those situations, diversifying as a network mechanism helps to gain legitimacy outside the local network (see also Table 6.1).

Such stakeholders can act as brokers between the entrepreneur and other audiences. When they have reputations beyond the local network, it may be easier to convince members of the other audiences in their legitimacy judgment of the new venture. When these stakeholders are prominent and influential actors, it allows the entrepreneur to "borrow" the legitimacy of stakeholders associated with the emerging venture (Stuart 2000). Those brokers not only benefit from the socializing network mechanism, but also may provide information about the venture's main features and learn about the values, beliefs, and reactions of the audiences (Suchman 1995). This exchange between the new venture and audiences may allow the venture to co-opt the audience members into the venture's decision-making (Suchman 1995). Such relational brokering facilitates active evaluation of the new venture because, in their legitimacy-judgment process, members of these other audiences can use the information the brokers provide. This may require specific capabilities of these brokers—they must be able to transcode the new venture's key features into language understandable to members of the other audiences (Boari and Riboldazzi 2014).

In case of high levels of uncertainty, for example, when a new venture is based on a radical technological innovation, multiple other audiences must accept the new venture as legitimate. This may require multiple brokers to actively influence the different audiences' perceptions. Van Wijk et al. (2013) showed how such distributed brokerage interacts simultaneously with different audiences to co-create an acceptable meaning system and favorably influence the judgment-legitimation process in these different audiences. Diversity of network ties to different audiences is often associated with structural holes and brokerage. Thus, diversification as a network mechanism plays an important role in achieving legitimacy across multiple audiences in situations of uncertainty (Table 6.1). Jointly, diverse ties can "generate networks that, in the aggregate, result in institutional-legitimating events. If founders can overcome the barriers to effective collective action, they can rise above the level of their individual ventures and run together in packs" (Aldrich and Fiol 1994, 645).

These stakeholders who act as brokers may be seen as *institutional entrepreneurs* (Hardy and Maguire 2017; Van Wijk et al. 2013). Institutional entrepreneurs play an important role in the legitimacy-judgment process to influence and persuade others to accept the new venture and its underlying institutional changes as legitimate. The task of these brokers as institutional entrepreneurs is challenging because each broker must develop a trustworthy relationship to "account for the creation of consensus among audience members about which features and behaviors entrepreneurs [in original candidates] must exhibit in order to be accepted or excluded" (Cattani et al. 2008, 146). Insights from that "negotiation" process play a crucial role in persuading others to accept the new venture as appropriate and in line with society's norms and values. Dacin, Goodstein, and Scott (2002, 47) referred to these institutional entrepreneurs as "agents of legitimacy," relying on DiMaggio's (1988) classic ideas of agency in institutional theory.

A social interaction model of legitimacy

Based on this chapter's elaboration on how new ventures achieve legitimacy among different audiences, Figure 6.1 presents our model and insights graphically. The model's key component is the social interaction between the new venture and its various audiences. This social interaction takes form in

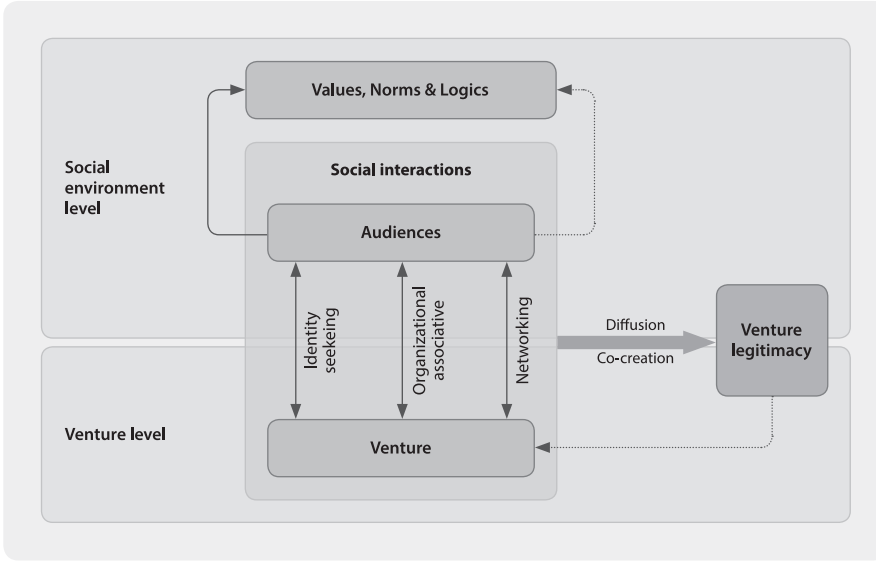

Figure 6.1. A social-interactive model of new venture legitimacy.

different ways to seek legitimacy—through identity-seeking, organizational-associative, and networking strategies—described earlier in this chapter. The different audiences heterogeneously rely and base their judgments on available social values, norms, and logics, and therefore, importantly, also potentially arrive at different new venture legitimacy judgments and outcomes. Under conditions of high uncertainty, the legitimacy judgment as outcome of the social interactions is co-created by audiences and diffused outside local networks to the broader society through distributed brokerage.

Future research

Based on the discussion and model in this chapter, we distinguish a number of future research questions. First, a key role of network ties is to satisfy the differences between audiences in terms of their criteria to judge legitimacy. This chapter showed that entrepreneurs need a diverse set of network connections to reach the different audiences. Achieving that network may be more difficult in cases of conflicting legitimacy criteria. Building on Fisher et al. (2016), we suggest that future research examine the impact on networking strategies of not only diverse, but also conflicting, legitimacy criteria across audiences.

Co-creation and networking to overcome uncertainty is challenging; the question is what combination of network mechanisms will work. The emergence of new industries is rich in uncertainty and offers opportunities to examine the networking patterns of entrepreneurs, key brokers, and members of different audiences. Building on Van Wijk et al.'s (2013) work and the notion of distributed brokerage, future research may examine the efforts of entrepreneurs and brokers to create different types of collective action such as institutional-legitimating events to gain cognitive and sociopolitical legitimacy. Important issues to address are their motivations and incentives for networking action and their ability to reach, understand, and convince different audiences to accept the venture as legitimate.

New ventures have used association with high-status actors as a networking strategy to gain legitimacy. This network mechanism of association has a generally positive effect on entrepreneurial performance because it allows new ventures to obtain resources and clients. However, the reverse may also be relevant to new ventures. We show that being associated with a partner with a tainted reputation has clear negative performance implications. In addition, changing circumstances, such as the venture's development into the next life-cycle stage, may require developing network ties with new audiences to

gain positive legitimacy judgments from those audiences. Fisher et al. (2016) showed that development may be difficult due to existing network embeddedness in a certain audience and may result in a "lock-in" effect. Future research should address when and how this effect may happen and what can be done to avoid or repair the damage.

Conclusion

Network action and strategy are central in entrepreneurs' efforts to gain legitimacy. The higher the novelty of the new venture and the associated uncertainty, the more important and challenging will networking be to establish and legitimacy to manage. It becomes more important because the entrepreneur needs to work closely with stakeholders and collaborators from different audiences to develop business opportunities since, at the outset, there is uncertainty about the new venture's main features. This is challenging because the entrepreneur must enroll stakeholders in the opportunity-development process and engage brokers in checking and organizing commitment from different audiences to grant the new venture legitimacy.

7
Conclusion

Entrepreneurship as networking

The two guiding questions of the book

Chapter 1 started by presenting the two guiding questions for this book: What kind of network helps entrepreneurs become successful? How do networking activities of entrepreneurs affect their networks and entrepreneurial endeavors? Throughout the book, we have discussed the key debates related to these questions in order to present a social-interactive entrepreneurship-as-networking perspective that bridges structural and psychological approaches on entrepreneurship as networking.

First, Chapter 2 discussed two broad perspectives on networks—namely, the business network perspective with roots in strategy literature and the social network perspective with roots in sociology. Synthesizing these two perspectives, we identified five underlying networking mechanisms that explain how particular network dimensions turn into social capital with positive and/or negative impacts on entrepreneurial outcomes. First, embedding refers to the process through which entrepreneurs created a relationally and structurally embedded set of relationships. Second, accessing is the process of determining how building or transforming relationships can create value. Third, transferring is the process of acquiring resources and information through relationships. Fourth, diversifying refers to shaping a diverse network, including multiple types of contacts and a mixture of information and other resources. Finally, socializing is the process of connecting to others to build status and reputation, resulting in venture legitimacy. Jointly, these mechanisms integrate important insights and are powerful tools to understand entrepreneurship as networking.

Next, in Chapter 3, we developed a social-interactive perspective on social networks that outlines various theories, perspectives, and empirical results related to network agency and network dynamics. We presented network agency as nodal changes (i.e., adding, dropping, upgrading, and downgrading ties), ego-structural changes (i.e., changes in structure, such as size or

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structural holes), and content flow changes (i.e., what is being exchanged). We explained what drives network agency and dynamics that function through combinations of networking mechanisms and enable entrepreneurs to develop opportunity, mobilize resources, and gain legitimacy.

Chapters 2 and 3 served as conceptual foundations for outlining the key mechanisms and network dynamics, presenting the theoretical background for developing Chapters 4, 5, and 6. Subsequently, Chapters 4 through 6 dealt with the various benefits entrepreneurs might achieve from their networking activities. In Chapter 4, we presented a socialized, interactive perspective on opportunity perception, evaluation, and action. In Chapter 5, we presented a network-based resource model explaining entrepreneurship in terms of building and exploiting networking relationships to develop new resource combinations. Finally, in Chapter 6, we presented a social-interactive model of new venture legitimacy in which legitimacy is explained as social interactions with various audiences.

In this final chapter, we integrate the various parts developed throughout the book to answer and reflect on the two guiding questions.

First guiding question: Network types and entrepreneurial success

Dimensions of network structure

The first guiding question acknowledges the importance of the influence of structural network analysis on development of the field. From our analysis in the previous chapters and an important meta-analysis (Stam, Arzlanian, and Elfring 2014), we have identified key dimensions of entrepreneurs' networks that contribute to their ambition to develop opportunities, mobilize resources, and gain legitimacy. Although these findings are valuable, the main message of our book is that these dimensions give only a partial and limited answer to the issue of the role of social capital in the success of entrepreneurial ventures. These largely structural dimensions of networks relate positively to performance, on average, at a certain point in time. However, this positive relationship does not hold across all situations or for all entrepreneurial outcomes, and may evaporate when the network and the venture develop over time. Nevertheless, these structural network dimensions are important as a first building block in our overall model. They need to be combined with the content of the network relations—that is, opportunities (Chapter 4), resources (Chapter 5), and legitimacy (Chapter 6)—and the dynamics of networking

(Chapter 3) to provide value jointly to the entrepreneurial endeavors through various mechanisms (Chapter 2). In our mechanisms-based approach, we show how entrepreneurial action combines certain network dimensions with types of content and resources to provide value to the entrepreneur.

The following structural dimensions of networks have shown, in general, a positive and significant relationship with entrepreneurial performance. The size of the entrepreneurs' networks, as the first dimension, has a positive effect on their performance (e.g., Hansen 1995; Raz and Gloor 2007; Singh, Hybels, and Hills 2000). More network relations with others implies more access to information, more potentially valuable information about entrepreneurial opportunities (e.g., Arenius and De Clercq 2005; Jack 2010), and increased potential to build legitimacy. Not only is access to information valuable to perceive opportunities, but also it can lead to important resources, such as financial capital, potential employees, technology, and advice. The second dimension is the mix of weak and strong ties (e.g., Elfring and Hulsink 2003; Lechner, Dowling, and Welpe 2006). Both weak and strong ties have a positive effect on performance and, because their contributions differ, a mix of these two types of ties adds to their overall beneficial effects. The third dimension is the diversity of the network ties, implying that having connections to others from different backgrounds and occupations benefits entrepreneurs (e.g., Hite and Hesterly 2001; Renzulli, Aldrich, and Moody 2000). Starting a venture requires a variety of information and knowledge, and a diverse network may satisfy those needs. Entrepreneurs with networks rich in structural holes also do better than those without (e.g., McEvily and Zaheer 1999; Nicolaou and Birley 2003). Efficient access to non-redundant information has been discussed as the main reason for these positive performance effects. Finally, not only direct ties, but also indirect ties, play an important role (e.g., Kim and Aldrich 2005; Zhang, Soh, and Wong 2010). This network dimension refers to the "small world" effect, which indicates the beneficial value of entrepreneurs' indirect network ties that may be accessed through referrals from their direct ties.

These four dimensions of entrepreneurial networks have been shown to benefit entrepreneurial endeavors and, in combination, are comparable to or even more important than personality traits (Zhao, Frese, and Giardini 2010) or human capital (Unger et al. 2011). There are, however, important differences in significance and effect sizes among the various dimensions. On average, network diversity and structural holes have the strongest relation with entrepreneurial performance, but there are substantial contingency factors (Stam, Arzlanian, and Elfring 2014). For example, structural holes and diversity appear to be substantially and significantly more important

to high-technology firms than to low-technology firms, as high-tech firms can profit more, compared to low-tech firms, from diverse and unique information sources to develop innovative products and services. Confirming the existence of such contingencies, studies have reported both the positive effects (e.g., Singh, Hybels, and Hills 2000; Vasudeva, Zaheer, and Hernandez 2013) and the negative effects (e.g., Batjargal 2010; Xiao and Tsui 2007) of structural holes on entrepreneurs' performance. These and other contradictory and puzzling results point at known and unknown contingencies of the effects of social networks and entrepreneurial networking on entrepreneurial outcomes, which make it difficult to see such results as guides for theory and practice. This inspired us to develop our mechanism-based approach as a cornerstone of a social-interactive entrepreneurship: a networking perspective on entrepreneurship that cuts through different research paradigms and integrates different—even contradictory—findings.

From beneficial network structure to causal patterns and mechanisms

Our mechanism-based approach relates network structure to network content and entrepreneurial action. Jointly, these network mechanisms explain how network dimensions become the social capital that provides value to the entrepreneur. By incorporating the content or resources of network ties into our mechanisms, we address repeated calls to focus on causal mechanisms and to include content in structural perspectives on social networks (i.e., Patel and Terjesen 2011; Van Burg and Romme 2014). We are interested in the causal patterns, explained by causal mechanisms, of how entrepreneurs benefit from their ties, which may carry the content they need and thus provide value to their entrepreneurial endeavors. The mechanisms show a differentiation in terms of the type of resources that may flow through each network dimension. For example, the accessing mechanism relates to how weak ties provide access to resources, which is valuable to the entrepreneur by providing an overview of what is available and where it is available. However, transferring these resources may be difficult through weak ties, thereby limiting the value of those ties. At the same time, as the transferring mechanism points out, strong ties may be able to mobilize those resources, putting them to use in a novel resource combination. Our mechanisms represent different combinations of network dimensions and content. They give insight into when and why certain network dimensions may have positive effects for entrepreneurial ventures. Thus, these mechanisms have the potential to improve

our understanding more comprehensively of the contingencies in social networking, at least compared to a more structural perspective on networking. Moreover, the mechanism-based approach provides insights into the dark side of networks because it shows the conditions related to when and why a certain network characteristic becomes negative instead of positive to entrepreneurial performance. Improving our understanding of these contextual conditions contributes to understanding the puzzling findings in the literature, as illustrated in the next paragraph.

Having more network ties in general generates benefits to entrepreneurs in terms of more access to resources and flexibility in maneuvering the venture by using different ties. However, the downside of a large network is information overload (see Mariotti and Delbridge 2012; Uzzi 1997). There are not only constraints in terms of the amount of information, but also cognitive limitations to absorbing the information in meaningful ways. In addition, it is time consuming to manage a large network. The time and effort to maintain and develop network ties may lead to network overload and may adversely affect entrepreneurial performance. As the entrepreneur is busy building and maintaining a network, this overload may crowd out other activities crucial to building and growing the venture (Adler and Kwon 2002). Furthermore, although the network's size may be large, it may be concentrated in only one audience, with potentially detrimental effects for building legitimacy and reputation (Fisher et al. 2017). Other examples of the dark side of networks, as shown by our mechanism-based approach, are the "lock-in" effect of being over-embedded and the "difficulty to recombine" when the benefits of novel combinations do not compensate for the costs of a diverse network because the entrepreneurial team lacks combinatory skills.

The five networking mechanisms contribute to our ambition to develop a social-interactive perspective in entrepreneurship. These network mechanisms connect social processes with network structure and content to explain how entrepreneurs use information, resources, and signals from their social environment through their network ties. Thus, our mechanisms center on the social-interactive processes that entrepreneurs perform. Through interacting with people, entrepreneurs can see what information and resources are available in their immediate environment. Thus, accessing as a mechanism helps entrepreneurs to learn about potential opportunities and how they can co-create and act on these opportunities jointly with their trusted connections (Engel, Kaandorp, and Elfring 2017; Sarasvathy and Dew 2005). The need to acquire certain resources may emerge in the process of co-creating opportunities, leading to discussions and negotiations with network contacts that possess these resources. The transfer of resources requires

activating, upgrading, or changing these ties to build mutual agreement about the use of the resources (e.g., Elfring and Hulsink 2007; Mariotti and Delbridge 2012). Central to this transferring mechanism are the underlying social interactions in which entrepreneurs' networks and networking actions play key roles. The accessing and transferring mechanisms are used here as examples but, in the other mechanisms, similar social interactions can be seen to combine network dimensions, resources from the environment, and actions from entrepreneurs to develop opportunities, mobilize resources, and gain legitimacy.

Second guiding question: Entrepreneurial networking agency

Entrepreneurs' agency to shape and reshape their networks constitutes our second guiding question. Networking agency refers not only to entrepreneurs' strengthening of existing relations, but also to their motivation and ability to form new ties and how they accomplish changes in their network. Entrepreneurs' agency and network strategies have become key issues in the field (e.g., Berglund, Bousfiha, and Mansoori 2020). Some studies have addressed the way entrepreneurs network and what strategies they use to develop and leverage ties (Hite 2005; Vissa 2011; Vissa and Bhagavatula 2012). As suggested in our mechanism-based approach, content plays an important role in network development. In the entrepreneurial context, the search for specific content, such as knowledge, resources, and legitimacy, is an important motivator to develop and use network ties (e.g., Jack 2005; Semrau and Werner 2014). Next to such motivation to engage in networking, we discuss how individual differences in personal traits, skills, and network orientation affect entrepreneurs' networking actions and strategies (e.g., Ebbers 2014; Fang et al. 2015; Sasovova et al. 2010). Each of these three individual characteristics influences the way entrepreneurs engage in networking to address their entrepreneurial challenges. The resulting network dynamics interact with our mechanisms. As we showed in the chapters on the development of opportunities, securing resources and gaining legitimacy through networking are not only a driving force, but also central to entrepreneurial efforts. Before discussing our key contribution that entrepreneurship is networking and, conversely, networking is entrepreneurial action, we discuss three broad network strategies of entrepreneurs. These network strategies illustrate the interplay of the different networking mechanisms and spell out in more detail how entrepreneurs practically can engage in networking and with what results.

These three strategies are the (1) multiplexity network strategy, (2) referral network strategy, and (3) cold-calling network strategy.

Multiplexity strategy

The first network strategy builds on the embedding and transferring mechanisms. It entails the use of existing network ties to acquire different types of resources; in other words, a *multiplexity* strategy (cf. Ferriani, Fonti, and Corrado 2013). At its core, this strategy relaxes the unitary tie assumption that ties bear only one type of content. Instead, it posits that ties relying on combinations of content and consequently benefiting from multiple mechanisms, such as accessing, acquiring, and associating, have a much greater impact than ties building on only one mechanism. Thus, using existing ties and making them more effective and efficient in terms of adding new types of content serve as one possibly fruitful and efficient network strategy. Newbert et al. (2013) showed that successful nascent entrepreneurs indeed leverage existing ties to acquire different resources or support for their venture. In fact, they conclude, "It appears that they must develop and leverage ties to new supporters earlier and/or more rapidly than rival entrepreneurs do in order to succeed" (Newbert, Tornikoski, and Quigley 2013, 293).

Referral strategy

The second network strategy builds on the accessing and socializing mechanisms and is termed the *referral* strategy. This strategy accesses indirect ties through existing direct ties (Kim and Aldrich 2005). The existing direct ties act as referrer to connect the entrepreneur to a resource owner. Building on trust and legitimacy between entrepreneurs and their direct ties, entrepreneurs use referrals to access and form ties with new valuable indirect ties. This strategy is equivalent to what Vissa (2011) termed *tie transitivity*, in that the shaping of new ties results from prior ties, but also follows Vissa's (2012) idea of network broadening focused on building new ties from the initial network. Sullivan and Ford (2014, 567) argued that entrepreneurs "may utilize weak ties to help gain access to other weak ties, which may be more advantageous as entrepreneurs seek the most beneficial ties with whom to create resource dependencies." In a similar vein, Zhang, Soh, and Wong (2010) showed how tie strength between the direct and indirect ties, but not between the entrepreneur and the direct ties, matters for resource acquisition

through indirect ties. In addition, prior knowledge through both direct and indirect ties regarding a particular venture is important to reduce and compensate for incomplete information (cf. Shane and Cable 2002).

Cold-calling strategy

The third network strategy, *cold calling*, uses both the accessing and diversifying mechanisms. This strategy starts from the premise that some entrepreneurs not only lack crucial resources, but also miss relevant ties to help them search and access these resources. Hallen and Eisenhardt (2012) showed that such less-privileged entrepreneurs strategically aim to build strong ties with established players, which the authors labeled "catalyzing" strategies. Further, Kaandorp et al. (2020) described how some entrepreneurs in a new setting can create an initial network through learning and perseverance, whereas others quickly drop the ball because they find it too hard to work across the multiple negative responses from potential contacts. Understanding how entrepreneurs rely on cold calling is relevant both empirically and practically because a substantial number of entrepreneurs fit these criteria, allowing us to examine their motivation and network action that leads to the establishment of new ties.

Other considerations related to networking strategies

Although the focus of these three networking strategies is on how to form new ties and maintain and develop existing ties, for entrepreneurs it is equally important to decay and drop unproductive ties, as shown in Chapter 3. This helps them optimize resources and time spent on unproductive ties and enables them to redeploy those resources for alternative purposes. Due to tie history, social obligations, and social norms related to "being a good person," deciding to decay ties and move on can be a difficult decision for many entrepreneurs. Nevertheless, this might be an important decision to save time and resources for the demanding alternative entrepreneurial activities.

These three networking strategies are examples of instrumental networking. However, we need to acknowledge that not all networking benefits are necessarily an outcome or consequence of purposeful and intentional networking. Networking is part of being a human being, and social interaction with no particular and predefined purpose can be as beneficial—if not more—as purposeful networking. Non-goal-directed networking is relevant, in particular

under conditions of uncertainty (Engel, Kaandorp, and Elfring 2017), because entrepreneurs cannot predict which ties they will need for the future twists and turns in their ventures' trajectories. Moreover, non-goal-oriented networking facilitates serendipity, an important factor in many entrepreneurial endeavors (Dew 2009). Thus, both purposeful and instrumental networking and networking without a particular goal probably benefit entrepreneurs.

Networking is entrepreneurial action

The discussion about networking strategies and actions shows the importance of entrepreneurs' proactive behavior to shape their networks and activate network ties to develop opportunities, mobilize resources, and gain legitimacy. In fact, we argue that networking in our entrepreneurship-as-networking perspective has become an integral part of entrepreneurial action instead of "just" being an antecedent, facilitator, or enabler, as in most studies. The dominant perspective of the network and entrepreneurship field conceptualizes entrepreneurs as acting separately from their (social) context. It depicts network ties as providing the link between the entrepreneur, on the one hand, and the resources in the context, on the other hand. The resources are waiting for alert networking entrepreneurs to discover and mobilize them to be used in founding ventures. Thus, in that dominant perspective, the context as a social and resource-rich environment in which an entrepreneur operates only fulfills the role of supplying information and resources as "external enablers" (cf. Davidsson 2015; Davidsson, Recker, and Von Briel 2020). The entrepreneur's action, such as founding a venture on the one hand, and network on the other hand, are treated as separate. The network's role is to provide information and resources, allowing the entrepreneur to start and develop a venture. When the network is insufficient to provide the "right" information and resources, the entrepreneur will be hampered in pursuing the entrepreneurial action successfully. In other words, the entrepreneur's networking *may* lead to entrepreneurial action (Autio, Dahlander, and Frederiksen 2013). In this traditional perspective, the emphasis is on the network *structure* and the relationship of network dimensions with entrepreneurial success. Stam et al.'s (2014) meta-analysis took stock of this perspective and showed its limitations, which mainly related to fragmented and inconsistent results due to different contingencies. Therefore, in this book, we have developed a new social-interactive perspective that puts networking at the center of entrepreneurial action. In this social-interactive perspective, we view entrepreneurship as *networking* and posit that networking *is* entrepreneurial action.

Clearly, in our discussion of entrepreneurial opportunities, we found that they are seen are relationally constituted. Networking is central to all opportunity-related processes. Entrepreneurial opportunities contain both objective (i.e., social, material) and subjective (i.e., imagination, interpretation) elements, woven together through entrepreneurs' interactions with the elements (Dimov 2016; Selden and Fletcher 2015; Wood and McKinley 2010). Entrepreneurs perceive new opportunities, often through information provided by their connections. These connections also often form the core of the actual opportunity; by co-creating with trusted others, entrepreneurs see and develop new opportunities. Similarly, when entrepreneurs imagine new, yet unexplored territories, they may intentionally reach out to build new connections to realize their imagined possibilities. When evaluating these opportunities, entrepreneurs engage in a fundamentally social process of seeking feedback, corrections, and affirmations from others to objectify previously subjective connections that comprise the elements of their opportunity (Wood and McKinley 2010). This might lead them to change the entrepreneurial trajectory or continue with the connections, turning them into resource providers for the emerging venture.

Networking is also entrepreneurial action from the lens of mobilizing resources. Entrepreneurship is often characterized as a resource-constrained activity (e.g., Baker and Nelson 2005; Dolmans et al. 2014; Senyard et al. 2014; Van Burg et al. 2012). Decades ago, Stevenson and Jarillo (1990) argued that entrepreneurship is about pursuing opportunities, regardless and independent of the resources controlled by the entrepreneur. This makes securing resources an important part of what entrepreneurs do (Starr and MacMillan 1990) and puts networking up front as a key component of entrepreneurial action. Entrepreneurial action in this sense is about collaboratively involving ties and social surroundings in securing resources for the venture. Resources not currently controlled by entrepreneurs are only secured through social interactions with stakeholders and social surroundings. Thus, networking is entrepreneurial action.

Furthermore, we argue that networking is entrepreneurial action in the process of gaining legitimacy. Legitimization is a social-interactive process. It integrates actor-centered perspectives that see an entrepreneur as trying to shape the legitimation process with audience-based perspectives that recognize audience members as actively involved in judging the entrepreneurial venture's legitimacy. An entrepreneur interacts with audience members through network ties. Thus, networking becomes a key entrepreneurial process under a condition of uncertainty because audience members may enroll themselves as stakeholders and collaborate in creating business

ideas, developing opportunities, and gaining legitimacy. This co-creation process allows for the emergence of entrepreneurial ventures in line with the norms and values of the relevant "local" audience. Some stakeholders act as ambassadors of the venture and, through their brokerage positions and brokering actions, may reach other relevant audiences. This distributed brokering may work to interact simultaneously with different audiences to co-create an acceptable meaning system and help diffuse the venture's legitimacy across audiences.

Final reflections

Overlap in developing opportunities, mobilizing resources, and gaining legitimacy

Entrepreneurs use networks to develop opportunities, mobilize resources, and gain legitimacy. We have conceptualized and theorized these three benefits of networking and social networks in three separate chapters (Chapters 4–6). Each chapter focused on how networks and networking agency might enable entrepreneurs to develop opportunities, mobilize resources, or gain legitimacy while treating these three potential benefits as separate and isolated.

Conceptually, it may be possible, and even helpful, to clearly distinguish these benefits. Such a conceptual distinction provides clearer insights into how each networking mechanism described in Chapter 2 plays out in various ways for the different benefits. However, in natural settings, developing opportunities, mobilizing resources, and gaining legitimacy admittedly overlap strongly and occur in ongoing intermingled processes. First, each networking activity may affect all three benefits simultaneously and, because various mechanisms are at play with consequences for all three benefits, entrepreneurs may experience a need to balance and make decisions related to trade-offs. Second, the three benefits also influence each other. For instance, it is easier to secure and mobilize resources, such as venture and angel capital, when the opportunity is well developed and when legitimacy is obtained. Having obtained funding from venture capital later also provides legitimacy to the venture because other investors have signaled an appreciation of the new venture's business models. Table 7.1 presents an overview of the overlap and tensions between the different mechanisms' benefits.

Although these are all examples of overlap with positive synergy, such is not always the case. Sometimes entrepreneurs need to balance and prioritize what they want because the benefits jeopardize each other. For instance,

Table 7.1 Overlap and Tensions of Network Mechanisms Related to Developing Opportunities, Mobilizing Resources, and Gaining Legitimacy

Mechanism	Effect on Opportunity Development, Resource Mobilization, and Legitimacy	
	Overlap	**Trade-off**
Embedding	+ Develop opportunities with embedded ties, which provides resources and legitimacy. + Develop solid reputation in close set of network ties, which helps mobilize resources. – Limited legitimacy, information, and resources outside the embedded network.	+/– Embedding delivers redundancy, contributes to mobilizing resources and gaining legitimacy, but hinders opportunity development by limiting access to novel information and diverse resources. +/– Gain legitimacy through association with and referrals from existing ties, which helps mobilize resources but may generate detrimental obligations and commitments.
Accessing	+ Access to novel information and resources, leading to more innovative opportunities. – Risk of delayed and superficial information, few resources, and limited reputation development due to lack of ties' commitment. – Time and effort to develop access to network and transfer knowledge, resources, and reputation.	+/– Access to multiple ties can help develop opportunities but does not help directly mobilize resources or gain legitimacy.
Transferring	+ Transferring helps opportunity development through tacit knowledge and social support, mobilizing resources, and gaining legitimacy.	+/– Intentionally developing networks to establish transfer can lead to negative (i.e., opportunistic) reputation.
Diversifying	+ Innovative combinations of ideas and resources. + Enables flexibility through diverse network connections, facilitating different courses of action.	+/– Diversifying can make it difficult and time-consuming to develop and maintain reputation across different audiences.
Socializing	+ Develop opportunities, mobilize resources, and gain legitimacy through storytelling to network partners. + Influencing institutional logics through network action builds legitimacy, which in turn helps develop opportunities and mobilize resources.	+/– Established reputation infringes on access to insights and resources from the margin. +/– Mobilizing resources from partners with different or even bad reputations can reduce legitimacy. +/– Established reputation may generate unproductive role expectations.

+ Indicates an enabling effect of the mechanism; – indicates a negative effect.

obtaining financing from low-status investors (e.g., investors with criminal records) might provide entrepreneurs with the capital they need to continue pursuing the new venture opportunity; however, they may lose important legitimacy among future customers by not distancing themselves from criminal activities. In a different case, entrepreneurs might obtain legitimacy by choosing to mobilize raw material in a way that is sustainable and environmentally friendly, for instance through Fairtrade (www.fairtradecertified.org), but more financially expensive. Here, the trade-off is whether cheap raw materials and potentially low legitimacy is preferred over expensive raw material and high legitimacy. Another possible trade-off is when entrepreneurs rely on a few providers to access and mobilize resources cheaply and efficiently. However, in the long term, they may be locked into a limited set of ties on which they are highly dependent, in turn jeopardizing their exposure and openness to new ideas from a diverse set of ties, and thus hampering their opportunity development. Moreover, such a limited set of embedded ties can create obligations to reciprocate favors and, given the limited nature of the network, such obligations cannot be negotiated by shifting to other partners. Thus, entrepreneurs should weigh the long-term benefits and disadvantages of prioritizing cheap access to resources that might jeopardize their opportunities to use network exposure to develop their business against the more expensive option of having more resource providers with the opportunity to develop the business model.

The overlaps and trade-offs among the mechanism benefits point to the need to creatively balance social network structure and relationships and to adjust the network over time to benefit from content that the network provides. Entrepreneurship is a dynamic process, and each phase of the venturing process has different requirements and, consequently, needs different network structures (Batjargal 2010; Hite and Hesterly 2001; Martinez and Aldrich 2011; Stuart and Sorenson 2007). For instance, in the initial, emergent phase, accessing through weak ties might be more important for opportunity development, whereas in phases that require expensive resources, embedding is more crucial (Stam, Arzlanian, and Elfring 2014). However, when it comes to attracting customers and innovating, accessing new types of information and diversifying the network again become more important (Martinez and Aldrich 2011). Moreover, the effect of bridging structural holes through diversifying initially appears to be positive but then becomes negative (Batjargal 2010). Initially, the diversity of network contacts and unique connections to relatively unconnected parts of a network are advantageous, for instance to be able to make novel combinations, but at a later stage the coordination costs of these relationships and the ambiguity of diverse information may be

detrimental. This shift points to the role of the entrepreneur's or entrepreneurial team's network-management skills to create and adjust the best possible network configurations that, over time, are amenable to the prospects of their ventures.

Context of social networks and network agency

In this book, we did not focus much on how the broader context influences and shapes networking agency and its effects. We developed our conceptualization and theorizing based on prior studies mainly (but not exclusively) from Western countries, which might limit the generalizability of the insights we suggest.

It is well known that social network effects vary across contexts, mainly explained via various institutional arrangements. For instance, it has been shown that in contexts with institutional voids, social networks play a crucial role in overcoming institutional constraints (e.g., Aidis, Estrin, and Mickiewicz 2008; Kiss and Danis 2008). In contexts with, for instance, undeveloped formal institutions characterized by political instability, low government effectiveness, low regulatory quality, and limited control of corruption, entrepreneurs experience high levels of uncertainty and instability in their surroundings. This uncertainty influences how they engage in networking with ties and what role those ties may play. For instance, Puffer et al. (2010) found that entrepreneurs adopt a balance, relying on formal institutions and social networks that fit their unique circumstances and challenges—a balance different from that observed in context with developed formal institutions. Batjargal et al. (2013) found that weak institutional arrangements not only positively influence the numbers of structural holes that entrepreneurs have, but also strengthen the importance of those structural holes for new venture growth.

It also has been shown that culture matters for entrepreneurial networking. Culture influences how people interact and how their network composition changes over time (Vaisey and Lizardo 2010). Kim et al. (2008) found differences in behavior related to the use, mode, and effectiveness of support in individualistic and collectivistic cultures. This is due to different expectations and norms related to how ties and relationship are coordinated and function. In entrepreneurship, more specifically, such differences have been confirmed (e.g., Greve and Salaff 2003; Klyver and Foley 2012; Klyver, Hindle, and Meyer 2008; Kwon and Arenius 2010). For instance, Rooks et al. (2016) argued that in collectivistic cultures, resource exchange is consummatory

and value based; that is, there are norms prescribing resource sharing among ties. In contrast, in individualistic cultures, the motivation to exchange resources is more instrumental based upon cost–benefit calculations. These cultural differences imply that entrepreneurs in individualistic cultures rely more heavily on dense networks to obtain resources from their ties. Thus, the entrepreneurship-as-networking perspective as advocated in this book also embraces a substantive and inclusive treatment of culture, as shared meaning, preferences, and logics both constitute and result from entrepreneurial networking (cf. Pachucki and Breiger 2010).

Implications for scholars and practitioners

Scholars: Agenda-setting insights

New research questions

A range of interesting research questions emerges from the social-interactive approach to entrepreneurial networking presented in this book. In the following text, we elaborate on those we find most promising and important to move the field forward.

First, interesting research questions relate to the interplay of networking mechanisms. Because one issue relates to potential future research questions, we emphasize the importance of engaging in discussions on networking mechanisms. Network traditions rooted in strategy, the business network perspective, and sociology, the social network perspective, previously explained entrepreneurs' performance, emphasizing the value of the content associated with the connections or emphasizing the positions within a social structure, respectively. In this book, we combine these insights to develop five underlying mechanisms with positive and/or negative impacts on performance. We strongly recommend that future research dig deeper into how these underlying mechanisms affect entrepreneurs' behavior and performance; importantly, not focused on single mechanisms but on their combinations and interactions. Each networking mechanism may enhance the entrepreneur's performance but simultaneously may involve some dark sides and be constraining. Exploring the interplay of enhancing and constraining effects from a combination, the underlying networking mechanisms potentially can provide us with a more refined and nuanced understanding of entrepreneurship as networking. Thus, we specifically suggest that future research explore the enhancing and constraining effects and their interplay from combinations of networking mechanisms among entrepreneurs.

Second, the dynamics of structure and agency are interesting and need further attention. Research so far has predominantly relied on static pictures of entrepreneurs' networks that are assumed, in a rather deterministic way, to shape entrepreneurs' behavior and performance. As we show in this book, such a static and deterministic network understanding provides an incomplete and inadequate understanding of what is going on, because it ignores network agency and the associated network dynamics. However, we are not suggesting that static network determinism needs simply to be replaced with network agency and network dynamics; rather, we suggest looking at network structure and network agency in combination. Entrepreneurs are shaped and influenced by their networks, but they simultaneously shape and change their networks as part of their lives and, importantly, as part of their entrepreneurial endeavors (cf. Berends, Van Burg, and Van Raaij 2011; Berglund, Bousfiha, and Mansoori 2020). Future research should explore the interaction and interplay of network and networking to more realistically capture the reality of entrepreneurs and provide a more fine-grained picture of the benefits and limitations they experience.

Third, attention to further explore the overlap and trade-offs in networking outcomes is warranted. A new question we find important for future research relates to the overlap and trade-offs in networking outcomes. Because networking activities potentially affect opportunity development, resource mobilization, and legitimacy simultaneously, with various mechanisms and their consequences in play for all three outcomes, future research needs to explore how entrepreneurs balance and make decisions related to trade-offs. Part of this research would involve investigating the positive and negative spillover effects among networking benefits. Interesting and potentially groundbreaking studies in this direction may explicitly investigate the relationship between developing opportunities and securing resources through low-reputation networks, for instance through corruption (as a network-based phenomena) or through resource providers that operate at or beyond the border of what is allowed. Do the benefits of acquiring resources pay off against the reputation risks? Relatedly, how far do such reputation spillover effects reach in a network, and how do they affect other network outcomes? Another interesting research approach is to explicitly compare cases with differing foci on one of these strategies. Which strategy is more successful: focusing on opportunity development, resource acquisition, or legitimacy?

Fourth, interesting unanswered questions revolve around culture and context. One new research question we suggest for future research has to do with investigating the contextual dependencies of networking agency. Social

network effects have been found to depend on institutionalization of a society (e.g., Batjargal et al. 2013; Puffer, McCarthy, and Boisot 2010) and its culture (e.g., Klyver and Foley 2012; Rooks, Klyver, and Sserwanga 2016). Although this has been studied, at least to some extent, with regard to the effect on entrepreneurs' social network structures, contextual dependency is much less studied with regard to networking agency, even though we know that behavior is rather different across cultures and contexts. This lack of study has implications for both the psychological perspective emphasizing, for instance, social skills or networking orientation, as well as the behavioral perspective emphasizing networking behavior and activities related to adding, deleting, or changing ties. Thus, we suggest future research to address the contextual and cultural dependencies of networking agency; that is, embedding networking agency in its broader social context to deepen our insights on how entrepreneurs act in a social-interactive manner in various contexts to achieve their new venture goals.

Finally, a remaining research question relates to how different types of entrepreneurs are embedded in and, as active agents, engage with networks. In this book, we predominantly treat new ventures and entrepreneurs as rather homogenous types of actors. We distinguish only between imitative and novel, innovative entrepreneurs. We approach entrepreneurship and networking from the privileged and opportunity perspectives, with an implicit and inherent logic of "the rich get richer." However, entrepreneurs are not homogeneous. Particularly important, many entrepreneurs are disadvantaged and are pushed by necessity rather than opportunities (Block and Koellinger 2009; Poschke 2013). There is extensive literature on the differences in social networks among various disadvantaged groups, such as women (Klyver and Terjesen 2007), immigrant (Tavassoli and Trippl 2019), indigenous (Klyver and Foley 2012), and refugee (Bizri 2017) entrepreneurs. There is also extensive literature on entrepreneurs' social networks in less resourceful or even poor contexts (e.g., Rooks, Klyver, and Sserwanga 2016). Although these literatures have been important and insightful, they have looked mainly at the disadvantaged groups from a rather deterministic and structural perspective. More research is needed to explore how, through social interactions and networking, various disadvantaged groups with a "poor" starting point change their network conditions and escape their potential structural lock-in. Thus, we need to supplement the prior focus on structural differences with a focus on network agency and network dynamics to see how disadvantaged groups maneuver out of their disadvantaged positions and how various networking mechanisms, including their dark sides, play out.

Research recommendations

Although we see increasing sophistication and variation in the types of methods used to study entrepreneurs' networks and networking, there is room for progress and improvement. In each chapter, we have provided specific recommendations with potential to improve our understanding of the various topics. Table 7.2 provides an overview of those recommendations.

We will not discuss these recommendations in depth here, but we present two broader, more generic method issues we find important to further our understanding of entrepreneurs' networks and networking. These two issues apply across all topics in this book.

First, there is a need to dig deeper into the network processes and explore how they unfold over time. This exploration would involve various options or combinations of options (cf. Berends and Deken 2020; Langley 1999; Langley et al. 2013; Poole et al. 2000). We need more longitudinal studies that explore the variance in patterns of how entrepreneurs' networks change over time as a consequence of their networking. Such studies could vary in length, with the long-term perspective using longitudinal panel surveys similar

Table 7.2 Overview of Research Recommendations

Chapter 3 Network Agency and Dynamics	Chapter 4 Developing Opportunities	Chapter 5 Resources	Chapter 6 Gaining Legitimacy
Apply more longitudinal studies to capture network dynamics. Explore the multiplexity of ties and its development over time. Explore networking under conditions of uncertainty.	Explore heterogeneity in opportunities. Investigate, rather than assume, networks. Apply new methods to cover the cognitive processes as well as the dynamics of network connections (e.g., diary-based methods).	From network structure to network agency. From variance models to process models. Open the black box of the resource-combination process. Focus on resource combinations rather than single resources.	Explore differences between audiences in terms of legitimacy judgment criteria. Examine impact of conflicting judgment criteria on networking strategies. Examine efforts to create different types of collective action. Explore ties to partners with tainted reputations; what can be done to avoid/repair damage?

to the PSED-type of studies (http://www.psed.isr.umich.edu/psed/home) (Davidsson and Gordon 2012; Gartner and Shaver 2012) or the shorter-term perspective using, for instance, experience sampling methodology (Funken, Gielnik, and Foo 2020; Uy, Foo, and Aguinis 2010). It is also important that future research is careful about the pace by which data is captured to allow taking into account the time dimension of network agency (Ahuja, Soda, and Zaheer 2012). Certain changes happen quickly and others slowly, and this pace of change should be aligned with the pace and frequency of data collections.

Apart from longitudinal studies that identify variances in networking patterns over time, we also need process studies that focus on how networking unfolds over time—not from a longitudinal-variance perspective, but from a process perspective that reflects the evolutionary nature of entrepreneurial networking (Clough et al. 2019; Van de Ven 2007). Here, the aim would be an event-driven explanation focused on how entrepreneurs' formation, change, and decay of ties unfold over time (Aldrich 2001; Van de Ven and Engleman 2004).

Moreover, studies of networks and networking in entrepreneurship need to better use benefits from increasing digitalization. This refers, first, to the role of social media in enabling, amplifying, and potentially changing the existing network mechanisms. Search and referral processes have become much easier than they used to be. At the same time, these social networks also influence—and potentially constrain—entrepreneurs' thinking, sense-making, and action (cf. Fischer and Reuber 2011). Second, the various online platforms generate much big data that potentially can help us explore networking in different ways (George, Haas, and Pentland 2014). Big data differ from traditional large data sets (which are not uncommon today) with regard to variety (diversity of sources and data types), velocity (speed of data generation and diffusion), and veracity (level of messiness and unreliability) (Schwab and Zhang 2019). The nature of big data provide new research opportunities in general and probably in particular for studying entrepreneurs' networks. Schwab and Zhang (2019) suggested that big data offer opportunities to use quantitative data for inductive and explorative purposes that will supplement the previous domination of inductive studies from qualitative approaches. They even suggested combining inductive and deductive methodologies in various ways.

Second, although research needs to pay attention to details, the helicopter view should not be forgotten. As we show throughout this book, networking functions differently through various mechanisms and with different effects on various outcomes—that is, developing opportunities, accessing

resources, and gaining legitimacy. Looking too narrowly at only some relevant mechanisms and one type of benefit jeopardizes correct identification of networking's overall effects. For instance, perhaps establishing a tie to a new supplier pays off in terms of saving costs for raw materials, but there might be side effects that are equally necessary to include in the analysis. If this new supplier is perceived as acting unethically, their reputation might be transferred to the entrepreneur. The entrepreneur would potentially will lose legitimacy—a loss that, over time in terms of reduced sales, potentially exceeds the saved cost. Thus, a bigger picture, or at least an acknowledgment of the alternative outcomes of networking, is needed to fully understand what types of networking are effective and ineffective for entrepreneurs.

Theoretical contributions

Although each chapter involves its own contributions to theory and understanding of networking among entrepreneurs, we would like to emphasize some more generic, overall contributions of the book. First, we contribute a set of network mechanisms to enhance theorizing entrepreneurship. These mechanisms address the challenge posed by Ahuja, Soda, and Zaheer (2012, 446) "to discover the mechanisms and processes that drive network outcomes." The mechanisms of embedding, accessing, and transferring are actually regularly researched, but diversifying and socializing are explored to a lesser extent. Moreover, our overview elaborates how these mechanisms influence crucial entrepreneurial outcomes in terms of opportunity development, resource mobilization, and gaining legitimacy, as well as the overlap and tensions between these outcomes. As such, these mechanisms show how networking is a central element of any entrepreneurial action. Thus, we conclude that social capital theory forms a foundational theory for entrepreneurship.

Second, we posit in this book that networking and entrepreneurship should be viewed from a social-interactive perspective. Determinist views on networks and their effects on entrepreneurial outcomes negate the role of entrepreneurial agency. At the same time, overly agentic views neglect the "givens" that entrepreneurs use as stepping stones for their actions. All entrepreneurs operate in a certain setting, with factors that constrain and enable particular actions. In this sense, we advocate that entrepreneurship needs a true integration of sociological and psychological insights and theories, especially with regard to entrepreneurial networking and its outcomes. Studies that stay true to original disciplines—sociology (i.e., structure), psychology (i.e., agency, traits), economy (i.e., transaction costs)—neglect important parts of the puzzle that are needed to explain entrepreneurial phenomena. Next, this interaction has a process dimension that needs to be taken seriously,

both methodologically and conceptually. Interestingly, recent studies indeed have combined different disciplines and have provided original contributions that explain how agency and structure interrelate over time (e.g., Berends, Van Burg, and Van Raaij 2011) or how cognitive evaluations relate to networking actions and responses of network contacts (Kaandorp, Van Burg, and Karlsson 2020).

Consultants and policymakers

A balanced focus on adding, dropping, and developing ties

Among consultants, policymakers, and practitioners in general, there is a strong focus on "more is better." Therefore, advice to entrepreneurs and network training programs often emphasize how entrepreneurs should build new ties and enlarge their networks. Building larger social networks by adding new ties is clearly an important element of networking agency and a crucial strategy for entrepreneurs. However, it is not the only strategy and certainly is not without limitations. In Chapter 3, we showed how dropping ties can be important for entrepreneurs to make their networks more effective by reducing the time used to maintain network ties. We also learned that tie change is a possible strategy; weak ties can be upgraded to stronger ties that suddenly play a different role and function, or strong ties can be downgraded and left latent for a while. These equally important strategies or dimensions of networking agency—that of eliminating existing but unproductive ties, or upgrading versus downgrading ties—in our view have little focus in the practical advice provided to entrepreneurs or in network training programs. We suggest giving a larger role to accommodate all dimensions of networking agency—that is, adding, dropping, and changing ties—to ensure that entrepreneurs do not end up with large networks that are costly to develop and too costly to maintain.

Accepting that networking can also be non-intentional

Entrepreneurship literature on social networks has been dominated by a structural and deterministic approach to social networks and has less frequently emphasized aspects of entrepreneurial agency. In contrast, practitioners, consultants, and policymakers have adapted a much more agentic approach to entrepreneurs' networks. They also mainly have approached networking agency in accordance with the instrumental perspective, which emphasizes networking as tool for entrepreneurs to intentionally reach their new venture goals. Such political initiatives and training programs offered by public

agencies or consultancies have less frequently accepted that sometimes networking, including networking that might end up being important, can be non-intentional. As we discussed in Chapter 3, this non-intentional networking can be important for injecting randomness, valuable accidents, or serendipity (Engel, Kaandorp, and Elfring 2017, 45).

We therefore think it is important that such political initiatives and training programs also allow and make space for networking that is non-intentional, especially because some entrepreneurs (and some more than others) feel uncomfortable (Wanberg, Kanfer, and Banas 2000) or even "dirty" engaging in instrumental networking (Casciaro, Gino, and Kouchaki 2014). The tendency to schedule every available moment for "networking" in an explicit way creates an atmosphere of instrumentality that is not necessarily productive for networking. We suggest there should be more time devoted to the randomness and serendipity that comes from non-intentional networking.

Opening closed networks

Regional and national priorities often drive policy agendas, leading to, for instance, an emphasis on regional clusters and national industrial strengths, sometimes to the extent of literally closing borders to foreign products and producers. Thus, local closed networks receive policy advantages that result in reinforcing local embeddedness and cohesion. The advantage is that this also can result in more knowledge spillovers, collaboration, and co-creation on a regional and national level. However, at the same time, entrepreneurs in such cohesive networks run the risk of falling short on collaborations with more distant cross-border and cross-industry partners. This hampers their innovative capacity in terms of identifying new opportunities, mobilizing distant resources into novel recombinations, and garnering legitimacy outside the closed network. Thus, an important task of policymakers is to harness local embeddedness while opening these cohesive networks and facilitating or stimulating more distant collaboration which, in the long run, is essential for innovation and resulting performance.

Conclusion

This book has outlined our conceptual understanding of entrepreneurship as networking. We have discussed, synthesized, and integrated extensive literatures relating to networks, networking, and entrepreneurs. Although the field in general, as illustrated throughout the book, has accomplished much, further theoretical progress is necessary to enable relevant and concise

advice to the entrepreneurial community in the future. Our social-interactive approach and action orientation have the promise to overcome persistent problems around both socially determined as well as overly individualistic accounts of entrepreneurship. In the entrepreneurship-as-networking perspective as developed in this book, networking is seen as an integral part of entrepreneurial action instead of "just" being an antecedent, facilitator, or enabler of entrepreneurial action. We show that we need to go beyond the notion of networks as pipes or prisms (Podolny 2001), and rather see networks as contingent and dynamic vehicles of interaction. Entrepreneurs are engaging through networking in the key entrepreneurial processes of opportunity development, resource acquisition, and gaining legitimacy. Entrepreneurship as networking embraces the interaction with the environment and constitutes, for example, key social processes of seeking feedback and corrections from others to collaborative enactment of entrepreneurial opportunities. Entrepreneurship as networking also accommodates important insights about co-creation of ventures with stakeholders that engage in the process by early commitment of resources and by providing legitimacy. Thus, this entrepreneurship-as-networking perspective renews, broadens, and extends research agendas, focusing on multiple levels of analysis, process methodologies, and a plurality of perspectives.

We suggest that future research should recognize that networking by entrepreneurs takes place in a specific context. The individual or organizational level of networking behavior needs to be combined with the specific dimensions of the social environment. Our networking mechanisms combine these multiple levels of analysis, and we encourage researchers to examine how these mechanisms affect the way networking behavior benefits from the potential value embedded in the environment. At the same time, the context may form boundaries to networking processes and the effects of networking. Therefore, we suggest that it is important to explore the interplay of the enhancing and constraining effects of the networking mechanisms under different contextual conditions. In addition, we suggest focusing much more on process studies in which scholars can examine how the networking and network ties unfold over time. We need both longitudinal studies taking a variance perspective and studies that use a process view that takes into account the evolutionary and path-dependent nature of entrepreneurial networking. The latter may develop event-driven explanations on how tie development changes over time. Finally, future studies would be substantially enriched by using multiple perspectives. Combining, for example, psychological insights around entrepreneurial agency and cognitive evaluations of networking with an understanding from a sociological point of certain valuable network

constellations can enrich our understanding of the way in which networks enable and inhibit action. Overall, this entrepreneurship-as-networking perspective aims to stimulate further discussion, and we hope to inspire research that addresses how and why networks are beneficial and how entrepreneurs can create those networks.

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Author Biographies

Tom Elfring

Tom Elfring is Dean of Nijmegen School of Management of Radboud University in the Netherlands and a professor in Strategic Management and Entrepreneurship. Previously he was a professor and Head of the Strategy, International Business and Entrepreneurship group (SIBE) at University of Liverpool Management School and a professor at the Vrije Universiteit Amsterdam. He has been a visiting professor at the Copenhagen Business School (1996), at Mays Business School, University of Texas A&M (2006), at the Aarhus School of Business (2008), at the University of Alabama (2010), and at the University of Bologna (2011 and 2012). His research interests include networking in emerging organizations, corporate entrepreneurship and venturing, and strategic entrepreneurship. He has published over 50 international articles/book chapters in journals, such as *Academy of Management Journal*, *Journal of Business Venturing*, *Journal of Business and Psychology*, *Long Range Planning*, *Organization Studies*, *Scientometrics*, and *Small Business Economics*. He has published seven books, the latest *Corporate Entrepreneurship and Venturing* (2005, Springer). His book *Rethinking Strategy* has won the ERIM best book award and he has received the Emerald Management Reviews Citations of Excellence Award in 2012 and in 2017. His research has been funded by the Dutch Research Council (NOW), Royal Academy of Sciences (KNAW), The Netherlands Scientific Council for Government Policy (WRR), and European Science Foundation (ESF). Supervising PhD students has been one of his core activities; over 25 of them have successfully completed their PhD.

Kim Klyver

Kim Klyver is a professor in entrepreneurship at the University of Southern Denmark and adjunct professor at the University of Adelaide. Before becoming a full professor, he has held postdoc positions at Swinburne University of Technology (2006) and at Stanford University (2009). Klyver's main research interests include entrepreneurship, social capital (social networks),

human capital, gender, and institutional theory. His research has received several scientific rewards internationally. He has published 37 international peer-reviewed journal papers, and his research has appeared in journals such as *Journal of Business Venturing*, *Entrepreneurship Theory and Practice*, *Journal of Business Ethics*, *Small Business Economics*, and *Journal of Small Business Management*. He serves on several editorial boards, including the board of *Entrepreneurship Theory & Practice*, *Journal of Small Business Management*, and *International Small Business Journal*. He has been the principal investigator on several research projects funded by the Danish Research Council and is currently leading the Danish Panel Studies on Entrepreneurial Dynamics (DaPSED). His coauthored textbook *Entrepreneurship Theory in Practice—Paradoxes in Play* is soon to be published in its third edition.

Elco van Burg

Elco van Burg is a professor of organizational theory at the School of Business and Economics at Vrije Universiteit Amsterdam, The Netherlands. Next to positions in academia, he has been working for six years at a social venture in the rural highlands of Papua (Indonesia). He holds a PhD in Management from Eindhoven University of Technology. His research focuses on processes at the intersection of organization theory and entrepreneurship. He studies primarily social networks and interorganizational collaboration, managerial imagination and decision-making, design perspectives on organizing, organizing for the public good, and organizational trends such as lean and agile. His research has been co-funded by the European Union, the Dutch Space Agency, and the European Space Agency (ESA), among others. His publications have appeared in leading journals such as *Organization Science*, *Organization Studies*, *Journal of Management Studies*, *Strategic Entrepreneurship Journal*, and *Entrepreneurship Theory and Practice*.

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