This chapter is based on Engel, Y., Kaandorp, M., Elfring, T. Entrepreneurial networking under uncertainty: An effectual lens. [under review].
Abstract

Although research has started to acknowledge the strategies by which entrepreneurs form and maintain network ties, most efforts to date present an incomplete picture of entrepreneurs as heroic network architects who search, plan, and pursue contact with targeted ties. Herein, we review this nascent literature, argue that it has so far overlooked alternatives in favor of an overly planned and instrumental perspective, and consider the implications of incorporating the notion of uncertainty into investigations of how entrepreneurs engage in networking. We therefore take a novel perspective on entrepreneurial networking and adopt an effectual lens to theorize about how entrepreneurs act when desired ties cannot be identified in advance, networking outcomes cannot be predicted, and ongoing social interactions fuel the emergence of new objectives. Overall, we add important insights to the literature as we flesh out an effectual networking process and discuss how it may stimulate a broader research agenda focused on the inquiry of networking agency under uncertainty.

**Keywords:** entrepreneurship; networking behavior; uncertainty; effectuation
5.1. Introduction

Surging research interest in what entrepreneurs do to create and shape their personal networks signifies scholars’ efforts to break away from earlier deterministic accounts of tie formation (see Emirbayer & Goodwin, 1994; Gulati & Srivastava, 2014; Hoang & Antoncic, 2003; Stuart & Sorenson, 2007 for a review and critique). Entrepreneurs are no longer seen as passive actors “hemmed in by the inertial forces of prior network structure” (Vissa, 2012: 492) but rather as reflexive agents who “actively shape their approach to tie formation through thoughtful agency” (Hallen & Eisenhardt, 2012: 36). For instance, research provides robust evidence that entrepreneurs’ networking strategies (Baker et al., 2003; Hallen & Eisenhardt, 2012; Ozcan & Eisenhardt, 2009; Zott & Huy, 2007) as well as their constituent networking actions (Vissa, 2012) represent a distinct mechanism driving the creation and discovery of opportunities, the mobilization of resources, and the formation of inter-organizational partnerships.

To date, however, scholars who adopted this agentic view have also inherited a stifling assumption - namely, that entrepreneurs are goal-driven, planned, and deliberate in their attempts to efficiently target and maintain specific valuable connections (Hallen & Eisenhardt, 2012; Hite & Hesterly, 2001; Stuart & Sorenson, 2007; Vissa, 2011; Zott & Huy, 2007). For instance, Stuart and Sorenson (2007: 211) contend that “most entrepreneurs and young ventures are strategic in their formation of relations”, while Vissa (2011) applies Ajzen’s (1991) theory of planned behavior to argue that potential ties are screened based on a-priori matching criteria, and Hallen and Eisenhardt (2012) introduce efficient networking strategies by which entrepreneurs deliberately target desired ties. Current discussions of agency in entrepreneurial networking are therefore echoing traditional theories of entrepreneurial action in presenting an instructive, yet incomplete picture of entrepreneurs as heroic architects who strategically search, plan, and pursue their pre-defined goals (Alvarez & Barney, 2007; Baker et al., 2003; Sarasvathy, 2001; Shah & Tripsas, 2007).¹⁹

¹⁸ We use the terms “tie”, “contact”, “relation”, and “stakeholder” interchangeably to refer to the alter with which the entrepreneur (ego) is establishing a social and/or a business connection with.

¹⁹ This perspective is more generally referred to as the “classic model of entrepreneurship” by Shah and Tripsas (2007), “discovery approach” by Barney and Alvarez (2007) “design-precedes-execution” by Baker et al., (2003), and “causation” by Sarasvathy (Sarasvathy, 2001).
At the same time, the assumptions required by such “design-precedes-execution” models (Baker et al., 2003) have been the subject of increasing criticism, especially as they refer to entrepreneurial agency - that is, action in the presence of uncertainty (Alvarez & Barney, 2007; McMullen & Shepherd, 2006; Sarasvathy, 2001; Sarasvathy, 2008). High levels of uncertainty, which are at the core of the entrepreneurial experience (Alvarez & Barney, 2005; McMullen & Shepherd, 2006), imply extreme unpredictability, goal ambiguity, and an environment that keeps on changing with every entrepreneurial action (Alvarez & Barney, 2007; Miller, 2007; Sarasvathy, 2008). For example, the venture’s early emergence stage or the process of internationalization are classic examples for arenas in which instrumental planning is notoriously fallible (Brinckmann et al., 2010; Hite & Hesterly, 2001; Honig & Samuelsson, 2012; Johanson & Vahlne, 2009; Kalinic, Sarasvathy, & Forza, 2014). We therefore ask: how do entrepreneurs engage in networking under uncertainty? Or to paraphrase Sarasvathy (2008: 70) how should entrepreneurs network strategically when the future is unpredictable? How can they intentionally target desired ties when their own goals are underspecified or their preferences unordered? And how can they plan tie formation when every networking action alters the information on which such plans are based?

In this article, we address these questions by suggesting that the extent to which entrepreneurs are indeed calculative and instrumental networkers is at the very least questionable and at most limited by the ubiquity of important boundary conditions such as uncertainty. In particular, we argue that the literature on entrepreneurs’ networking has so far overlooked alternative logics of action in favor of an overly planned perspective, and consider the implications of incorporating the notion of uncertainty into investigations of how entrepreneurs form and maintain network ties. In doing so, we draw on general insights from “discovery” and “creation” theories of entrepreneurial action (Alvarez & Barney, 2007; Miller, 2007) to explore entrepreneurial networking under a modified set of assumptions as implied by uncertainty (Alvarez & Barney, 2007; McMullen & Shepherd, 2006; Miller, 2007; Sarasvathy, 2008). We further focus on effectuation – a logic of action consistent with the assumptions of creation theory – to provide more detail about how entrepreneurs act under extreme uncertainty (Sarasvathy, 2001). Thus, an effectual lens does not only allow us to draw parallels between how entrepreneurs network and a range of other entrepreneurial behaviors under uncertainty, but also to flesh out an effectual networking strategy as a distinct process of endogenous network change.
Our primary contribution to theory stems from investigating a new angle of the under-explored origins of entrepreneurial networks (Stuart & Sorenson, 2007), and from theorizing about the highly relevant role of uncertainty in shaping networking actions and strategies (Alvarez & Barney, 2007; McMullen & Shepherd, 2006; Miller, 2007; Sarasvathy, 2001; Vissa, 2012). This is in line with recent conceptualizations of networking as constrained agency (Gulati & Srivastava, 2014) and consistent with calls positioning the influence of cognition on networking behavior as an unusually promising avenue for inquiry (Hallen & Eisenhardt, 2012; Vissa, 2012). Furthermore, our work adds to research on the behavioral outcomes of effectuation as it relates to networking at the interpersonal level – an issue that already triggered some lively debates (Goel & Karri, 2006; Karri & Goel, 2008; Sarasvathy & Dew, 2008). Finally, we provide suggestions that scholars may use as part of a research agenda aimed at enriching our understanding of how entrepreneurs develop their social networks under uncertainty.

In the following sections we first review the young literature about entrepreneurial networking actions and identify the underlying assumptions that position it within a broader “discovery view” on entrepreneurial action. We continue by submitting that the notion of uncertainty acts to define an alternative set of assumptions and discuss effectuation as a specific manifestation of a “creation view”. We then use this analysis as a basis to theorize about networking under uncertainty and outline a rudimentary conceptualization of an effectual networking process. In the final section we discuss opportunities for future research.

5.2. Theoretical Background

5.2.1. Entrepreneurial Networking: In Search of Discovery

The importance of entrepreneurial networks for venture outcomes is indisputable as they feature the possibility to generate and refine venture ideas and opportunities, mitigate the liability of newness by creating legitimacy, and facilitate the acquisition of needed resources and information (Ardichvili, Cardozo, & Ray, 2003; Bhagavatula, Elfring, van Tilburg, & van de Bunt, 2010; Elfring & Hulsink, 2003; Hite & Hesterly, 2001; Stuart & Sorenson, 2005). Yet, while this line of research is extremely valuable, it is also the subject of fierce critique (Emirbayer & Goodwin, 1994; Emirbayer & Mische, 1998; Hallen & Eisenhardt, 2012; Vissa, 2012). One of the primary issues to be problematized is the fact that scholars in this tradition still tend to treat networks as exogenous while they assume away any potential for agentic behavior (Emirbayer & Goodwin, 1994; Emirbayer & Mische, 1998; Hallen & Eisenhardt, 2012; Vissa,
Entrepreneurial networking under uncertainty: An effectual lens.

2012). These assumptions reflect a form of structural determinism by which “research assumes away differences in the extent to which individual actors form new ties or manage existing ones.” (Vissa, 2012: 493). Hence, this body of literature fails to understand what actors actually do with their networks (Bensaou, Galunic, & Jonczyk-Sédès, 2014).

As a response to overly structural accounts of entrepreneurs’ networks, some scholars have started to acknowledge the fact that networks are actually dynamic and that individual actors may be the drivers of network change (Emirbayer & Goodwin, 1994; Vissa, 2012). For instance, researchers found that entrepreneurs may change their network structure depending on the venture’s specific resource needs (Hite & Hesterly, 2001; Jack, Moult, Anderson, & Dodd, 2010; Sullivan & Ford, 2014), or because of their specific personalities (Sasovova, Mehra, Borgatti, & Schippers, 2010). Similarly, network related activities such as attendance of networking events are associated with the likelihood of occupying an advantageous broker position (Burt, 1992; Stam, 2010). This emerging research is particularly insightful in redirecting our attention to the possibility that entrepreneurs can, and often do, break away from their existing network structures (Ahuja et al., 2012). This is important because, unlike more privileged actors who may use existing strong direct ties, less-privileged actors such as entrepreneurs largely depend on their ability to advantageously form new ties (Hallen & Eisenhardt, 2012).

More recently, Stuart and Sorenson (2007), Vissa (2011; 2012) and others (Hallen & Eisenhardt, 2012; Ozcan & Eisenhardt, 2009; Vissa & Bhagavatula, 2012; Zott & Huy, 2007) paved the way for a stream of studies that pay special attention to networking behaviors under the central assumption of entrepreneurs as active agents. Throughout these studies, tie formation is understood as a strategic issue for which entrepreneurs need to take action and thoughtfully maneuver their social environment. Table 5.1 provides a detailed overview and definitions of the various network actions and strategies as conceptualized in extant literature.
### Table 5.1. Definitions of networking actions and strategies

<table>
<thead>
<tr>
<th>Networking action</th>
<th>Definition</th>
<th>Source</th>
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<tbody>
<tr>
<td>Casual dating</td>
<td>An entrepreneur’s informal, deliberate, recurring meetings with some potential ties prior to the effort to form a tie with these persons</td>
<td>(Hallen &amp; Eisenhardt, 2012)</td>
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<tr>
<td>Timing around proof points</td>
<td>Signaling of a confirmation of a third party on a critical accomplishment of a milestone of the starting firm</td>
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<td>Scrutinizing interest</td>
<td>Taking actions to discern potential partners’ actual interest in a tie</td>
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<tr>
<td>Crafting alternatives</td>
<td>Developing multiple routes to end the tie formation process.</td>
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<tr>
<td>Symbolic action conveying the credibility of the entrepreneur</td>
<td>Symbolically displaying personal capability and personal commitment to the future</td>
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<tr>
<td>Symbolic action conveying the quality of organizing of the entrepreneur</td>
<td>Displaying and drawing attention of potential investors and employees to the professional nature of their successes and processes.</td>
<td>(Zott &amp; Huy, 2007)</td>
</tr>
<tr>
<td>Symbolic action conveying organizational achievement</td>
<td>Symbolically emphasizing preliminary and interim achievements that their firm had realized</td>
<td></td>
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<tr>
<td>Symbolic action conveying stakeholder relationship quality</td>
<td>Drawing symbolically on the prestige of their associates to acquire more resources and giving symbolic personal attention to potential stakeholders</td>
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<tr>
<td>Active foresight</td>
<td>Defining portfolios that have a unique interdependence that is advantageous to the focal firm and its partners and shape the industry</td>
<td>(Ozcan &amp; Eisenhardt, 2009)</td>
</tr>
<tr>
<td>Opportunistic maneuvering</td>
<td>Expanding a firm’s portfolio to more distant parts of the network</td>
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</tr>
<tr>
<td>Defensive positioning</td>
<td>Defend against emerging industry uncertainties as they occur, by the addition of multiple ties around these critical industry uncertainties</td>
<td></td>
</tr>
<tr>
<td>Devoted players</td>
<td>Intentionally active agents that use relationships as a means to a “performance-related” end.</td>
<td>(Bensaou et al., 2014)</td>
</tr>
<tr>
<td>Selected players</td>
<td>“Agents that show sarcasm for superficiality of networking and relate their interactions to the task at hand, without aiming for strategic relationship building.”</td>
<td></td>
</tr>
<tr>
<td>Purists</td>
<td>Agents that show sarcasm for superficiality of networking and relate their interactions to the task at hand, without aiming for strategic relationship building.</td>
<td>(Bensaou et al., 2014)</td>
</tr>
<tr>
<td>Reaching out to new alters</td>
<td>The extent to which an entrepreneur actively tries to meet new potential partners to promote his or her venture</td>
<td></td>
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<tr>
<td>Establishing interpersonal knowledge of alters</td>
<td>The extent to which an entrepreneur finds out more about the new people (s)he meets</td>
<td>(Vissa, 2012; Vissa &amp; Bhagavatula, 2012)</td>
</tr>
<tr>
<td>Time-based interaction pacing</td>
<td>The extent to which an entrepreneur paces interactions with relationships based on temporal markers</td>
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<tr>
<td>Relational embedding</td>
<td>The extent to which an entrepreneur seeks to combine social and business connections with existing network ties</td>
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<tr>
<td>Network preserving</td>
<td>The extent to which an entrepreneur tries to preserve every relation in his or her existing network</td>
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20 Context outside the field of entrepreneurship.
Collectively, much of the work taking this agnostic view on networking is positioned vis-à-vis prior deterministic accounts and therefore builds on a set of underlying assumptions that characterize entrepreneurs as powerful actors capable of intentional search, calculative planning, and purposeful networking action. This is also inline with what Alvarez and Barney (2007) refer to as a “discovery view” of entrepreneurship – a general model of action that is mainly causal, moving linearly from search and planning to execution (Alvarez & Barney, 2007; Baker et al., 2003; Sarasvathy, 2001). Yet, while the image of entrepreneurs as powerful agents cuts across competing theories of entrepreneurial action (Miller, 2007), the extent to which most entrepreneurial activities actually permit a linear process where planning precedes execution is brought under increasing scrutiny (Alvarez & Barney, 2007; Alvarez et al., 2013; Baker et al., 2003; Sarasvathy, 2001). For example, only under a narrow subset of assumptions, which include the availability of information about future outcomes and goals, may entrepreneurs act in a way consistent with a discovery view (Alvarez & Barney, 2007; Alvarez et al., 2013; Baker et al., 2003; Miller, 2007). For this reason, Alvarez and Barney (2007) remind us that any theory explaining entrepreneurial action should include a clear demarcation of its boundary conditions and key assumptions.

We therefore contend that any explanation of entrepreneurial networking should involve, either implicitly or explicitly, a set of interrelated assumptions about the nature of the decision-making context and the nature of motivation to engage in networking (Alvarez & Barney, 2007; Alvarez et al., 2013; Miller, 2007; Sarasvathy, 2001). Consequently, extant conceptualizations of networking actions as outlined above lend themselves to an analysis of these key assumptions (summarized in Table 5.2).
## Table 5.2. Studies of entrepreneurial networking and their underlying assumptions

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<tr>
<td><strong>Main Research Question</strong></td>
<td>What are entrepreneurs’ intentions when adding new ties to their personal networks?</td>
<td>What are the effects of entrepreneurs’ interpersonal networking style on exchange partner search?</td>
<td>What are the strategies by which entrepreneurs efficiently form investment ties?</td>
<td>What are the symbolic actions that facilitate resource acquisition from network partners?</td>
<td>How firms originate high-performing alliance portfolios?</td>
<td>What are the strategies individuals employ when networking?</td>
</tr>
<tr>
<td><strong>Nature of Motivation to Engage in Networking</strong></td>
<td>Rational self-interest with both instrumental and homophilous motives (resource-seeking and interpersonal attraction) based on task complementarity and social similarity</td>
<td>Rational self-interest with predominantly instrumental motives (resource-seeking)</td>
<td>Rational self-interest with predominantly instrumental motives (resource-seeking)</td>
<td>Rational self-interest with predominantly instrumental motives (resource-seeking)</td>
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<td>Rational self-interest with both instrumental and homophilous motives (resource-seeking and interpersonal attraction)</td>
</tr>
<tr>
<td><strong>Nature of Decision Making Context</strong></td>
<td>Risky (assumes ex-ante knowledge about the goal and outcome of networking)</td>
<td>Ignored the issue</td>
<td>Risky (assumes ex-ante knowledge about the goal and outcome of networking)</td>
<td>Risky (assumes ex-ante knowledge about the goal and outcome of networking)</td>
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Entrepreneurial networking under uncertainty: An effectual lens.

For example, in their articulation of four catalyzing strategies for efficient tie formation Hallen & Eisenhardt (2012) often assume a risky, rather than uncertain, context of action as they elaborate on ways in which entrepreneurs may systematically scan their environment for potential ties, collect relevant information about them, and reduce the level of risk involved in approaching a stranger by anticipating the possible outcomes of their interaction. This is illustrated clearly when the authors describe what they call “preemptive structuring of timing around proof points”. Here, entrepreneurs anticipate and try to synchronize a future tie formation effort with a future milestone in the development of their product or service (Hallen & Eisenhardt, 2012: 47). Evidently, some information about who will be the target tie needs to be known in advance, and some level of foresight is required in order for such synchronized effort to become viable.

An immediate consequence of such a risky context is that at least some objectives for each action can be set a-priori (Miller, 2007). For instance, current conceptions of networking strategies are usually instrumental in nature as they are organized around a relatively stable goal such as receiving investment (Hallen & Eisenhardt, 2012), or seeking other venture resources (Zott & Huy, 2007). By following these pre-determined goals the strategies that entrepreneurs apply to manage their networking activities can be seen as planned insofar as they follow a causal logic in which goals (e.g., receiving investment) are fixed and the focus is on selecting between the means (e.g., efficient tie formation activities) to achieve them (Sarasvathy, 2001).

Particularly noteworthy in these accounts is the prominence given to rational self-interest as a core motivator such that networking actions are essentially seen as means to a personal end (Casciaro, Gino, & Kouchaki, 2014; Van de Ven, Sapienza, & Villanueva, 2007). This is also true for entrepreneurs who act to acquire interpersonal knowledge of their alters, or reaching out to new alters (Vissa, 2012), as long as the goal for their interaction is instrumental in nature, that is – the person initiating the social relationship does so proactively and with a specific, foreknown, goal of obtaining immediate benefits for themselves or their ventures (Casciaro et al., 2014). Bensaou and colleagues (2014) illustrate this point when they describe “devoted players” as people who seek to intentionally manage their relationships for the attainment of individual desires such as career progression or professional reputation.

In light of this discussion of the intentional and planned character of entrepreneurial networking theories to date, it is also important to note an exception. In conceptualizing his
networking actions Vissa (2012) chose to be largely agnostic to such assumptions and simply ignored the context in which networking is done or the objectives towards which entrepreneurs form and maintain ties. Instead, Vissa (2012) describes networking actions more neutrally in terms of what entrepreneurs do and remains silent about their underlying motives. Thus, every one of Vissa’s (2012) actions can be discussed in relation to a predetermined goal (e.g., reaching new alters for forming investment ties), or to a goal that might emerge in the process of interaction (e.g., first reaching new alters, and then establishing the purpose). Hence, although Vissa’s (2012) efforts are highly informative in understanding what entrepreneurs do to change their networks, he also calls for future research to “examine the extent to which these networking actions are learned behaviors versus based on a forward-looking planned logic” (Vissa, 2012: 507).

Overall, our review of the literature shows that notions of entrepreneurial agency in networking have so far emphasized a mainly linear process in which entrepreneurial volition, based primarily on rational self-interest, leads to goal setting and planning activities (e.g., targeting a “desirable” partner) that, in turn, lead to purposeful action to achieve previously predicted outcomes (e.g., “efficient” tie formation). This is consistent with a “discovery view” of entrepreneurship in assuming that entrepreneurial actions involve a degree of predictability which allows to set specific networking goals (Alvarez & Barney, 2007; Alvarez et al., 2013). Even when there is no specific commitment to discovery assumptions (e.g., Vissa, 2012), studies modeling how entrepreneurs network do not offer an alternative to these restrictive views of a risky context and pre-determined, instrumental, objectives.

In what follows, we therefore outline a different set of assumptions that are more consistent with a “creation view” of entrepreneurial action (Alvarez & Barney, 2007; Alvarez et al., 2013; Miller, 2007) and with uncertainty as a ubiquitous constituent of entrepreneurship (McMullen & Shepherd, 2006; Sarasvathy, 2001). Moreover, we discuss the main tenets of effectuation as a general logic of action that coheres with these alternative assumptions and thus serves as a baseline model of entrepreneurial action under uncertainty (Sarasvathy, 2001).

5.2.2. Effectuation: The Uncertainty of Entrepreneurial Creation

In contrast to the discovery view that assumes a risky context in which some aspects of the future are known or at least can be uncovered (e.g., by trial and error), entrepreneurial agency can also be viewed as action under uncertainty (Alvarez & Barney, 2007; Alvarez et al., 2013; Knight,
Building on Frank Knight’s (1921) classic definition, Alvarez and Barney (2007: 14) state that uncertainty about a course of action is discerned “if, at the time a decision is being made, decision makers cannot collect the information needed to anticipate either the possible outcomes associated with a decision nor the probability of those outcomes”. Uncertainty is therefore concerned with the power of temporality in drawing a veil over the future, thereby concealing preferences as well as outcomes (March, 1978; McMullen & Shepherd, 2006; Sarasvathy, Dew, Read, & Wiltbank, 2008). On top of that, uncertainty about the future is often exacerbated by the novelty intrinsic to the creation of new products, services, ventures and even markets (McKelvie et al., 2011; Sarasvathy & Dew, 2005).

Assuming that the context in which entrepreneurs operate is uncertain, also transforms any assumption about the nature of entrepreneurial motivation and objectives, rendering goals as endogenous and tightly linked to ongoing actions (Alvarez & Barney, 2007; Alvarez et al., 2013; Miller, 2007; Sarasvathy et al., 2008). Thus, an uncertain decision context may dictate an important reversal in means-ends relationships such that goals become the product of action rather than its predecessor (Sarasvathy, 2001). By leaving behind the idea that goals are fixed and foreknown the notion of uncertainty further suggests that any presumption of rational self-interest in entrepreneurial action may be complemented or even replaced by the pursuit of pro-social, altruistic, and collective interests (Van de Ven et al., 2007). At the very minimum, when you don’t know what the future will bring, it is much more difficult to set goals and plan actions with the sole purpose of maximizing self-interests (Simon, 1993; Van de Ven et al., 2007).

Indeed, Sarasvathy (2001; Sarasvathy, 2008) refers to uncertainty as a defining characteristic of an entrepreneurial problem space where prediction is impossible (Knight, 1921), goals cannot be pre-determined (March, 1978), and the environment is not independent of entrepreneurs’ ongoing actions (Weick, 1979). Accordingly, this problem space was also the starting point in the development of effectuation (Sarasvathy, 2001) – a logic of action, which is consistent with the creation view, and thus dictates non-predictive control through endogenously created goals that are enacted in exploring ways to produce new products or services (Sarasvathy, 2001; Sarasvathy, 2008). The logic of effectuation generally operates by subjecting entrepreneurial behavior to the realization that, under uncertainty, efforts to predict the future are futile but that this future can nonetheless be shaped directly through entrepreneurial action (Sarasvathy, 2008). Hence, unlike most theories of action, effectual logic negates the idea that
control over future outcomes can only be achieved through prediction (Wiltbank et al., 2006). Instead, an effectual approach acknowledges that the information cues on which decisions and actions are based are not only plagued with uncertainty, but are also susceptible to direct influence (Sarasvathy, 2001). As a result, what often seems like a continuum of action ranging from relatively passive adaptation to calculative and instrumental planning, opens up another option to achieve control – through the creative transformation of available means (Wiltbank et al., 2006).

So far, research has identified manifestations of effectual logic through examining four interrelated heuristics that assemble into a dynamic process of entrepreneurial action (Sarasvathy, 2008). When referring to the entire venture creation process, effectuation begins with entrepreneurs focusing on assessing their immediately available means in terms of who they are (identity), what they know (knowledge and skills), and whom they know (their existing network) (Sarasvathy, 2001). The process then proceeds by envisioning possible ends that can be created with those means. Dismissive of predictive information, effectuation involves decision-makers determining what they are willing to lose in order to follow any particular course of action (Sarasvathy, 2001). This so-called ‘affordable-loss’ heuristic is therefore a crucial antecedent for effectual action as it defines an array of potential targets upon which to act (Dew et al., 2009b). In the next step of the process, constant interaction with stakeholders redraws extant goals (converging cycle of goals) and allows to obtain new means (expanding cycle of means) that reignite the entire process once again (Sarasvathy, 2008). Throughout these recurring cycles of goal convergence and mean expansion, the effectual process maintains open-endedness as unexpected events are not seen as something to avoid or hedge against but as opportunities to be leveraged (Harmeling, 2011).

The burgeoning literature about effectuation is a testimony for its attractiveness among scholars trying to understand how uncertainty influences a variety of entrepreneurial behaviors and outcomes (e.g., Brettel et al., 2012; Chandler et al., 2011; Dew et al., 2009a; Engel, Dimitrova, Khapova, & Elfring, 2014; Kalinic et al., 2014; Perry et al., 2011; Wiltbank et al., 2006). Yet, of particular interest to us are differences in the ways entrepreneurs use networking and how effectuation might inform these behaviors. As evidenced by its central role in the effectual process, social interaction with stakeholders (be they customers, partners, advisors, suppliers, employees, or local communities) is actually an important topic within effectuation
writing (Sarasvathy, 2008), and the study of networking behavior received some explicit attention from effectuation scholars (Sarasvathy & Dew, 2005).

For instance, the means that effectual entrepreneurs use as inputs for their ventures include their existing social relationships - accounted for by reflecting on the question: “whom do I know” (Chandler et al., 2011; Sarasvathy, 2001). In addition, gaining pre-commitments from willing stakeholders is key to the co-creation of goals and opportunities in the effectual process (Read et al., 2009b; Sarasvathy, 2001; Sarasvathy & Dew, 2005). Indeed, effectuation advances the idea that, almost the first thing entrepreneurs do, is to interact with other people by endorsing an attitude of “intelligent altruism” – the recognition that, under uncertainty, behaving in ways that increase other people’s benefits primes the same behavior in return thus eventually attracting positive payoffs to oneself (Sarasvathy & Dew, 2008; Simon, 1993). Despite these advances in the study of effectual networking, we concur with Fischer and Reuber, (2011: 4) who state that “there has as yet been little conceptual consideration of the behavioral interaction element of effectual processes”. In the following sections we therefore take this task more seriously and begin to consider the implications of incorporating the notion of uncertainty into investigations of how entrepreneurs may effectually form and maintain network ties.

5.3. Theoretical Development

5.3.1. How Entrepreneurs Engage in Networking Under Uncertainty?

Returning to the question that motivated this investigation – how entrepreneurs engage in networking under uncertainty? – our efforts are now aimed at instigating a new conceptualization of entrepreneurial networking. Our guiding assumptions are that the context in which entrepreneurs operate and make decisions is characterized by high levels of uncertainty, and that entrepreneurial goals, whether with regard to their venture more generally or to networking in particular, are at best ambiguous at this stage (Alvarez & Barney, 2007; Alvarez et al., 2013; McMullen & Shepherd, 2006; Miller, 2007; Sarasvathy, 2001). These assumptions define three central challenges: First, since target ties cannot be identified before action is taken and goals are largely emergent throughout the process, we discuss how these conditions shape networking actions associated with the activation of existing ties and the creation of new ones. Yet, unlike the limited focus of prior research on resource seeking behaviors, we give particular attention to effectual networking as an activity conducive to the generation and transformation of venture ideas. Second, as networking takes place without knowing what the venture may turn out to be,
entrepreneurs require some way to select between prospective stakeholders without predicting their expected value. We therefore examine how effectual networking is informed by intelligent altruism and the affordable-loss heuristic and how these might eventually induce stakeholders to self-select into the process by providing pre-commitments. Finally, the same uncertainty that makes goals ambiguous and outcomes unpredictable may also generate unexpected contingencies along the way. We attend to these contingencies by showing how effectual networking may semi-endogenize valuable serendipitous events. Each of these challenges is addressed below by outlining the relevant principles of effectuation theory, specifying their relation to key networking constructs, and delineating the space for effectual networking within the literature. In addition, drawing on the general model of effectuation (Sarasvathy, 2008), Figure 5.1 illustrates our dynamic process model of effectual networking.

### Figure 5.1. A dynamic process model of effectual networking

- **Expanding cycle of means**
  - Entrepreneur practices intelligent altruism
  - Entrepreneur interacts with people they know and assesses means available in their network
  - Entrepreneur identifies ends that means might create given a level of affordable-loss
  - Entrepreneur interacts with any and all interested stakeholders
  - Entrepreneur gets pre-commitments from self-selected stakeholders
  - Entrepreneur and stakeholders leverage unexpected contingencies to co-create new ends

- **Converging cycle of constraints**

### 5.3.2. Networking For Ideas

When one’s own goals are still ambiguous and tasks are largely unstructured, vague, and complex, motivation to contact someone may not be driven by finding a solution to a given problem but merely defining the problem itself (Nebus, 2006). In fact, social interaction may sometimes be the trigger for communally developing an idea, experimenting with it, adapting and refining it, all of which are activities that occur before an entrepreneur may even be identified as such. For instance, ‘user entrepreneurs’ often happen upon an idea by interacting
Entrepreneurial networking under uncertainty: An effectual lens.

with a community of other users and only retrospectively get to evaluate their networking actions as the genesis for a commercial venture (Shah & Tripsas, 2007). Effectual networking is thus neither arising in a vacuum, nor does it has to be motivated by a given exogenous goal. Rather, networking actions ensue from an initial reflection on one’s means as entrepreneurs always begin with their own identities, traits, and tastes; the knowledge corridors they are in; and the social networks they are already a part of (Sarasvathy, 2001). In other words, instead of holding “too closely to preconceived goals as a way to determine which stakeholders to pursue or which resource-owners to chase” (Wiltbank et al., 2009: 117) entrepreneurs use their relatively idiosyncratic means and their initial assessments of them to spark the first cycle of effectual networking (Sarasvathy, 2001; Wiltbank et al., 2006). This is also in line with what Baker et al., (2003: 269) described as network bricolage – “dependence on pre-existing contact networks as the means at hand”. Indeed, the crucial question of whom to contact in the face of uncertainty (e.g., Nebus, 2006; Smith, Menon, & Thompson, 2012) receives a straightforward answer - entrepreneurs begin their interactions with the people they already know (Baker et al., 2003; Sarasvathy, 2001).

This initial focus on existing ties is a recurring theme in studies of entrepreneurs’ network evolution (e.g., Elfring & Hulsink, 2007; Larson & Starr, 1993; Newbert, Tornikoski, & Quigley, 2013) and the rationale behind it is often tied to mechanisms of homophily, embeddedness, as well as geographic, cultural, or informational propinquity (Hite, 2005; Hite & Hesterly, 2001; Rogan & Sorenson, 2014). While under certain conditions individuals may be able to direct themselves to specific resource providers, in the face of uncertainty, who and where the tie is, matter more than any specific resource he or she can potentially provide. For instance, homophily (McPherson, Smith-Lovin, & Cook, 2001) often represents the primary mechanism by which initial ties are selected for interaction, meaning that networking is based on what the entrepreneur and a network tie have in common (Ruef, Aldrich, & Carter, 2003). Yet, there is evidence that homophily can also be managed, as for example, when a set of negotiated identities (e.g., a shared experience, or a shared sense of trauma) provides a template for trusting behavior (Phillips, Tracey, & Karra, 2013). Similarly, Daskalaki (2010) also discusses network transformation through the ongoing negotiations of actor and network identities. What’s important here is that the effectual process, while highlighting existing network ties as a point of departure, is not entirely path-dependent (cf. Hite & Hesterly, 2001) and neither is it completely
calculated or planned (cf. Hallen & Eisenhardt, 2012).

Networking behaviors that can be classified as effectual at this point may include efforts to combine social and business relations with existing contacts (Hite, 2005; Vissa, 2012) thereby deriving relational pluralism from ties that are not just multiplex but also multifaceted (Shipilov, Gulati, Kilduff, Li, & Tsai, 2014). Additionally, networking effectually is likely to include attempts to pace interactions with contacts based on temporal markers rather than on any particular need (Vissa, 2012). The process commencing with these actions is geared towards the transformation of existing ties into a network conducive to the generation and refinement of emerging ideas – i.e., aiming to provide a tentative answer to the question “what can we do together?”. At least initially then, the first core task in effectual networking is active interaction with existing ties in order to reflect on the availability of means within the network, fashion preliminary venture goals, and identify stakeholders who might want to commit their own means to the process or offer access to referrals.

Nevertheless, in tandem with effectual networking actions aimed at activating potential stakeholders like family and friends, as well as reflecting on and co-creating initial venturing goals, entrepreneurs are also required to reach out and establish new contacts with strangers or, more broadly, any and all people that they might meet in the routines of their lives (Wiltbank et al., 2006). The reason for this is that under uncertainty there is simply no way to know in advance who will be the conduit for the next necessary resource, or who will provide the piece of information that will change the venture’s current direction. Indeed, entrepreneurs encounter “tremendous variation in terms of not only what resources are needed, but also when they are needed” (Newbert et al., 2013: 284). In other words, it is extremely unlikely for founders to be endowed with a network of contacts catering to all their needs over time and, in fact, only a tiny fraction of privileged entrepreneurs kick-off their ventures with direct strong ties to all relevant stakeholders (Hallen & Eisenhardt, 2012). Thus, in addition to considerations of trust, availability or homophily that dominate early networking efforts, new ties are progressively formed based on the idea that exposure to diverse resources provides a ‘requisite variety’ for idea generation, creativity, and growth (Dahlander, O'Mahony, & Gann, 2014; Elfring & Hulsink, 2007; Hite & Hesterly, 2001). Accordingly, the next key feature of effectual networking is evident in efforts to cast a wide net and start interacting with potential stakeholders in an ongoing process of negotiating and renegotiating the design of an emergent venture (Sarasvathy & Dew,
Entrepreneurial networking under uncertainty: An effectual lens.

Empirical studies documenting how entrepreneurs form new ties under uncertain conditions are often presenting a similar modus operandi. For example, Elfring and Hulsink (2007) studied IT start-ups in The Netherlands to show that, when uncertainty regarding their task and strategy was high, frequent business model changes were inspired by networking that could be described as a “frantic search for people who could provide information on new opportunities and on the feasibility of the business plan” (Elfring & Hulsink, 2007: 1857). Similarly, the Indian high-technology entrepreneurs interviewed by Vissa (2012) indicated how they seek out frequent interaction with strangers and set aside significant amounts of their time to meet new people. Dyer et al., (2008) who researched the behavior of innovative entrepreneurs go even further in suggesting that ‘idea networking’ – actively creating networks of people with diverse ideas and perspectives – was one of the most important distinguishing characteristics of these individuals. Meeting new people can be pursued by attending social gatherings, professional and industry events, or even using online networking tools such as Linkedin, Twitter, or Facebook (Fischer & Reuber, 2011; Mariotti & Delbridge, 2012; Stam, 2010; Stuart & Sorenson, 2007). As part of Dyer et al’s (2008) study, entrepreneurs such as Pier Omidyar of Ebay, Ingvar Kamprad of Ikea, and Scott Cook of Intuit all exhibited a consistent behavior in their ceaseless efforts to meet and talk to new people in order to get their perspective on different issues.

As these examples illustrate, because an effectual approach acknowledges that uncertainty demands the availability of a diverse network, reaching out to new people is as crucial for moving the process forward as reliance on pre-existing networks is for starting it. Overall, the process that begins with self-reflection, assessment of available means within the network, and the transformation of existing ties, moves on to gradually expand the cycle of interactions by reaching out to strangers and fabricating new networks.

5.3.3. Attracting Pre-Commitments From Self-Selected Stakeholders

Networking effectually, as we started to sketch above, means that entrepreneurs act to change the nature of their existing networks as well as form new ties. Yet, on top of providing guidance on networking behaviors per-se (Vissa, 2012) or commenting on structural aspects of network churn brought by these activities (Vissa & Bhagavatula, 2012) our conceptualization turns to add further detail to how and why effectual networking is particularly helpful in attracting pre-
commitments from willing stakeholders – a key activity when networking under uncertainty.

In the face of uncertainty, stakeholder pre-commitments are seen as a form of self-imposed non-negotiable constraint on future choices (Sarasvathy & Dew, 2003). In other words, pre-commitments are used in the effectual process as a way to extend the logic of non-predictive control (Wiltbank et al., 2006) beyond the individually oriented affordable-loss heuristic (Dew et al., 2009b) to encompass interactions between stakeholders as they decide if and what to contribute to the venture (Sarasvathy, 2001). Wiltbank et al., (2009: 120) provide a practical example for such pre-commitment as it involves “choosing to work with a customer because they will fund half of the capital expenditures, even though a different potential customer might be expected to provide a larger long-term opportunity, but will not commit to anything upfront”. In contrast to predictive approaches in which a future gain (i.e., the upside) for each of the parties in an exchange may be estimated beforehand, uncertainty positions pre-commitment as a powerful way for actors to prioritize control over their downside loss (Dew et al., 2009b). Consider how Richard Branson started Virgin Atlantic after receiving a pre-commitment from Boeing, who leased Branson a used airplane for a year with the option of returning it if the airline did not take off (in a financial sense) (Venkataraman et al., 2012). Stakeholders can thus commit resources to the venture regardless of any future expectation and merely in exchange for the chance to directly influence what the venture will eventually become (Wiltbank et al., 2006). Because each stakeholder makes commitments that are aligned with their own level of affordable loss, the process is characterized by self-selection rather than partner selection by a focal entrepreneur (Sarasvathy & Dew, 2005). Put differently, as tie formation takes place in the absence of knowledge about future interactions or the fate of the venture more generally, effectuation substitutes reliance on prediction with a simpler but more robust heuristic – anyone is welcome to self-select into the process by pre-committing to the venture only what they can afford to lose (Sarasvathy & Dew, 2005).

Consequently, in effectual networking, whether with existing ties or new ones, the notion of “intelligent altruism” (Sarasvathy & Dew, 2008; Simon, 1993) takes center stage as it shapes how entrepreneurs invite others to connect and self-select into the process. Intelligent altruism generally refers to behavior that is neither extremely selfless nor completely opportunistic, but recognizes that individuals may have evolved to sense when to emphasize which (Simon, 1993). Interestingly, under uncertainty, altruism and opportunism are often intertwined, as entrepreneurs
understand that helping others may also help themselves. Van de Ven et al. (2007: 359) explain this as the “dual drive for self- and collective interests” by which entrepreneurs seek ways to satisfy others’ self-interests, while presenting others with the possibility to do the same for them. Indeed, mounting evidence shows that under uncertainty individuals may even be evolutionarily hard-wired to behave altruistically (Delton, Krasnow, Cosmides, & Tooby, 2011; Simon, 1993).

Intelligent altruism could be seen as a constituent of an effectual networking strategy for at least two reasons (Sarasvathy & Dew, 2008). First, as effectuation emphasizes direct control in shaping the future, it also draws attention to future behavior by other stakeholders (Sarasvathy, 2008). The fact is that “altruism includes influencing others to behave altruistically” (Simon, 1993: 157). Thus, when entrepreneurs are not sure about their own goals and preferences, they can simply start by trying to assist others, thereby cueing in them an altruistic attitude and eventually improving the chances for reciprocity. Second, most initial contacts with new ties include high uncertainty about whether this is a one-shot or a repeated interaction as well as uncertainty about the expected payoff from any future exchange. This is crucial as sufficient repeated interactions and high benefit exchanges are classically the most important conditions for the evolution of reciprocity (Axelrod & Hamilton, 1981). Yet, recent research demonstrated that, given uncertainty about these conditions, humans generally prefer to exhibit altruistic behaviors even in one-shot interactions (Delton et al., 2011). In short, when entrepreneurs and their prospective ties need to decide whether to help each other, the costs associated with mistaking a repeated interaction for a one-shot interaction (i.e., thus being self-interested) are far greater than mistaking a one-shot interaction for a repeated interaction (i.e., behaving altruistically and risking being exploited). This asymmetry promotes altruistic behavior even in the presence of strong cues that this is only a one-shot interaction. As Delton et al (2011: 13340) put it: “human generosity, far from being a thin veneer of cultural conditioning atop a Machiavellian core, may turn out to be a bedrock feature of human nature”. Intelligent altruism as part of an effectual networking strategy simply recognizes these evolutionary realities and directs entrepreneurs to act in a way that would benefit others as well as themselves (Sarasvathy & Dew, 2008).

Some examples for such behaviors are documented by Vissa (2012) who observed that entrepreneurs try to get new contacts to open up by acting as a sounding board to their problems and questions. Finding out what other people need or what motivates them is therefore an integral part of establishing interpersonal knowledge, fostering trust and goodwill with a new tie
(Larson, 1992; Vissa, 2012). Similarly, Nguyen & Rose (2009) find that in a context of underdeveloped market institutions entrepreneurs build trust by demonstrating benevolence and helping others in their network with business and personal problems. Providing an even sharper illustration of how entrepreneurs practice intelligent altruism, Grant (2013) discusses the case of Adam Rifkin, a serial entrepreneur who was recently named Fortune’s best networker and is also the most connected person on LinkedIn. In explaining his approach to networking Rifkin says: “My network developed little by little, in fact a little every day through small gestures and acts of kindness… with a desire to make better the lives of the people I’m connected to.” (Grant, 2013: 90). He goes on reflecting directly about the issue of uncertainty in networking: “You never know where somebody’s going to end up. It’s not just about building your reputation; it really is about being there for other people” (Grant, 2013: 92). The key notion is that, through providing help, entrepreneurs are able to reach people and build ties that may later transform into potential negotiations over the kind of commitment any of them can actually make for the venture.

This is not to say that all potential ties receive an automatic entry ticket to the venture but rather that the entrepreneur, through practicing intelligent altruism, opens the door for them to self-select and make their commitments (Sarasvathy, 2008). As Dew and Sarasvathy (2007: 279) put it: "stakeholders that pass the commitment “test” are given a voice in the (re)design of the innovation; those that do not commit are not". In networking terms, instead of trying to imagine a future opportunity offered by partnering with a certain person, the focus is on actions that would result in a potential partner willing to pre-commit something to the venture in the present (Wiltbank et al., 2006). In sum, taking actions towards other people, be they existing contacts or newly met strangers, in a way that would help them to self-select and pre-commit is therefore indispensable to an effectual networking approach (Sarasvathy & Dew, 2005). Furthermore, this distinctive feature, next to other elements of effectual networking, is an engine of serendipity – “search leading to unintended discovery” (Dew, 2009: 735).

5.3.4. Generating Contingency, Harvesting Serendipity

We have so far discussed how effectuation informs entrepreneurial networking behavior under uncertainty and elaborated on the reasons for which effectual networking is germane for idea generation and the attainment of pre-commitments from stakeholders. Yet another central feature of effectuation relevant for a discussion of networking under uncertainty is its treatment of unexpected contingencies (Sarasvathy, 2001). By rendering goals ambiguous and outcomes
unpredictable, uncertainty, in and of itself, is a source of unexpected contingencies – a stream of unexpected events that are "sufficient, yet unnecessary, trigger to entrepreneurial action" (Harmeling & Sarasvathy, 2013: 715). Yet, on top of any "blind variations" built into the process (Alvarez & Barney, 2007), by networking effectually entrepreneurs may intentionally inject randomness and induce “valuable accidents” (Austin, Devin, & Sullivan, 2012; Perry et al., 2011; Sarasvathy & Dew, 2005). Indeed, in his exposition of serendipity in entrepreneurship Dew (2009: 748) already 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".

What we propose here is that these networking behaviors, alluded to by Dew (2009), are in fact the very same behaviors we outlined in the previous sections as characteristic of an effectual networking approach. In other words, entrepreneurs can increase both the amount of, and the potential value captured from unforeseen events by (1) reflecting on their available means using social interactions with existing network ties; (2) progressively and proactively expanding their tie formation activities to include any and all stakeholders; (3) practicing intelligent altruism in the formation of partnerships; and (4) allowing for the co-creation of venture ideas through pre-commitments made by self-selected stakeholders. Thus, in contrast to goal-directed networking strategies that seek to avoid deviation from a plan by engaging in targeted and efficient tie formation (cf. Hallen & Eisenhardt, 2012), effectual networking highlights contingencies as a valuable “side-effect” and indeed, as a resource to be leveraged (Harmeling, 2011; Sarasvathy, 2001). Table 5.3 presents a list of distinguishing characteristics between these two approaches to entrepreneurial networking.
Table 5.3. Contrasting Goal-Directed and Effectual Networking

<table>
<thead>
<tr>
<th>Issue/Approach</th>
<th>Goal-Directed Networking</th>
<th>Effectual Networking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Venture objectives are</td>
<td>Given and fixed, preferences are clearly ordered (i.e., venture goals determine networking goals)</td>
<td>Emergent, flexible, and unordered (i.e., networking determines venture goals through co-creation)</td>
</tr>
<tr>
<td>Networking objectives are</td>
<td>Available to some extent but largely unpredictable (i.e., risk)</td>
<td>Not available and in some cases not knowable (i.e., uncertainty)</td>
</tr>
<tr>
<td>Networking is motivated by</td>
<td>Rational self-interest with predominantly instrumental motives (e.g., “what can I get from you?”)</td>
<td>Both self- and collective interests with predominantly developmental motives (e.g., “what can we do together?”)</td>
</tr>
<tr>
<td>Networking begins with</td>
<td>Both new and existing ties, whether they are weak or strong (as part of resource seeking activities to satisfy projected future needs)</td>
<td>Existing and predominantly strong ties (as part of initial assessment of currently available means within the network)</td>
</tr>
<tr>
<td>Networking search scope is</td>
<td>Narrow, directed at specific predetermined targets (i.e., focused on meeting the “right” people and reaching them efficiently)</td>
<td>Broad, directed at generating unexpected contingencies (i.e., focused on meeting new people or discovering new facets in existing ties)</td>
</tr>
<tr>
<td>Tie interaction is</td>
<td>Primarily calculative and transactional (i.e., “how should I protect myself from opportunist behavior of others”)</td>
<td>Primarily based on intelligent altruism and relational embedding (i.e., “if I commit to help others, they are more likely to reciprocate”)</td>
</tr>
<tr>
<td>Tie selection is</td>
<td>Based on given objectives (ties are selected for their future expected value)</td>
<td>Based on self-selection (ties self-select based on what they can afford to commit in advance)</td>
</tr>
<tr>
<td>Eventual network change leads to</td>
<td>Securing needed resources and progressing towards given venture goals</td>
<td>Serendipitous outcomes involving resources, ideas, or both, which result in new or modified venture goals</td>
</tr>
</tbody>
</table>

The most obvious engine of contingency in effectual networking is the extent to which entrepreneurs seek out and add new interpersonal ties as part of their effort to reflect on their means, test ideas, and interact with others who are diverse in both background and perspective. This is certainly not new as the literature about social networks, like most other theories of search behavior (Laursen & Salter, 2006; Leiponen & Helfat, 2010; Maggitti, Smith, & Katila, 2013; March, 1991), has long recognized that the range and breadth of search activities are strongly associated with unexpected discovery (Burt, 2004; Granovetter, 1973; Kim & Aldrich, 2005). Being involved in activities that expose them to dissimilar others allows entrepreneurs to
Entrepreneurial networking under uncertainty: An effectual lens.

create ties crossing social boundaries and gain numerous opportunities to experience heterogeneous points of view, which, in turn, improves the probability of unexpected occurrences (Aldrich & Kim, 2007; Dyer et al., 2008). Hence, just as advocated by other conceptions of entrepreneurial networking (e.g., Vissa’s ‘network broadening’ actions) effectual networking promotes the occurrence of contingencies simply as a function of interaction with diverse interpersonal ties.

Yet, in opposition to so-called “efficient” networking strategies that “avoid lengthy and high-effort searches, failed attempts, and undesirable partners” (Hallen & Eisenhardt, 2012: 35), an effectual approach acknowledges that, due to uncertainty, what often seems like a dead-end search today may become tomorrow’s opportunity (Sarasvathy, 2001). Consider a hypothetical meeting between an entrepreneur and potential tie at a social event, during which the viability of a certain business ideas is discussed. At this moment, any (ex-ante) judgment about the future (ex-post) “desirability” of this tie would be based on missing information. As Nebus (2006: 626) puts it: “Asking a naive information seeker to be able to accurately assess the potential quality of an information source is like asking someone who has ice skated once or twice to judge an ice skating competition”. Social interaction is thus seen as a vehicle for deliberately creating more and more contingencies, even if non-valuable or costly contingencies are eventually much more numerous than valuable ones (Austin et al., 2012). Under uncertainty, every seemingly “normal” interaction between the entrepreneur and potential stakeholders may produce a cascading wave of extreme outcomes (Crawford, McKelvey, & Lichtenstein, 2014). This realization that any future payoff from networking is governed by extreme events and power laws (Aldrich & Kim, 2007) marks an important departure from other networking approaches that try to avoid “undesirable partners” and prematurely label “lengthy and high effort” search activities as “failed attempts”.

Additionally, as noted by Harmeling and Sarasvathy (2013) it is neither the mere occurrence nor the nature of a contingency itself or even its intentional fabrication that is of the utmost importance, but rather what entrepreneurs do with it. The heart of the matter becomes how entrepreneurs leverage unexpected contingencies arising from networking activities? Thus, next to deliberate efforts to generate contingencies, effectual networking is distinguished from other approaches insomuch as it represents an open ended and flexible process apt at leveraging unexpected surprises (Sarasvathy, 2008). Effectual networking embodies flexibility with regard
to goals as networking actions are merely intended to bring on-board stakeholders who will co-create and redesign any initial venture ideas. For example, Reddit, a startup that recently grew to over 175 million regular monthly users, was the result of the founders’ networking efforts with investors but has materialized only after being asked by their first investor to come up with a completely different idea from the one they originally pitched him (Ohanian, 2014). By embracing, rather than eschewing discomfiting information, unfruitful tie formation may be redrawn as an opportunity (Chandler et al., 2011). Moreover, the application of the affordable loss heuristic works to keep the potential cost of networking at an acceptable level while keeping the venture open to unexpected new possibilities on the upside (Dew et al., 2009b). Thus, Fischer and Reuber (2011) show that entrepreneurs use “perceived time affordability” to bound whatever time they can afford to lose on attempts to form ties through social media channels.

Because serendipity is characterized by “some combination of search (directed effort), contingency (favorable accidents) and prior knowledge (sagacity)” (Dew, 2009: 736), attracting stakeholders’ pre-commitments and enlarging the means available to the venture serves to enhance the pool of knowledge required to detect and act on key contingencies. So while the number of contingencies increases as new stakeholders get a voice in the design of the venture, the chance of leveraging these contingencies increases too as every pre-commitment make the venture more capable at “connecting the dots” and acting on relevant surprises. This dual function embedded in effectual networking assists in treating unexpected contingencies as opportunities to control newly emerging situations and may therefore produce valuable serendipity.

5.4. Discussion and Conclusion

We have put forward a rudimentary conceptualization of effectual networking that provides but a starter set of possible issues to be addressed by studying entrepreneurial networking under uncertainty. Below, after detailing our main contributions to the literature, we turn to outline additional possibilities that can feed into a broader research agenda.

First, and while more empirical support is required to make our point stronger, we contribute to research by positioning effectuation (Sarasvathy, 2001) as a relevant theoretical lens to study entrepreneurial networking. In an influential piece charting a research agenda on strategic networks, Stuart and Sorenson (2007) listed the origins of networks as a central issue to be addressed by developing empirical and theoretical understanding of how actors construct their
Entrepreneurial networking under uncertainty: An effectual lens.

networks. Unlike existing contributions to this emerging stream of research (e.g., Hallen & Eisenhardt, 2012; Vissa, 2011), which adopted discovery-view assumptions (Alvarez & Barney, 2007) and highlighted a strong form of rational agency (Miller, 2007), effectuation is congruent with creation-view assumptions (Alvarez & Barney, 2007) and thus opens a new angle on entrepreneurial networking by assuming that agency is constrained by uncertainty (Sarasvathy, 2008). We therefore complement the prevailing view on networking agency and believe that by doing so entrepreneurial network research can be greatly enriched. In fact, the underlying assumptions of our theory tie in with recent developments in the study of networking as constrained agency (Gulati & Srivastava, 2014) as we help specifying “both how actors exert agency in the face of constraint and how their actions create new constraints” (Gulati & Srivastava, 2014: 77).

Second, we also advance theoretical understanding about the influence of cognition on networking behavior. While it is “inextricable from the beliefs that produce action” (McMullen & Shepherd, 2006: 135), uncertainty is ultimately a cognitive construct (McKelvie et al., 2011; Milliken, 1987). As a matter of fact, research on effectuation has done much to highlight the cognitive implications of uncertainty and the consequent constraints it places on entrepreneurial action (Grégoire et al., 2011; Perry et al., 2011; Sarasvathy, 2008). Hence, our model of effectual networking under uncertainty can contribute to a growing body of research developing at the intersection of cognition and social networks (De Carolis & Saparito, 2006; Menon & Smith, 2014; Nebus, 2006; Smith et al., 2012). Affirming the urgency of this topic, Hallen and Eisenhardt (2012: 56) suggest that “the influence of cognition on network strategies is an unusually promising avenue”. Indeed, cognition based accounts of networking behavior matter because they can explain why entrepreneurial action may vary across situations (e.g., under more or less uncertainty). For example, Nebus (2006) proposes a heuristic theory of network generation predicting that information-poor situations would call for contact with new partners before their prospective value can be evaluated. Our conceptualization extends such theoretical work by adding several other characteristics of networking behavior under uncertainty (e.g., intelligent altruism, pre-commitments, affordable loss), as inspired by cognitive-based effectuation research.

Third, we contribute to research on the behavioral outcomes of effectuation and more specifically on the link between effectual thinking and networking at the interpersonal level.
Building on Edmondson and McManus’ (2007) suggestions for a fit between research methods and the state of theoretical development of a field, Perry et al., (2011) reviewed the effectuation literature to date calling for scholars to start tackling research questions that explore relationships between effectuation and established constructs, thereby moving the field from a nascent to an intermediate stage. Hence, our work on the intersection of effectuation and entrepreneurial networking represents an important step in that direction. Establishing a conceptual relationship between how entrepreneurs engage in networking and the effectual heuristics that guide their actions is a first step towards developing testable propositions and allowing a wave of future research to flourish. An immediate implication of considering effectual networking links to ongoing conversations about the relationship between effectuation and trust (Goel & Karri, 2006; Karri & Goel, 2008; Sarasvathy & Dew, 2008) and the role of social interaction in the effectual process (Dew & Sarasvathy, 2007; Fischer & Reuber, 2011; Sarasvathy & Dew, 2005). In addition, by clarifying the underlying assumptions required for entrepreneurs to show different networking behaviors we also speak to empirical studies of effectuation, in which difficulties to interpret result pertaining to networking often clouded conclusions about this important aspect of the effectual process (e.g., Chandler et al., 2011).

Future studies building on effectual networking may feed into a larger research agenda to better understand how uncertainty shapes entrepreneurial networking. As a primary goal, this type of research can explore in more detail the notion of intelligent altruism as part of a repertoire of ways by which entrepreneurs may attempt to obtain pre-commitments from stakeholders (cf. Zott & Huy, 2007). This is in line with Venkataraman et al.’s (2012) plea for a new nexus of entrepreneurship around actions and interactions, and their call for empirical research that takes interactions between entrepreneurs and their stakeholders as the unit of analysis. Currently, there are only a handful of studies dealing with the process of intersubjective interactions in entrepreneurial negotiations (e.g., Artinger, Vulkan, & Shem-Tov, 2015; Hellmann & Wasserman, 2011), yet opportunities to develop this line of research are plentiful. For example, scholars could employ qualitative and longitudinal research designs to answer questions about the nature and extent of altruistic and self-interest motives of networking behavior (Van de Ven et al., 2007). Others might be interested in an analysis of entrepreneurial interactions with different kinds of stakeholders, thereby exploring whether different stakeholders such as customers, investors or other entrepreneurs, require different negotiation
Entrepreneurial networking under uncertainty: An effectual lens.

techniques. An intriguing possibility for such line of research is in historical case studies that could document a chain of stakeholder interactions over time. As such, Chesbrough et al.’s (2014) recent case study of “Chez Panisse” – a successful Berkley restaurant – provides rich and illustrative examples for how an entrepreneur, starting with a small network of friends and family, goes on to co-create a global ecosystem of stakeholders. Additionally, a process method like experience sampling methodology (Uy et al., 2010) could capture intra-individual differences in the use of effectual networking over time and may allow us to shed light on the role of uncertainty in creating meaningful variations beyond individual differences and demographic variables such as experience and expertise. Important in this regard are future studies that will examine not only easily observed or self-reported behaviors but also more subtle facial expressions or other body language elements influencing the likelihood of forming ties and receiving commitments.

Another component of effectual networking that we believe is worthy of future research is the issue of networking for serendipity (Dew, 2009). Literature on social networks also discusses serendipitous networks as opposed to goal-directed networks (Kilduff & Tsai, 2003), yet for these scholars serendipity is merely an exogenous structural feature of randomness and spontaneous encounters (Casciaro et al., 2014). Given our reinterpretation of serendipity as partially endogenous to entrepreneurial actions and in line with other scholars who emphasize the role of human agency in the proactive management of fortuity (Austin et al., 2012; Bandura, 2006; Dew, 2009), we see abundant opportunities in bringing the notion of effectual networking to studies that examine the structural determinants of serendipitous and goal directed networks. The fundamental question for this line of work is the extent to which some parts of network serendipity can be attributed to the use of particular networking strategies. Scholars interested in this question could adopt a multi-level research perspective that connects the node level with the structural level (Ibarra, Kilduff, & Tsai, 2005). For instance, Vissa and Bhagavatula (2012) longitudinal study of network churn, in which both networking actions and structure are accounted for, is illustrative of such research designs. Moreover, in order to capitalize on contingent events and extract value from serendipity, authors have proposed sagacity or a “prepared mind” as a necessary condition (Dew, 2009). Therefore, future research could also address the extent to which and why some entrepreneurs are more open to recognizing and leveraging unexpected contingencies (Harmeling, 2011; Harmeling & Sarasvathy, 2013).
Overall, our paper underscores the importance of uncertainty for advancing theoretical development and deeper understanding of entrepreneurial networking behavior. There is little doubt that entrepreneurs can and do shape their network structures by using networking actions and strategies. This, however, does not necessarily mean that agency in networking is reserved only to heroic network architects who can search, plan, and pursue contact with predictably valuable ties. Over 30 years ago Granovetter (1985: 487) already warned us to avoid theoretical extremes and noted that “actors do not behave or decide as atoms outside a social context, nor do they adhere slavishly to a script written for them by the particular intersection of social categories that they happen to occupy”. Hence, instead of portraying entrepreneurs as either completely passive actors or downright calculative networkers we suggest to pay more attention to the notion of uncertainty and how it acts to both constrain and enable alternative forms of networking agency.