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TOWARDS A DYNAMIC THEORY OF CAUSATION, EFFECTUATION AND BRICOLAGE: A STUDY OF THE PROCESS OF PARTNERSHIP SELECTION FOR AN OPEN INNOVATION COMMUNITY

Master Corporate Entrepreneurship and Innovation
Internship and degree project (Master's thesis 15 ECTS)

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Abstract

Title: Towards a dynamic theory of causation, effectuation and bricolage: a study of the process of partnership selection for an open innovation community

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Keywords: partnership selection, open innovation, community, causation, effectuation, bricolage

Thesis purpose: the purpose of this study is twofold. Firstly, it aims to contribute to research by creating an understanding of how partners are selected in practice by an open innovation community. Secondly, it aims to contribute to research by building on the theories of causation and effectuation (Sarasvathy, 2001), as well as bricolage - a novel approach to partnership selection.

Methodology: the researchers will take an interpretive epistemological stance, iterating between an inductive and deductive research approach, to study a specific case. Data is obtained through in-depth qualitative interviews and analysed in a longitudinal manner.

Theoretical perspectives: this study is based on the theories about: partnership selection (Chen et al., 2010; Geum et al., 2013; Li et al., 2008), open innovation (Chesbrough, 2003; Chesbrough, 2006), community (Frey, Lüthje & Haag, 2011; Sawhney & Prandelli, 2000), causation *and* effectuation (Chandler et al., 2011; Fisher, 2012; Sarasvathy, 2001; Schirmer, 2013), and bricolage (Baker, Miner & Eesley, 2003; Baker & Nelson, 2005; Fisher, 2012; Senyard, Baker & Davidsson, 2009).

Conclusions: we have unveiled four findings for the process of partnership selection in an open innovation community in the lenses of causation, effectuation and bricolage. First, the process of partnership selection is dynamic, manifesting different levels of the theories throughout the process. Second, the three theories are intertwined. Third, individual behaviour in this process is not linear and locked to one theory, as it can change due to emerging interaction. Fourth and final, causation is overrated by research, acknowledging the need for further research in the eminent theories of effectuation and bricolage. Practical implications include asking managers to be open minded and flexible towards a means-driven and bricolage approach in the process of partnership selection.

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1. Introduction

1.1 Background

Today, more organisations realise that they do not possess all the resources and knowledge needed to innovate. Therefore, a paradigm shift has occurred from closed to open innovation (Chesbrough, 2003). The interest in this phenomenon has increased rapidly after Chesbrough (2003, xxiv) for the first time coined the term open innovation as “a paradigm that assumes that firms can and should use external ideas as well as internal ideas, and internal and external paths to market, as the firms look to advance their technology”. The open innovation paradigm is illustrated through a funnel from a firm perspective, of which the boundary between the organisation and the external environment is porous to exchange innovation between the parties (Chesbrough, 2003).

Relating to the open innovation funnel, it is necessary that the external environment interact with the focal organisation, which can take form in partnerships, such as alliances and joint ventures (Felin & Zenger, 2014). This puts inter-organisational relationships, or partnerships, central to open innovation. The selection of partners is found to be one of the core influences on the success of a collaboration (Chen et al., 2010; Cummings & Holmberg, 2012; Ireland, Hitt & Vaidyanath, 2002). Hence, it is important to understand how partners are selected.

1.2 Problem discussion

Even though there are many studies on partnership selection in general (Brouthers, Brouthers & Wilkinson, 1995; Hitt et al., 2000; Wuyts & Geyskens, 2005), relatively little has been written focusing on partnership selection for open innovation (Emden, Calantone & Droge, 2006). In addition, *no* studies are dedicated to understand the specificities of selecting partners for open innovation communities¹, if there are any.

To understand what an open innovation community is, we converge two concepts: open innovation and community. A community “involves socialising one's individual knowledge and contributing to the creation of a joint output that is superior to the sum of the individual outputs, because new knowledge is created through the emerging relationships” (Sawhney & Prandelli, 2000, p.25-26). In a community, members do not have one-to-one interactions but rather work collectively (Frey, Lüthje & Haag, 2011). To organise and facilitate creation, the community is governed by “a central firm that acts as the sponsor and defines the ground rules

¹ The systematic literature review conducted by the authors has proven that no academic articles were published within the research base used until the date this thesis was published.

for participation” (Sawhney & Prandelli, 2000, p.25). When it comes to open innovation, it primes for that an organisation contributes to, as well as uses external sources with the purpose to innovate (cf. Chesbrough, 2003). Thus, an open innovation community is composed by members that transpose their own organisations’ boundaries to collaborate with each other, aiming to innovate.

From initial observations, it is understood that partnership selection for open innovation communities is particular because it transcends the boundaries of selecting organisations to collaborate with; it chooses a party to compose a network that will collaborate with one another in an environment with a high level of uncertainty (Frey, Lüthje & Haag, 2011; Perkmann & Spicer, 2014). In addition, open innovation communities add complexity to partnership selection, as it enlarges the base of searching for partners to a full network of individuals/organisations contained in the open innovation community. Thus, due to the particularity and lack of literature covering this phenomenon, we acknowledge the importance to research the process of partnership selection for open innovation communities. To understand the partnership selection process for such particular context, we will analyse this process in the light of the theories of causation and effectuation (Sarasvathy, 2001) and bricolage (Nelson & Baker, 2005).

Sarasvathy (2001, p.245) delineates the theories of causation and effectuation, explaining that “causation processes take a particular effect as given and focus on selecting between means to create that effect” whereas “effectuation processes take a set of means as given and focus on selecting between possible effects that can be created with that set of means.” The theory of bricolage entails in “making do by applying combinations of resources at hand to new problems and opportunities” (Baker and Nelson, 2005, p.33).

Before Sarasvathy’s development of the effectuation logic in 2001, decision-making processes in entrepreneurship focused more in rational models and behaviour (Schirmer, 2013, c.f. Landström & Benner, 2010). The same happens in the field of partnership selection, which is clearly covered in a goal-driven process of partnership selection (e.g. Li et al., 2008; Chen et al., 2010; Geum et al., 2013), which can be drawn to causal rationale (Sarasvathy, 2001; Schirmer, 2013). In the particular context of an open innovation community, as understood from initial unstructured interviews and observations, partners are not solely selected in a goal-driven process, as broadly covered in the literature, but more often in a means-driven manner, meaning that a specific goal is not defined yet (Schirmer, 2013), applying the effectuation

rationale (Sarasvathy, 2001). As a result of our observations, we decided to study the process of partnership selection for an open innovation community.

Sarasvathy (2001) remarked that the theory is general and can be applied in various fields. It has surpassed the boundaries of research in entrepreneurship, as it has been used to understand the process of selecting partners in recent literature (Schirmer, 2013; Solesvik & Gulbrandsen, 2013). These studies appointed further research to realise the applicability of causation and effectuation theory in other contexts (Solesvik & Gulbrandsen, 2013; Schirmer, 2013). Our observations indicated a particular context to explore the process of partnership selection for open innovation communities in the rural and urban planning industry and analyse through effectuation and causation theory.

Schirmer (2013) explored the effectuation and causation theory for partnership selection in the context of social entrepreneurship, proving that the causal rationale is not the only means to select partners. She states that there are few indicators on literature for less goal-driven process for partnership selection. Overall, Schirmer (2013) classified the entire process of partnership selection as either effectual or causal - one or the other. Sarasvathy (2001) exposes that the human behaviour is not a pure manifestation of either causation or effectuation, but it interrelates and overlaps. Schirmer (2013) did not account on that and narrowed her conclusion in one sole classification.

Based on our observations and initial talks, the process of partnership selection (formation) manifests different approaches on effectuation and causation on different moments within the partnership selection process, in line with Sarasvathy's (2001) ground theory. We will refer back to Sarasvathy (2001) and perform a retrospective longitudinal analysis of the process of partnership selection to map when each of the two approaches was strongest in a timeline perspective.

Schirmer (2013) also drew these conclusions based on social entrepreneurship. We see the interest to bring her findings to another context involving an open innovation community. Reinforcing what we have observed, it is a particular context because the selection process does not occur based on one partner collaborating with another party, but rather a full network that belongs to the community.

However, even the effectuation reasoning could not reason the partnership selection process in its totality, as we have perceived in our observations. It was seen that due to the resource constraint environment, extremely unstable environment and unclear objectives and vision,

partnership might have been selected by the logic of using ‘what is at hand’. Because of that, we reason to apply the bricolage theory.

The theory of bricolage has been applied in various academic fields, including entrepreneurship (Baker & Nelson, 2005; Fisher, 2012; Salunke, Weerawardena & McColl-Kennedy, 2013) and organisational theory (Perkmann & Spicer, 2014; Duymedjian & Ruling, 2010). It has not, however, been studied in the light of partnership selection for open innovation.

Thus, with the indicated research opportunities in mind, this study focuses on the process of partnership selection for an open innovation community in the urban and rural planning industry in Sweden, using the theories of causation, effectuation and bricolage. Having identified the gap in research regarding partnership selection for open innovation communities, the unexplored theory of bricolage for partnership selection in an open innovation context, and the necessity of applying Sarasvathy’s theory of causation and effectuation in other contexts, the research question for this study is:

How does the process of partnership selection for an open innovation community occur?

1.3 Purpose

The purpose of this study is twofold. Firstly, it aims to contribute to research by creating an understanding of how partners are selected in practice by an open innovation community. This will be achieved by researching the partnership selection activities and behaviours in a retrospective longitudinal way to empirically present the process of partnership selection for an open innovation community, which we assume to be different compared to an alliance due to higher levels of uncertainty and complexity. Secondly, it aims to contribute to research by building on the theories of causation and effectuation (Sarasvathy, 2001), as well as bricolage - a novel approach to partnership selection. Initial interactions and observations have made us believe that the particular case company allows us to find evidence on how these theories appear simultaneously in the dynamic process of partnership selection, without a clear pattern.

1.4 Delimitations

Although partner collaboration within an open innovation community can take many different governance forms (e.g. R&D alliance, joint venture), this study does not account these forms for the analysis of the process to select partners for an open innovation community. We recognise that governance forms can be discussed under partnership negotiations as the case of

this study is under formation. However, since the community is in the early stage of development, no inferences can be drawn on governance forms.

How to incentivise collaboration once within the community is not within the scope, since we focus on how to get partners to participate in an open innovation community - but not how to incentivise their collaboration once they are in.

1.5 Key concepts

Table 1 (on the next page) envisions all the key concepts used through the research.

Table 1. Key concepts

Concept	Definition	Author(s)
Partnership selection	The process of how “an arrangement between two or more separate organisations to pursue a common activity or interest where risks and benefits are shared” is established.	Based on Bendell (2011, p.14)
Open Innovation	“Open innovation is a paradigm that assumes that firms can and should use external ideas as well as internal ideas, and internal and external paths to market, as the firms look to advance their technology.”	Chesbrough (2003, xxiv)
(Open innovation) Community	“The community is governed by a central firm that acts as the sponsor and defines the ground rules for participation. The community of creation model relies on extended participation”. If the community aims to innovate, then it is an open innovation community.	Sawhney and Prandelli (2000, p.25)
Causation	“Causation processes take a particular effect as given and focus on selecting between means to create that effect.”	Sarasvathy (2001, p.245)
Effectuation	“Effectuation processes take a set of means as given and focus on selecting between possible effects that can be created with that set of means.”	Sarasvathy (2001, p.245)
Bricolage	“Making do by applying combinations of resources at hand to new problems and opportunities.”	Baker and Nelson (2005, p.33)

This research is constructed as follows. First, outlined in the theoretical frame of reference are the concepts of partnership selection, open innovation, open innovation community and contrast with alliances, in addition to how open communities select partners analysed from the perspective of causation, effectuation and bricolage. Second, the methodology used is covered. Third, the results of the present research are presented, later to be analysed and discussed. Fourth and finally, the last chapter concludes the research and suggests implications for further research.

2. Theoretical frame of reference

The following sections shed light on different concepts related to the overall theme of partnership selection. Followed by a brief introduction on open innovation and the concept of open innovation communities contrasted to alliances. To understand the uniqueness of the process of partnership selection for open innovation communities, we introduce the theories of causation and effectuation (Sarasvathy, 2001), and bricolage (Baker & Nelson, 2005), contextualising them to the process of partnership selection.

2.1 Partnership selection

In this subchapter, the concept of partnership selection shall be defined. In addition, an overview of partnership selection motivations and criteria is provided. Finally, previous literature on the process of partnership selection is discussed.

2.1.1 Partnership selection defined

Sources of innovation are acknowledged to be found in other companies or networks (Chesbrough & Crowther, 2006). Tushman (2004, p.410) mentioned that “much of the value created in both product and service industries are created outside a particular firm’s boundaries”. Successful innovators obtain and commercialise external ideas and knowledge, and collaborate interdependent with other organisations (Chesbrough, 2003). With this knowledge, both partnerships and the selection of partners become increasingly important, also in the research field—(Chen et al., 2010; Holmberg & Cummings, 2009; Ireland, Hitt & Vaidyanath, 2002).

Partnership is an umbrella concept that contains many forms of organisation that are manifested in a continuum of partnering (Thompson & Sanders, 1998), referring to the existence of different degrees of partnership. Herewith, the terms collaboration, alliances, joint ventures, network connections, and communities are a manifestation of partnerships and were handled as partnerships. Bendell (2011, p.14) describes a partnership as “an arrangement between two or more separate organisations to pursue a common activity or interest where risks and benefits are shared”. Alliances are commonly used to describe partnerships in practise or in research (Cropper et al., 2008). The process of how a partnership is established can be defined as partnership selection.

2.1.2 Motives and criteria

A lot of research has been conducted on the selection of business partners (e.g. Brouthers, Brouthers & Wilkinson, 1995; Bierly & Gallagher, 2007; Dekker, 2008). Most studies focused on the motivations and criteria of establishing partnerships (Cummings & Holmberg, 2012; Solesvik & Gulbrandsen, 2013). After an extensive analysis of existing literature, Brouthers, Brouthers & Wilkinson (1995) identified four overall considerations that need to be taken into account by an organisation before establishing an alliance: complementary skills need to be offered by partners, the cultures need to be cooperative, the organisations must have compatible goals, and similar levels of risks must be involved. In addition, Doz and Hamel (1998) argue that a key motivation for establishing a partnership is to achieve co-specialisation by combining resources that are complementary to the focal company. They add that a partnership can increase the competitive strength in the markets of both partners, as well as that they can learn valuable skills from the partner that they do not possess themselves. Besides confirming some of the motivations and criteria mentioned above, Bierly & Gallagher (2007) distance from the more rational and analytical approach to find that trust between potential partners becomes more important as uncertainty increases.

Chen et al. (2010) identified sharing cost of R&D activities as one of the more important and recurring motivations for R&D alliances. Other motivations were strategic oriented (as obtaining competitive advantage), and resource oriented (as exchanging critical necessary resources with partner to innovate) and learning. These motivations resulted in some criteria that potential R&D partners could be assessed on; first, the partner should be compatible in terms of similar strategy, size, and culture. There should also be trust and commitment between the partner and the focal company (ibid). Second, the partner should be technologically compatible, meaning that it should be able to manufacture technology and innovate (ibid). Third, the company should possess complementary resources and willingness, and ability to invest in R&D. The fourth and final criterion is that the partner is financially stable with a future profitability and a potential for growth (ibid).

2.1.3 The process of partnership selection

As seen previously, motivations and criteria to select partners are vastly covered in the literature (Brouthers, Brouthers & Wilkinson, 1995; Doz & Hamel, 1998; Bierly & Gallagher, 2007). However, less research has been done on how partners are selected within the open innovation context. The empirical studies that are being done in partnership selection for open

innovation, focus on high-tech companies that establish R&D alliances (Chesbrough & Crowther, 2006)

According to Li et al. (2008), organisations need to make three decisions when forming R&D alliances. First decision is with whom to ally, which involves the evaluation of their prior interactions with the potential partners. The second decision is regarding the governance structure, and the third decision is on what activities to perform, also referred to as “alliance scope” (Li et al, 2008, p.321). The study takes that the focal company’s decision to collaborate within a project as a given. They argue that both a project as well as the scope of that project is decided on beforehand a partnership to innovate is established, thus goal-driven (Schirmer, 2013). They acknowledge that further research is needed when project decisions are not made prior to partnership selection.

Chen et al. (2010) argue that to select an appropriate strategic R&D alliance partner, first the motivations, criteria and sub-criteria need to be identified. In addition, an analytical hierarchy process (AHP), one of the most widely used multi-criteria decision making methods (Geum et al., 2013) is applied. It uses the theory of fuzzy sets, distributing weights to the motivations and criteria to calculate and later evaluate the performance of candidate partners for the R&D alliance. The result of their study is a systematic procedure that is proposed in order to select a partner, a very goal driven approach to partnership selection (Schirmer, 2013).

Geum et al. (2013) developed a systematic three-stage framework to guide the selection for strategic R&D partnerships in technology industries. Their framework is based on the criteria: technology strength, R&D openness, R&D linkage, and collaboration effect. It uses patent and publication databases as a main source to obtain relevant values of potential partners. Also in this study, the AHP method is used, allowing the process to be structured. As part of the first step in their framework, a clear collaboration strategy needs to be defined specific to the purpose of the collaboration, indicating a goal-driven process (Schirmer, 2013).

These studies give us insight on the process of how different types of partners are selected within an open innovation context using different criteria. An observed similarity is the systematic approach - all methods for partnership selection often have a clear objective for the collaboration beforehand, thus their process can be qualified as goal-driven (Schirmer, 2013).

2.2 Open innovation community vs. alliance

To understand the applicability of partnership selection theories to the specific context of open innovation community, it is important to first define the concept of such. To do so what open

innovation is will be delineated to dive into the concept of open innovation community - contrasting it to alliances. Finally, the implication for partnership selection for open innovation communities is provided.

2.2.1 Open innovation

A basic description of innovation is “introducing something new to the marketplace” (Kuratko, Morris & Covin, 2011, p.12). A more elaborate definition is given by O’Sullivan & Dooley (2009, p.5): “innovation is the process of making changes to something established by introducing something new that adds value to customers and contributes to the knowledge store of the organisation”. This is mainly in the form of products, services, or processes; but could also be in the form of systems or even organisational programmes for employees (Kuratko, Morris & Covin, 2011). When an organisation is solely using its internal resources and knowledge to develop and launch the innovation, it is considered closed innovation.

On the contrary, open innovation is “the use of purposive inflows and outflows of knowledge to accelerate internal innovation and expand the markets for external use of innovation, respectively” (Chesbrough, Vanhaverbeke & West, 2006, p.2). These inflows and outflows of knowledge are also referred to as inbound and outbound innovation (Dahlander & Gann, 2010) or exploration and exploitation of innovation (Van de Vrande et al., 2009), respectively. Thus, when organisations collaborate with innovation as an objective, the process of collaboration can be classified as open innovation.

2.2.2 Open innovation community

Third parties can contribute to steer innovation by intermediating connections between innovative firms and communities (Chesbrough, 2006). An innovation intermediary is the one to “put together many different innovation community members to create the opportunity for firms to increase the feasibility of outsourcing innovation” (Chu, 2013, p.946), endorsing open innovation by arranging a scenario of external knowledge inputs and outputs. Innovation intermediaries act as a mediator between shareholders, adding value by supporting links, governance, guiding commercialisation, business model generation and developing partnerships and communities in which open innovation is embedded (Howells, 2006).

Private and public actors can take this role, but the latter has been more highlighted in the literature as “the main type of third parties influencing the development innovation by organising synergies and cross-fertilisation processes between local actors” (Mazet, Primard & Scheid, 2013, p.1704).

The manner the actors are connected to use external knowledge can be classified in open innovation communities (Frey, Lüthje & Haag, 2011) and alliances (e.g. Li et al., 2008); Chen et al., 2010; Geum et al., 2013).

According to Yoshino and Rangan (1995, p.4), an alliance “links specific facets of the businesses of two or more firms (...) that enhances the effectiveness of the competitive strategies of the participating firms by providing for the mutually beneficial trade of technologies, skills, or products based upon them”. For a partnership to be defined an alliance, it needs to possess the following characteristics simultaneously: (1) the firms remain independent after the goals to pursue are agreed upon and the alliance is formed; (2) the involved firms share the benefits and risks of the alliance, as well as the control over the tasks to be performed. For an alliance to be ‘strategic’, the partners contribute on a continuous basis in one or more of the strategic areas, like products and technology (Yoshino and Rangan, 1995).

Open innovation communities are characterised by the interaction across members and with the innovation intermediary, in a collective invention process (von Hippel, 2005). In open innovation communities, contributors collaborate to develop innovations that they share a common interest (West and Lakhani, 2008). They can be organised both physically and virtually, but a lot of focus from the literature is given in the virtual form of the internet-based format (Chanal & Caron-Fasan, 2010; Chu, 2013; Frey, Lüthje & Haag, 2011).

Sawhney and Prandelli (2000) propose the concept of ‘community of creation’, which is a permeable system; a governance form of open innovation communities before the term open innovation was coined. All members can contribute to the community, but to get into the community, the member must fulfil the specific rules for membership: it needs a sponsor and intellectual property rights open to the community. The notion of gated communities is introduced, which are not open to the public. The community organisational form implies an increasing complexity, which entails “a stronger need for knowledge to reduce uncertainty.” (Sawhney & Prandelli, 2000, p.27).

However, there are other focuses on the delimitation of what a community is, Fleming and Waguespack (2007, p.166), classify a community as "a group of unpaid volunteers who work informally, attempt to keep their processes of innovation public and available to any qualified contributor, and seek to distribute their work at no charge". Chanal and Caron-Fasan (2010, p.321), focused on “cases where firms appeal to anonymous communities not only to generate ideas or to respond to technical challenges, but also to contribute to new product design”. Von

Hippel (2005) attributed the sense of community to lead users sharing interest or passion to invent new products and solutions.

The focus on these concepts of open innovation communities is contextual and attributed to the case that the authors were analysing. The intersection in the literature of open innovation communities lies on the idea of a network collaborating with the entire community to achieve innovation goals.

Sawhney and Prandelli (2000) tell that the innovation intermediate manages the community based on the closed hierarchical model of innovation and the open market-based model. Participating in such community of creation involves “socialising one's individual knowledge and contributing to the creation of a joint output that is superior to the sum of the individual outputs, because new knowledge is created through the emerging relationships” (Sawhney & Prandelli, 2000, p.25-26). Community members contribute with distinct pieces of the value offering.

When participating in the community, "the locus of innovation is no longer in the firm; it is within a community of members in an opportunity arena" (Sawhney & Prandelli, 2000, p.26). The innovation intermediary, being the central firm that acts as the sponsor, sets the governance and ground rules for participation. Even though the community has specific rules for participation, as Sawhney and Prandelli (2000, p.26) put, "it needs a sponsor as well as a system for managing intellectual property rights (IPR) that allows members to extract rents from the intellectual property they help to create". Thus, when participating in a community, one does not give up intellectual property rights, as dependant to the community it sets the rules of participation. This infers that within a community, one can collaborate with selected members - if part of the ground rules.

Drawing back from the discussion of open innovation communities *versus* alliances, the open innovation community provides that all members collaborate with one another (von Hippel, 2005) whereas an alliance has a determined view on with whom one collaborates (Yoshino & Rangan, 1995). This difference makes that participation in a community has a higher uncertainty and complexity compared to an alliance, having an effect on the process of partnership selection, as observed in the case company and discussed in subchapter 4.1. However, if an open innovation community allows in its rules of participation that IPR can be shared with selected members, than the definition *per se* of an alliance can be envisioned in the community scope (cf. Sawhney and Prandelli, 2000).

2.2.3 Partnership selection process for open innovation

It is motivated that open innovation is old wine in new bottles (Trott & Hartmann, 2009). In this logic and by the definition of open innovation *per se*, a partnership established to innovate is contained is, in essence, open innovation. Therefore, it can be discussed that partnership selection in relation to open innovation applies similar motivations and criteria in literature (c.f. Chen et al., 2010; Schirmer, 2013).

Open innovation communities, by the essence of being structured as a community, fasten partners to participate in a collaborative community that enlaces interaction with all members (von Hippel, 2005, West and Lakhani, 2008). The logic behind the selection process for partnership in this context is to select parties that will embrace such interactivity. Thus, following the logic of high-interlaced connections, we believe one criteria to select partners for an open innovation community to be that they are apt to embrace the interactivity.

Selection criteria for simplistic modes of partnership (e.g. alliances) are vastly covered, but this complex form of partnership that is a community is not specified in current research. Thus, we cannot infer if motivation and criteria for open innovation communities are any different from simplistic modes of partnership, as alliances. Moving away from different selection criteria and motivation and talking in general terms, a couple of authors have realised that current literature on how to select partners is very goal driven, meaning it has a defined business objective as a start to select partners to achieve the objective with (e.g. Li et al., 2008; Chen et al., 2010; Geum et al., 2013). However, not all organisations select partners in a goal driven manner, and some do not even have a goal set beforehand (Schirmer, 2013). To understand this selection process that seems contrary to what the literature has presented as a very systematic approach of selecting partners before, Sarasvathy's (2001) theory of causation and effectuation is applied to this phenomena (Schirmer, 2013).

2.3 Theories of causation and effectuation

Sarasvathy (2001) calls the traditional approach to entrepreneurship the "causal approach". The essence of causation involves the entrepreneur setting a defined goal and deciding from there which path to follow to achieve that goal (Sarasvathy, 2001). In short, it starts with an end, and looks for means to achieve it.

The rollout of causal process starts with the recognition and evaluation of opportunities, which leads to goal setting and developing a plan to execute in order to achieve such goal (Sarasvathy, 2001; Fisher, 2012). This process is applied in markets with low levels of

uncertainty to identify and exploit opportunities (Sarasvathy, 2001). Decision makers deal with a measurable and predictable future, situated in a linear and static environment where opportunities are objective and identifiable beforehand (Sarasvathy, 2001; Fisher, 2012).

Criteria is part of the causal process, used to choose between means, usually to maximise expected returns for the already set opportunity (ibid). “If decision makers believe they are dealing with a measurable or relatively predictable future, they will tend to do some systematic information gathering and analysis within certain bounds” (Sarasvathy, 2001, p. 252).

In the opposite direction, effectuation starts with means as opposed to establishing end goals (Sarasvathy, 2001). It assumes that “opportunities are subjective, socially constructed, and created by an entrepreneur through a process of enactment” (Fisher, 2012, p.1022). The effectual processes are related to opportunities in high levels of uncertainty markets. Decision makers believe they are dealing with not easy to predict phenomena (Fisher, 2012), with experimental and iterative learning techniques to unveil future information as time goes by (Fisher, 2012, Sarasvathy, 2001). They apply the principle of affordable loss, which relates to failing more, but at least failing cheap as it can fail earlier (Fisher, 2012, Sarasvathy, 2001).

The effectuation process starts with evaluating the means available, asking questions as ‘Who am I’, ‘What do I know?’, and ‘Whom do I know?’ to search for those means. To define what one can do, then interact with the means, and from that, it can result in either new means resulting in expanding cycle of resources, or new goals resulting in new market (Sarasvathy & Dew, 2005). Chandler et al. (2011, p.375) suggest that effectuation is a “multidimensional construct with three associated sub-dimensions (experimentation, affordable loss, and flexibility) and one dimension shared with the causation construct (pre-commitments).

Indeed, causation and effectuation do not run exclusively, as they are “integral parts of human reasoning that can occur simultaneously, overlapping and intertwining over, different contexts of decisions and actions” (Sarasvathy, 2001, p.245).

Sarasvathy's (2001) conceptual article of effectuation and causation theory starts with a set of questions that relates to pricing, staffing, valuation, and post-capitalist prospectus. Although she did not answer them - as the focus was narrowed to new venture creation - the literature queue was opened up to research in broad and general terms on how effectual reasoning can be applied.

This reasoning has been applied recently to the research field of partnership selection (Schirmer, 2013; Andersson, 2011). The literature is in its early stage as observed by the publication years. Schirmer (2013) examines the partnership formation process, revealing two process of formation: causation process that the partnership is formatted very goal-driven, and effectuation process is means-driven.

The causal approach to partnership selection, the so called goal-driven partnerships, are characterised by the definition of clear goals upfront that are attempted to be met by strategically searching for the right partner with whom to achieve those goals (Schirmer, 2013). It relates to the causal approach because it focuses on selecting the partner according to the defined end (goals) (Schirmer, 2013).

It involves planned strategy approaches that the decision maker gathers possible information relevant for the decision and considers various options (Schirmer, 2013). The search for partners is conducted with clear criteria for selection (ibid). Schirmer (2013) refers to the whole process of partnership selection from the causal logic, as illustrated in figure 1. This entails that each step of the process relates to the causal logic.

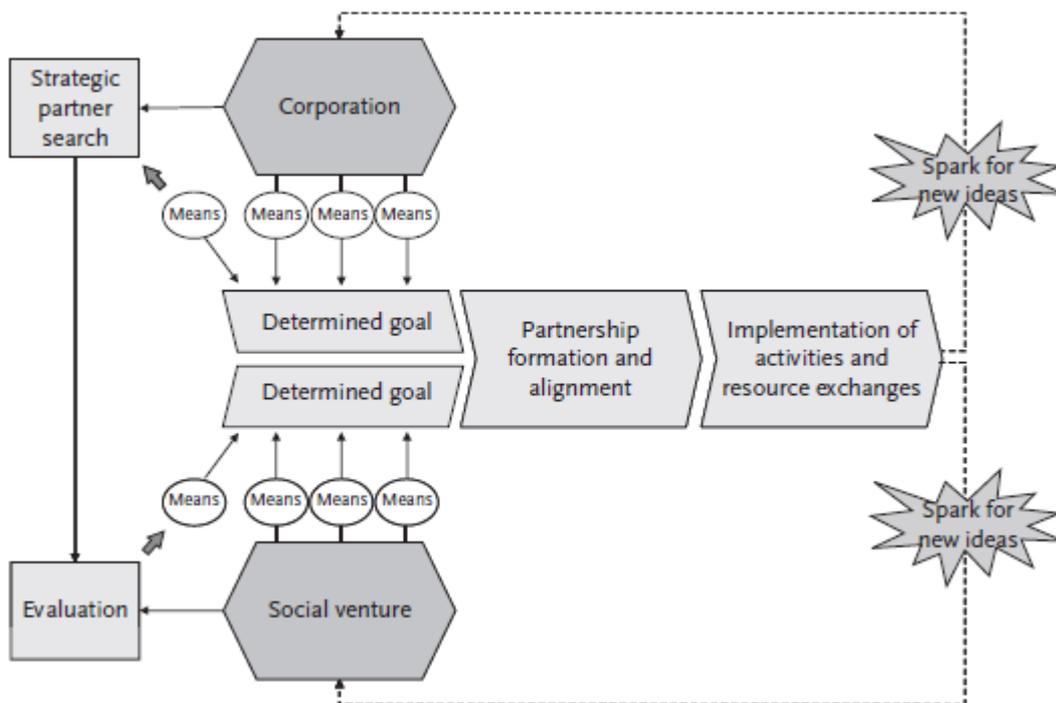


Figure 1. Causal process of partnership selection (Schirmer, 2013, p.33)

The causal approach correlates to previously well-explored ways to select partners (e.g. Li et al, 2008; Chen et al., 2010; Geum et al., 2013). Literature has focused on a strategic, goal-

oriented process of partnership selection (Schirmer, 2013) so far. However, contrary to what it suggests, partnerships do not need to be strict goal driven to become effective, implying another logic of approach that is used to select partners (ibid).

Drawing from effectuation theory by Sarasvathy (2001), the effectual logic on the process of partnership selection can be applied on the so-called means-driven behaviour, which the logic focuses on means (Schirmer, 2013). The start point of an effectual process is only a general aspiration, of which the decision maker uses available resources to satisfy the aspiration (Schirmer, 2013). The objective is not strictly clear from the beginning; it develops along the way affected by environmental contingencies (Sarasvathy, 2001; Chandler et al., 2011). To kick-start the partnership, a loose agreement is done under vague aspirations from the partners that will shape emerging ideas and activities to be done in collaboration. Thus, the goal emerges over time according to the means (partners) used (Sarasvathy & Dew, 2005, Schirmer, 2013).

The process of partnership selection from an effectual logic is illustrated in figure 2 (Schirmer, 2013). The whole process refers to the effectual logic, meaning that each step is part of the same logic. An effectual selection process does not mean that these partnerships are less effective (Schirmer, 2013). It seems that “no formation process seems to be objectively better than the other—both types of partnership have the potential to succeed or to fail” (Schirmer, 2013, p.41)

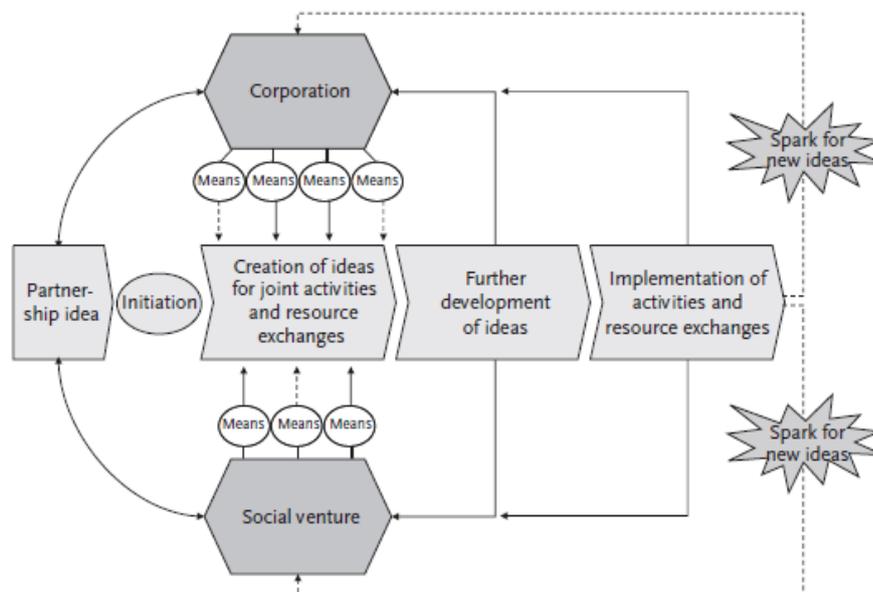


Figure 2. Effectual process of partnership selection (Schirmer, 2013, p.30)

Schirmer (2013) drew these conclusions based on social entrepreneurship. Overall, she classified the entire process of partnership selection as either effectual or causational. Sarasvathy (2001) exposes that the human behaviour is not a pure manifestation of either causation or effectuation, but it interrelates and overlaps. Schirmer (2013) did not account on that and narrowed her conclusion in one sole classification. Schirmer (2013) also infers that the formation process and governance mechanisms are interlinked.

In sum, the causational - or goal-driven (Schirmer, 2013) - perspective on the process of partnership selection starts with the recognition of an opportunity, selecting partners as an entrepreneur seeks resources to establish an entity to exploit the identified opportunity (Fisher, 2012), it is goal-driven (Schirmer, 2013). Alternatively, an effectual - or means-driven (Schirmer, 2013) - perspective on partnership selection can take a different route under certain conditions (Fischer, 2012), where the partners are not selected for a sole purpose based on a recognised opportunity (Schirmer, 2013). Instead of first focusing on goals to find a suitable partner, partners are selected according to the available means, as an entrepreneur would seek for available means they have control (Sarasvathy, 2001).

2.4 Theory of bricolage

Bricolage was first introduced by Lévi-Strauss (1966), who named it after the act of making due with available resources at hand. From his definition, several applications derived in a range of different domains, creating a broad spectrum of usage that envisions a variety of phenomena in different research areas (Fisher, 2012), such as teaching, law, and institution building, material.

Within the business context, bricolage is a theory has been applied in different topics: entrepreneurial bricolage (Baker, Miner & Easley, 2003; Baker & Nelson, 2005; Senyard, Baker & Davidsson, 2009), organisational bricolage (Duymedjian & Ruling, 2010), and network bricolage (Baker, Miner & Easley, 2003).

In this context, the definition of bricolage has been applied and shaped by different sources, but there are converging points of definition that characterise bricolage as: relying on an existing network to build technology businesses (Baker, Miner & Easley, 2003); making do with current resources to create new products and services; create something from nothing (Baker & Nelson, 2005); and making do with available resources refusing to be constrained (Di Domenico, Haugh & Tracey, 2010). They all depart from the idea of using available resources, many relying on an existing network, to create something, regardless of limitations.

Baker and Nelson (2005, p.333-334) break down the definition of bricolage into three elements, which are the following characteristics: ‘to make do’, ‘resources at hand’, and ‘recombination of resources for a new purpose’. The starting point of the bricolage process is a penurious environment, which is described as "it presents new challenges, whether opportunities or problems, without providing new resources" (Baker & Nelson, 2005, p.353). The process of bricolage is presented in figure 3 (Fisher, 2012). Highlighted in the picture, the whole process refers to bricolage, where each stage relates to the bricolage logic.

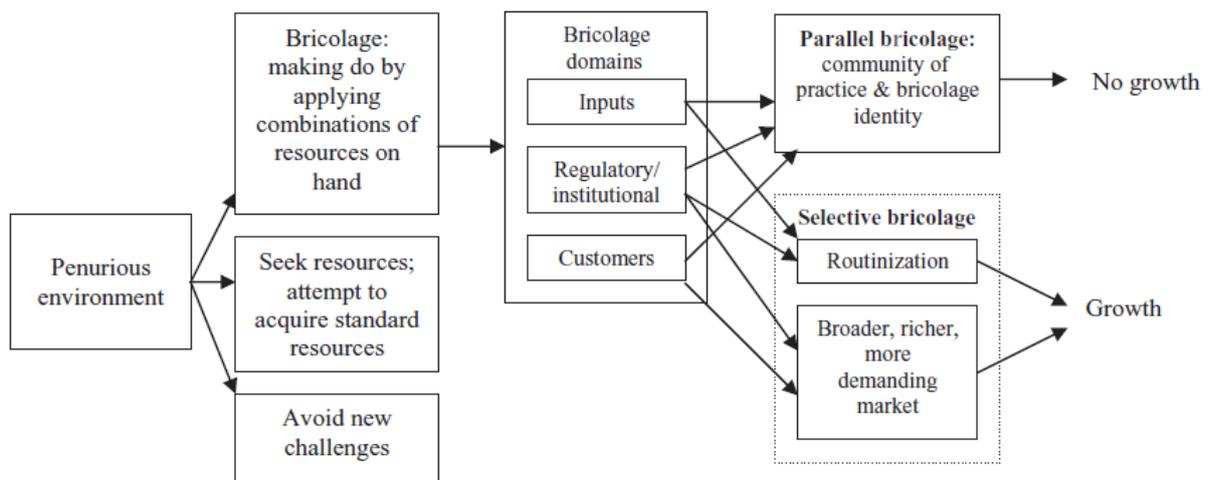


Figure 3. Process of bricolage (Fisher, 2012 based on Baker & Nelson, 2005)

In Baker and Nelson's (2005) seminal work, three domains were presented in which bricolage was used to create something from nothing. Among them are: (1) inputs (that can be physical, labour and skills); (2) customer/markets; and (3) institutional and regulatory environment.

The most interesting domain for this research is institutional and regulatory, which is the domain where decisions, criteria and motivations from the innovation intermediary to select partners are present. Being a bricoleur in such domain means "refusing to enact limitations with regard to many 'standards' and regulations, and by actively trying things in a variety of areas in which entrepreneurs either do not know the rules or do not see them as constraining" (Baker & Nelson, 2005, p.349). Thus, bricolage creates space to "get away with" solutions that would otherwise seem impermissible (ibid). Drawing back to partnership selection, we have reviewed that the causal approach involves a set of criteria to achieve ends that are defined business objectives (Sarasvathy, 2001; Fisher, 2012; e.g., Geum et al., 2013). By acting as a bricoleur in the context of partnership selection, thus a bricolage approach, it means enacting any obedience to the set of criteria's set, approaching partners in a variety of areas that would have not been achievable with criteria.

When organisations engage in bricolage in multiple domains, Baker and Nelson (2005) refer to this pattern as parallel bricolage. The regular use of bricolage in multiple domains “reinforced one another to embed these firms in a community of practice and create an organisational identity that both perpetuated the parallel bricolage pattern and limited growth” (Baker & Nelson, 2005, p.344). However, when organisations engage in bricolage in selected domains, this pattern is called selective bricolage. In this pattern, “businesses were started or radically changed using bricolage, but bricolage was rejected once the business was established or the transition completed” (Baker & Nelson, 2005, p.349). By engaging in selective bricolage, these organisations escaped self-reinforcing dynamics of parallel bricolage, which gives them the ability “to leverage the unique services created through bricolage to generate growth” (Baker & Nelson, 2005, p.354). Thus, they were “able to generate relatively efficient business routines that permitted them to focus on growth” (Baker & Nelson, 2005, p.354).

Reinforcing that bricolage is a theory that makes sense to apply to researching the process of partnership selection for an open innovation community, we link the essence of open innovation and the porous firm’s boundaries to the external environment, which allows inflows and outflows of knowledge (Chesbrough, 2006) that can result in many different combinations of resources. Bricolage, aiming to create economic value, also reinforces combination of resources, as pointed: “our understanding of bricolage overlaps with, yet also extends some of the extensive menu of perspectives focused on the role of new combinations in the creation of economic value” (Baker & Nelson, 2005, p.361). More focused on the network concept, Baker, Miner and Eesley (2003, p. 265) narrowed network bricolage to “the use of pre-existing contact network for issue solving”. Even though network bricolage does not refer to the application of bricolage in partnership selection, it overlaps as the role of personal and professional networks are the considered means at hand (Baker, Miner & Eesley, 2003). Thus, applying network bricolage to partnership selection would be using the available network as a source of the selection process - which in its essence is rather forming a partnership that is at hand. This is reinforced by Baker, Miner and Eesley (2003, p.264): “we observed many instances and domains in which the founding teams did not search broadly for, or plan in advance for specific resources, but rather drew on resources readily at hand”. The process of partnership selection has not been seen through the goggles of bricolage theory, which can be applied to understand the selection of partners’ process for the phenomena of open innovation communities. The context of open innovation communities complies with the bricolage dichotomy, as it is highly uncertain (Baker & Nelson, 2005; Sawhney & Prandelli, 2000).

If causation in partnership selection departs from a recognised opportunity and finding partners to match (Schirmer, 2013, Fisher, 2012), effectuation departs from finding partners through means available to find opportunities together (ibid). Bricolage could be applied in this context, where no opportunity nor problem could be recognised, nor does an organisation have the actual means to select partners. In bricolage for partnership selection, for the theory of entrepreneurial bricolage to be relevant, the environment in which the context takes place is resource constrained while still having access to some resources to act as a bricoleur (Baker, Miner & Eesley, 2003).

Fisher's (2012, p.1019) research applied the three presented theories of bricolage, causation and effectuation, through a "critical examination of how different theoretical perspectives in entrepreneurship research translate into individual behaviour, and whether such behaviour is evident in the creation and development of new ventures. Using an alternative templates research methodology, the behaviours underlying the theories of effectuation, causation, and bricolage are evaluated". Similar to the present research, she underlined the three theories using Whetten's questions (what, how, why and who, where, when) (ibid). Each of the six cases he researched and analysed as an entity, not paying attention to variations of the approach during the venturing process. Therefore, he has identified the three theories in a static mode for the six cases, failing to acknowledge how the process can change over time.

In one hand, overlaps between bricolage and effectuation were acknowledged, as Fisher (2012, p.1039) stated, "although the theories of effectuation and bricolage were created to explain different phenomena in the entrepreneurship domain, the behaviours associated with both theories appear to be similar in many respects". Fisher (2012, p.1039) coined four dimensions that are similar to bricolage and effectuation: "(1) existing resources as a source of entrepreneurial opportunity; (2) action as a mechanism for overcoming resource constraints; (3) community engagement as a catalyst for venture emergence and growth; and (4) resource constraints as a source of creativity."

On the other hand, Baker, Miner and Eesley (2003, p.273) saw the intertwining of bricolage with both effectuation and causation. They succeeded to illustrate the common dimensions of bricolage with causation, and bricolage with effectuation, illustrating that "both bricolage and effectuation involve starting with a set of means. However, bricoleurs may use materials at hand both to see 'What can I accomplish with my current resources?' (effectuation) and to find out 'How can I meet my pre-existing goal through what is at hand?' (causation).

Knowingly, Sarasvathy (2001) points that causation and effectuation are intertwined. Thus, converging what seems to be a misalignment in current unexplored literature, we present arguments of Fisher (2012), Baker, Miner and Eesley (2003), and Sarasvathy (2001), corroborating that the dimensions of bricolage, causation and effectuation are intertwined. It must be stressed that the three theories are still distinguishable as their grounds are formulated in different perspectives, as highlighted during this chapter.

Interestingly, “the foundational articles for each perspective (Baker & Nelson, 2005; Sarasvathy, 2001) do not cite each other” (Fisher, 2012, p.1020). Furthermore, there is little literature that explores these theories to study the process of partnership selection (Schirmer, 2013). Yet we argue that the theories of causation, effectuation and bricolage are suitable to understand the process of partnership selection in an open innovation community context, as table 2 summarises.

Table 2. Relation between the study and the theories of effectuation, causation and bricolage

	Relation to current study	Who used it?
Causation	The process of partnership selection that initiates with a business objective, thus is goal-driven, refers to the theory of causation.	Chandler et al. (2011); Fisher (2012); Sarasvathy (2001); Schirmer (2013); Sarasvathy & Dew (2005)
Effectuation	The process of partnership selection that initiates with means, thus is means-driven, refers to the theory of effectuation.	Andersson (2011); Chandler et al. (2011); Fisher (2012); Sarasvathy (2001); Sarasvathy (2009); Sarasvathy & Dew (2005); Schirmer (2013)
Bricolage	The process of partnership selection that enacts any obedience to the set of criteria, approaching partners in a variety of areas that would have not been achievable with criteria, refers to the theory of bricolage.	Baker & Nelson (2005); Baker, Miner & Eesley (2003); Duymedjian & Ruling (2010); Fisher (2012); Senyard, Baker & Davidsson (2009)

3. Methodology

In the following chapter, the methodology used for this study will be outlined discussed. First, the overall research design and the process of research are covered. Second, it will be explained how both secondary and primary data was collected, and lastly it will be discussed how this data was analysed to allow the research questions to be answered.

3.1 Overall research design and process

In this subchapter, the research philosophy, approach, strategy, and process will be outlined. In addition, a description of the case researched for this study will be provided.

3.1.1 Research philosophy

It is important to understand the research philosophy used for this study, as it underpins the research strategy and research methods chosen (Saunders, Lewis & Thornhill, 2003). To determine how partners are selected in an open innovation community, and how the theories of causation, effectuation and bricolage can be applied for partnership selection, the researchers will take an interpretive epistemological stance, meaning that an understanding of the social world is gained through understanding the participant's view of that social world (Bryman & Bell, 2011). Thus, in line with the epistemology, we focus on people rather than objects, making qualitative in-depth interviews with a small sample of respondents.

Qualitative research “tends to view social life in terms of processes” which the concern is often “to show how events and patterns unfold over time” (Bryman & Bell, 2011, p.404). As the aim of this research is to understand how the process of partnership selection for an open innovation community unfolds, qualitative research was the preferred method. In addition, this data collection method allows the analysis and understanding of the participants interpretations of this process (Bryman & Bell, 2011; Saunders, Lewis & Thornhill, 2003).

3.1.2 Research approach

The research approach followed for this study is iterative between inductive and deductive. The inductive essence in this study is given as data is collected and analysed for a specific phenomenon in order to build on existing theory, which will be the aim of this research (Saunders, Lewis & Thornhill, 2003; Bryman & Bell, 2011). However, similar in this study, “theory is often used as a background to qualitative investigations” (Bryman & Bell, 2011, p.13) and the research approach is therefore very iterative, going back and forth between theory

and data collected (ibid). Thus, elements of the deductive approach are used to guide the research into a coherent final thesis.

3.1.3 Research strategy

The case study is found to be the most applicable research strategy for this research. Robson (2002, p.178) defines a case study as “a strategy for doing research which involves an empirical investigation of a particular contemporary phenomenon within its real life context using multiple sources of evidence”. The case study is revelatory, as the researchers have the opportunity to study a phenomenon that has not been accessible in research (Yin, 1984). For this study, a single organisation - from now on referred to as Planiva - within the Swedish urban and rural planning industry is researched to find out how the process of partnership selection takes place for their open innovation community - from now on referred to as InnoLab - making this a single case study (Bryman & Bell, 2011). To obtain and analyse data, multiple interviews are conducted, which is typical for a case study (Eisenhardt, 1989). A longitudinal element is included in this case study, as the researchers have been part of the organisation for several months and have been interviewing the respondents in a retrospective way (Bryman & Bell, 2011).

3.1.4 Research process

Regarding the research process, Bryman and Bell (2011) suggest to start thinking about the research area well before starting the research itself. To do so, Planiva has been evaluated with help of exploratory semi-structured interviews, as well as with informal meetings about the current situation of the company. Having identified the research area, a thorough and systematic literature review has been completed², which served to identify what has already been known in the area, what theories have been used and to find unanswered research questions in a limited biased way (Bryman & Bell, 2011). Concurrent with the literature review, a pool of research questions was developed - an iterative process between the questions and the literature, that later narrowed the research focus. The final research question ultimately derived in alignment with a current phenomenon within Planiva that could be studied, and the unexplored gap in research.

² Please refer to appendix A for an overview of the literature review process.

3.1.5 Case description

The case researched for this study is InnoLab; Planiva's open innovation initiative. One of the prevalent features of InnoLab is collaboration among partners. This interaction across partners and with the innovation intermediary is a characteristic of a community, according to von Hippel (2005). Another prevalent feature is the innovation intermediary itself, which is InnoLab in this case, as the management of this community. InnoLab's proposal is in-line with community literature, as Chu (2013, p.946) states: to "put together many different innovation community members to create the opportunity for firms to increase the feasibility of outsourcing innovation" (Chu, 2013, p.946). According to Sawhney and Prandelli (2000), a central firm, or innovation intermediary as mentioned (von Hippel, 2005, Chu, 2013), is the sponsor that defines participation rules and manages the governance of the community. Thus, InnoLab, by acting as the innovation intermediary and defining ground rules, aiming for collaboration across partners, proves to be a gated community (Sawhney & Prandelli, 2000), that is physically organised.

Openness is another prevalent feature of this community, mentioned by the managers themselves. In addition, the vision to innovate in collaboration with the partners qualifies InnoLab as an open innovation community (von Hippel, 2005; Chesbrough, Vanhaverbeke & West, 2006). In addition to what literature discusses, it has been identified that (potential) participants of an open innovation community perceive an increased uncertainty and complexity due to the nescience of the future participants to join the community, as well as the unknown outcome of the collaborations with current and future participants within the community.

3.2 Data collection

In this subchapter, we first cover the validity, replication and reliability of the research. Second, we elaborate on the instruments used for data collection. Third, we discuss the generalisation of this study. Fourth and final, we explain the preparations done in relation to the interviews.

3.2.1 Validity, replication and reliability

When doing research in a business and management, it is important to meet three criteria of research evaluation: validity, replication and reliability (Bryman & Bell, 2011). Validity refers to the integrity of the conclusions from research (ibid). To assure validity, the responses will be triangulated from the dual perspective. Triangulation entails, in this case, to use more than

one source of data to study the social phenomena (ibid). It is the “process whereby multiple reference points are used to locate an object’s exact point” (Bryman & Bell, 2011, p.397).

To triangulate data we will juxtapose the data from the selector side to the selected partner side to secure trustworthiness that transudes factual happenings and decisions. In specific, the measurement validity will be met by securing a common denominator to classify the selection process. To identify whether the process is defined in a causal, effectual or bricolage manner, we needed to define this common denominator to assure comparability. In virtue of the theories of causation and effectuation (Sarasvathy, 2001) and bricolage (Baker & Nelson, 2005) being emerging theories in the behavioural domain - as seen in the previous chapter - we argue that human behaviour can be the common denominator. We were inspired by the method used by Fisher (2012), who also outlines a process in causation, effectuation and bricolage - “the study of entrepreneurial behaviour is an examination of human behaviour involved in finding and exploiting entrepreneurial opportunities through creating and developing new organisations” (Fischer, 2012, p.1028).

Reliability “is concerned with the question of whether the results of a study are repeatable” (Bryman & Bell, 2011, p.41). It is more connected with issues in quantitative research (ibid). In terms of qualitative research, external reliability means “the degree to which a study can be replicated” (Bryman & Bell, 2011, p.395), but it is a hard to reach criteria since it is difficult to have the same social construct (ibid) as particular as the open innovation community in Scandinavia. To reach external reliability, the results of this study shall be repeated in a similar setting in a similar culture. In turn, Bryman and Bell (2011) relate internal reliability to inter-observation consistency, which is reached as there are two researchers for the present thesis, which add to the consistency by having to converge two perspectives in one piece of work.

Replicability “is likely to be present in most cross-sectional research to the degree that the researcher spells out procedures for: selecting respondents, designing measures of concepts, administration of research documents and the analysis of data” (Bryman & Bell, 2011, p.56). Thus, we reach replicability as we go through the next sections.

3.2.2 Data collection instruments

Semi-structured interviews allowed the interviewers to structure the topics that need to be covered while keeping flexibility to ask follow up questions (Bryman & Bell, 2011). The structure was kept using the interview guide that included most relevant questions, which was preferred for cross-case comparability later on (Eisenhardt, 1989). The flexibility was needed

to obtain a better understanding of the respondents, and the social world around them (Bryman & Bell, 2011).

The semi-structured interviews were conducted with the population of all four employees involved in the partnership selection process of InnoLab to identify how the process of partnership selection is taking place for the open innovation community. The sampling method used to select the interviewees is the judgement sample, also known as purposeful sample, where “the researcher actively selects the most productive sample to answer the research question” (Marshall, 1996, p523). Five out of ten approached representatives of potential partnering companies have been interviewed - two currently being part of the community, two in the decision process, and one denial - to assure data from a less limited perspective. Due to the limited heterogeneity of the population categories - either accepted, denied or in the process - the sample size can be considered sufficient (Marshall, 1996). An overview of interviewees can be found in table 3.

Table 3. Interviewees for this research

Company, referred to in thesis as:	Person in company referred to in thesis as:	Position:
Planiva	Selector 1	Planiva Regional Manager
Planiva	Selector 2	Planiva Chief of Staff
Planiva	Selector 3	Planiva Area Manager InnoLab Manager
Planiva	Selector 4	InnoLab facilitator
Case company 1	Partner 1	CEO
Case company 2	Partner 2	Regional CEO
Case company 3	Partner 3	Business Development Manager
Case company 4	Partner 4	Market Development Manager
Case company 5	Partner 5	CEO

3.2.3 Generalisation

One frequent critique in qualitative research is the problem of generalisation (Bryman & Bell, 2011), as the scope of the findings is restricted. The argument is that qualitative research is hard to generalise when “unstructured interviews conducted with a small number of individuals in a certain organisation or locality” are used (Bryman & Bell, 2011, p.408). However, Eisenhardt (1989) argues that tying the emergent theory to existing literature enhances the generalizability of a case study. Many concepts and processes within case studies are similar and even structurally the same, so can be generalised when they have relevance to other domains (Gioia, Corley & Hamilton, 2012). Thus, we argue that as our case is researched in the light of the theories of causation, effectuation and bricolage and we have seen the former two theories discussed in relation to partnership selection in prior studies, our generalizability

is enhanced. Nevertheless, we are aware of the specificities of this case and therefore understand that it can seldom be generalised besides the instance of a similar setting.

3.2.4 Interview preparation

According to Bryman and Bell (2011), it is important to consider some basic elements as part of the preparation of the interview guide. In line with their tips, first, the headings have been ordered to make the interview flow well. Second, the interview questions were formulated in an easy to deluge way, answering the research question. Finally, personal information (e.g. name and position) were included in the interview guide.

We developed two interview guides to collect data to compose the storyline of partnership selection. One interview guide is directed to Planiva employees that were involved in the selection process of partners (under appendix B). The second interview guide is directed to the approached companies (under appendix C).

The interview guide for the partner selectors is divided into three sections inspired by a timeline of the process of partnership selection. The first section envisions what we called "pre-partner talk". Activities such as selecting partners, filtering and prioritising which to contact are part of this stage. This happens before the partners are contacted or connected. After the first contact, the second section start, which we called "partner talk". During this phase, the selector has the first contact with the possible partner to pitch the idea of the open innovation community, negotiate terms if necessary, and present a possible project if it is the case. The last section begins after what we called "yes or no": the positive or negative answer to become partners in the open innovation community exploring the activities. We called this phase "post-partner talk".

12 main questions and 19 follow-up questions were developed for the partner selectors' interview guide to address the development of each partner process. The interview guide for approached partners did not differ drastically from the partner selectors' interview guide. 10 main questions and 18 follow-up questions were prepared for the partners approached interview guide.

The interview guides also served two functions, the main was to collect data for the present research, and the second was to contribute to the 'business development project' work that we developed for Planiva. Therefore, other questions regarding their internal process, view on

open innovation community and thoughts about InnoLab were asked for the approached partners. For the partner selectors, questions on lessons learnt were asked.

To facilitate the analysis, we asked questions that would lead to the description of the behaviour underlying the theories referred in this study: causation, effectuation and bricolage. For the theory of causation and effectuation, we used the developed and validated scales of Chandler et al. (2011), also used in Fisher's (2012) studies. In their validity study, they created a table of behaviours that would state what is considered a behaviour of causation or effectuation. To analyse the behaviour that reflects bricolage, we used the guide from Senyard, Baker and Davidsson (2009), presented in their seminal work. As part of their research, they developed a bricolage instrument and scale to measure bricolage (ibid). From all scales inputs (Chandler et al., 2011; Fischer, 2012; Senyard, Baker & Davidsson, 2009), we used a scale as instruments to qualify the behaviours into causation, effectuation and bricolage. More on this topic can be found under 3.3.3. The instrument can be found in appendix D.

A pilot test was conducted with our mentor in the organisation to gather feedback for the interview guide. After it was adjusted, he was also used as an interviewee. We made an effort to adopt criteria to be a successful interviewer as identified by Kvale (1996), like being clear, open and critical. A mobile recorder was used to record the interviews to later transcribe and analyse thoroughly. The average length of the interviews with the partner selectors was one hour, and for the approached partners it was from 30 minutes to one hour.

3.3 Method for data analysis

To analyse the obtained data, we conducted a within-case analysis and a cross-case analysis, both discussed in the following subchapter. How to read the outcome of the data analysed will be described lastly.

3.3.1. Within-case analysis

Aiming to build theory from a case study, Eisenhardt's (1989) framework was a guide to our research. With the research question defined, the cases selected, having the interview guide done and entered the field, the next step was to perform the within-case analysis (ibid).

The within-case analysis was the first step of the data analysis process. Regarding this step, Eisenhardt (1989, p.540) says, "there are probably as many approaches as researchers". To make sense of our data collected, we chose a strategy that would help us navigate to the centre of the research question: activities and behaviour. Langley (1999) presented seven strategies to theorise from process data. One of them is the visual mapping strategy, the chosen one for this

research as the key anchor points are activities and behaviour, and the sequence in which they happened (ibid).

The questions from our interview guides were related to activities and decisions made to fill in the timeline view of activities and behaviours that took place during the process of partnership selection. As covered previously, the reasoning behind this was to get the responses structured into three phases, namely the pre-partner talk, partner talk, and post-partner talk. The timeline is key to understand the process of partnership selection, as we apply the theories of effectuation and causation (Sarasvathy, 2011) and bricolage (Baker & Nelson, 2005). Thus, activities and behaviours will dictate whether that part of the process was causation, effectuation and/or bricolage.

With these dimensions in head, we argue that the visual graphical representation is good to analyse our data as "visual graphical representations are particularly attractive for the analysis of process data because they allow the simultaneous representation of a large number of dimensions, and they can easily be used to show precedence, parallel processes, and the passage of time" (Langley, 1999, p.700).

Starting with the within-case analysis, we first identified which partner selector talked about which case company. Some partner selectors talked about companies that that we did not interview. We only used data for the case when the selector actively participated in the selection process. This is how we arrived at four more cases to analyse the process of partnership selection, totalling in nine cases studied in this research. Second, we created an overview of the nine cases used for this study, including what interviewee provided information regarding that case, which is displayed in table 4.

Table 4. Overall of interviews data collection

Case:	Data obtained from the following InnoLab interviewees:	Data obtained from the Case company?
Case company 1	Selector 1 Selector 2 Selector 3	Yes: Partner 1
Case company 2	Selector 1 Selector 3 Selector 4	Yes: Partner 2
Case company 3	Selector 1 Selector 3	Yes: Partner 3
Case company 4	Selector 2 Selector 3 Selector 4	Yes: Partner 4
Case company 5	Selector 3	Yes: Partner 5
Case company 6	Selector 3	No
Case company 7	Selector 2 Selector 3	No
Case company 8	Selector 4	No
Case company 9	Selector 3	No

Third, we drew visual graphical representations of activities and behaviours that happened during the process of partnership selection by paralleling what was said by the partner selectors and the interviewee of the approached company. The outcome of this phase is a visual graphical representation of the process of partnership selection for each approached company in the sample, in each interviewee's point of view. We drew one visual representation for each partner selected (case) that was mentioned during the interviews with each partner selector, accounting nine cases, of which five of them were triangulated with interviews with the partners approached.

3.3.2. Cross-case analysis

The second step on the data analysis, in line with Eisenhardt's (1989) process, is the cross case analysis. According to Eisenhardt (1989, p.540) "people are notoriously poor processors of information". That is why we take the step of cross-case analysis; to avoid information-processing biases by looking at data in many different ways (ibid). To do so, we juxtaposed the visual representation of each case and compared the cases in relation to the overall process and the theories of causation, effectuation and bricolage.

The downside of the visual graphical representation is that "unless supported by other methods, the conclusions derived from it can have a rather mechanical quality, dealing more with the

surface structure of activity sequences than with the underlying forces driving them” (Langley, 1999, p.701-702). This is why we use the measurements of behaviour for bricolage, causation and effectuation based on Chandler et al. (2011), Fisher (2012), and Senyard, Baker and Davidsson (2009) as a foundation to operationalize as it happens during the process. The instrument to measure causal, effectual or bricolage behaviour can be found in appendix D.

By setting up the maps with activities and classifying the behaviours according to causation, effectuation and bricolage theory, we reached the next stage from Eisenhardt’s (1989, p.541) framework, where “tentative themes, concepts, and possibly even relationships between variables begin to emerge”. With the analysis concluded, the results that emerged are discussed in the next chapter.

3.3.3 How to navigate through chapters four and five

In this subchapter, we illustrate the interactiveness between the chapters four and five. The following chapter presents the findings from the interviews. Every finding relevant for this study is separated in sub-sections per case company, composed by a body text divided into the three phases (pre-partner talk, partner talk, post-partner talk), which contains bold text to indicate the series of activities. All findings are based on quotes from the interviewees, which can be found in a table below each case. These illustrative quotes are mentioned like "(a)", numbered in alphabetical order. Additionally, the outcome of the within-case analysis, which are the visual maps (Langley, 1999), are placed after the text, for all companies, containing the sequence of activities aiming to simplify the reader's understanding. In sum, the findings are a descriptive presentation of the data processed on how the process of partnership selection occurred.

Chapter five reflects mostly on the outcome of the within-case and cross-case analysis. It is during the analysis that we have linked the process of partnership selection back to the theories of causation, effectuation and bricolage. To help information processing, we completed the table of behaviours of causation, effectuation and bricolage (based on Baker & Nelson, 2005; Chandler et al., 2011; Fisher, 2012; Sarasvathy, 2001; Senyard, Baker & Davidsson, 2009) with the same illustration quotes that are described in chapter four. These illustration quotes, which were numbered in an alphabetical order or in-text, are the ones used to complete the table of behaviours.

The outcome on chapter five is a body text divided similarly to chapter four (pre-partner talk, partner talk, and post-partner talk) embodied with arguments to translate the behaviours and

activities into qualifications of causation, effectuation and bricolage theories. Each argument is followed by a number, like '(1)', to draw back to the illustration quotes used during chapter four. The completed table for all cases can be found in appendix E. Still in chapter five, after the body text, a simplified visual map follows with the final description on when and which theory is manifested throughout the process of partnership selection.

4. Presentation of results

In this chapter, we will present the findings of our research regarding the process of partnership selection for an open innovation community, including the activities undertaken, decisions made, motives and criteria. Before going into the specific nine cases, the rationalisation of the open innovation community is presented in subchapter 4.1. In subchapter 4.2, the overall process on partnership selection for the community from the views of the partner selectors will be presented. Subchapter 4.3 will explore in more detail the full process for each partner selected from the view of the partner selectors, juxtaposed with the view from the partners approached, depicting the activities occurred.

4.1 Open innovation community

To start with, we have verified the basis of the argument that our research case consists of an open innovation community. InnoLab is the clear manager of the community, responsible for the strategic and operational decisions, such as partnership selection, development of activities, organisation, among others (“We have a plan for workshops and meetings and things and eventually, if we have a few more coming in, set up a... not a steering committee, but a committee that is including all the companies here in InnoLab, for discussions; practical and future possibilities.” - Selector 3).

InnoLab’s management delineated collaboration across partners as key for the community (“We want them to collaborate with others as well” - Selector 1). The collaboration within the community was certainly a motivation for partners to join: “if they would have some other, for us very interesting, cooperative partners here, that is really related to our field of business, I would triggered” (Partner 4).

Openness is another characteristic of the present community, mentioning “we are very open-minded and sharing when it comes to what we have or what we could do for each other” (Selector 4) and “... the business side, we are always open. So we could do business and collaborate in hundreds of ways in an open environment. It’s just the imagination that sets the limits” (Selector 1). Although the community is still at the early stage, the intention to innovate is discussed with approached partners: “we said that we want to get you situated here to start the development process of new business ventures and innovation” (Selector 1).

Tangibilising innovation as part of this community was also mentioned: “I don’t think we are interested in making business in the common products and common services. We have to add some innovation into it” (Selector 2). Finally, crucial for this community, collaboration among

all participants and not with the innovation intermediary alone is expressed: “we talk to the companies and explain them we want them to also collaborate with each other” (Selector 1).

Uncertainty is another characteristic of the community mentioned by InnoLab`s management: “when you do work with something like [Case company 2], and it`s open, you don`t really know what it is going to be like” (Selector 3). The partners approached mentioned uncertainty as well, mainly relating to the future community composition (“What players would be here? Are they are really related to us and what we do?” - Partner 4). Complexity was also seen in the process of partnership selection for the InnoLab community, contrasting with the standard R&D alliances that Planiva is partner in. The difference added complexity on how partners are selected for InnoLab compared to Planiva is emphasised by the following quote:

“In [Planiva] today we can do marketing, we can do a marketing plan and say that we should approached these and these and these customers, because we have something to deliver to them. For [InnoLab] we actually do not know if it is our partners` customer that is interesting, it is ours, or it is a completely new customer. (...) It sounds very, very vague.” (Selector 1).

4.2 Overall process of partnership selection

From a holistic point of view on the process of partnership selection, each partner selector elaborated on their strategy to select a partner for the community, the rationale of the partner selection process. One of the partner selectors considers the process to be very unstructured. His view on finding partners is through networking. Because of the network approach and possibly not knowing in advance who the potential next partner could be, we confirm that it is not a defined business opportunity that will be pursued at first, but rather a general potential collaboration. Although this selector implies that he/she is very open to the type of partners joining the community, we identified two criteria he considers important. The first one is complementarity (“...if you combine them [resources], you have two strong businesses generating a better whole.” - Selector 1) and trust. Two of the selectors defined the process of partnership selection as a more planned and structured approach. The starting point is the Customer Relationship Management (CRM) system of Planiva. A funnel process was designed with criteria to assess the companies on. The criteria mentioned were (a) location, (b) size, (c) turnover, (d) innovation culture, and (e) prior relationship. For illustrative quotes, please check the table 5.

Table 5. Criteria for partnership selection illustrative quotes

Criteria	Illustrative quote
(a) location	“We are looking in the south region” - Selector 2
(b) size	“We looked at the size of the company” - Selector 3
(c) turnover	“We are looking at some special figures about revenue and so on” - Selector 2
(d) innovation culture	“Do they have an innovation culture? Some of the contractors do not have processes, so no idea. They are really hard-core contractors. They are not at all interested in innovation, where others are.” - Selector 3
(e) prior relationship	“We knew about them before, we have worked with them in some projects, we had key persons that we could contact.” - Selector 2

The last partner selector has not been as active in the selection process as the previous three, mostly reflecting on the overall process that took place from his point of view. When reflecting on the structured approach of the selection process, he concludes that it did not always turn out as structured as planned (“From the beginning I thought that they really wanted in a really structured way. But they haven’t been focused on how to follow this path.” - Selector 4). From his observations, it was inconvenient to keep the structured approach due to tangent circumstances (“We have an idea, very structured way to get the companies inside here and finding them. When push comes to show I would say that if we find an interesting company with an interesting person and interesting products or services that is plenty, and I would choose them before pushing them through this process.” - Selector 4). Interestingly, one of the partner selectors applying the structured process also realised it was difficult to convey into the combined strategy. Therefore, the process of partnership selection did not follow one logic as it “definitely changed over time. More and more over time... [Selector 1] was working more on big companies with staff and R&D and other activities, but the experience now with [Company 2] is that smaller companies have shorter ways for such decisions” (Partner 3).

4.3 Process per partner approached

In this subchapter, we will explore the activities and selection process per partner approached, going through the phases pre-partner talk, partner talk and - if data is available - post-partner talk. Visual maps are provided after each case to illustrate the process of partnership selection. After the visual map, illustrative quotes are gathered in a summary table.

4.3.1 Case company 1

Pre-partner talk

Before talking to the Partner 1 (CEO of company 1) about joining InnoLab, the company was already known, as Partner 1 was part of Selector 1's network (a). The idea of an open innovation community was mentioned previously in "kind of a more generic discussion about innovation and how we generate new business and combining value chains to generate new business" (Selector 1). One important criteria that was present was trust (b), but more importantly, "they are interested in what we can and we are interested in what they can" (Selector 1).

Partner talk

The **decision** for company 1 to join InnoLab was quickly made (c), which was partly because company 1 was looking for office space (d). Formalities were rapidly discussed (e).

Post-partner talk

The **final decision** of company 1 was to be part of InnoLab. By being part of InnoLab and having an office here, it was required for company 1 to participate actively in the community (f). It was pointed that it has become easier to think about more concrete ways to work together (g). As of the present moment, a more clear business objective emerged (h).

The visual map of the process of partnership selection for company 1 follows in figure 4, and the illustrative quotes follow in table 6.

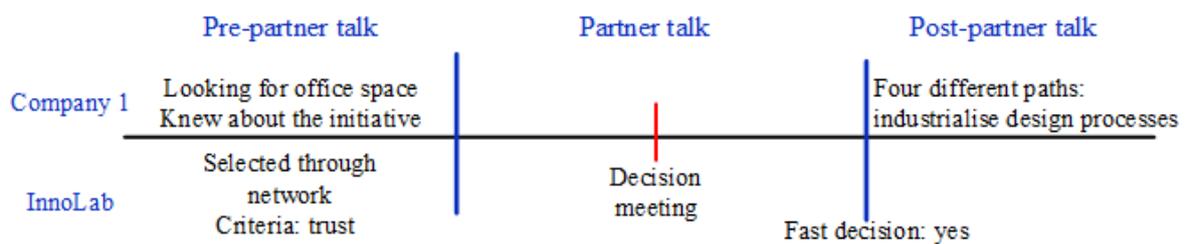


Figure 4. Process of partnership selection for company 1

Table 6. Illustrative quotes of the process of partnership selection for company 1

	Illustrative quotes (company 1)
a	“We have been at the same board and we have been discussing this for three years.” - Selector 1
b	“I have a trustful relationship with [Partner 1], and on this level, we don’t talk about how we produce things, but more on how businesses should be a perfect fit in the long run.” - Selector 1
c	“When I decided that we should open something here physically, [Partner 1] said: fine with us, that is interesting.” - Selector 1 AND “There was no negotiation, it was instantly.” - Selector 1
d	“We were looking for new office space” - Partner 1
e	“Give me an offer and a price, than it’s done.” - Partner 1
f	“But they need to be part of the [InnoLab] process, to sit there. They cannot sit here and say: no, no, no... It’s not an office hotel.” - Selector 1
g	“Getting them to sit here and getting to know the people sitting here actually makes it so much easier to go down and say: we have this kind of bid we want to include you in.” - Selector 1
h	“We have a thing with four different paths with [Case company 1]. I am having a meeting next week about industrialising their design processes”. - Selector 1

4.3.2 Case company 2

Pre-partner talk

Case company 2 was not known prior to talking to its chairman at an event, phasing out the pre-partner talk (a).

Partner talk

Company 2 also did not know who Planiva was. Intriguing, they did not meet the selection criteria (b). What was discussed at the event “was the possibility to have this cross-business cooperation” (Partner 2). Thus, more of a “generic discussion about innovation and how we generate new business” (Selector 1). During **meeting 1** at InnoLab it was discussed “It was going more into detail about what this actually means for us. How this collaboration would proceed. How we work in [InnoLab].” (Selector 1) and to “come and sit with us” (Selector 1). For company 2 it was to verify if InnoLab would be a way to generate new revenues (c). Regarding the fit, the partner selectors agreed upon the ‘open attitude’ (d) and resources complementarities (e). At **meeting 2** the complementarity was further discussed (f), seemed to be an important criteria, as well as ‘finding the right person’ (g). During **meeting 3**, Case company 2 decided to “try it and see what happens” (Selector 3), thus the **final decision** was to accept the offer to join InnoLab. The entire process from start to end “was a very quick

process” (Selector 3). Company 2 joined acknowledging that there was no set business objective beforehand (h).

Post-partner talk

Now company 2 is part of InnoLab that planned activities for co-creation; Selector 4 believes it “will be a little bit more structured”. As it seems, now they are finding ways to collaborate (i).

The visual map of the process of partnership selection for company 2 follows in figure 5, and the illustrative quotes follow in table 7.

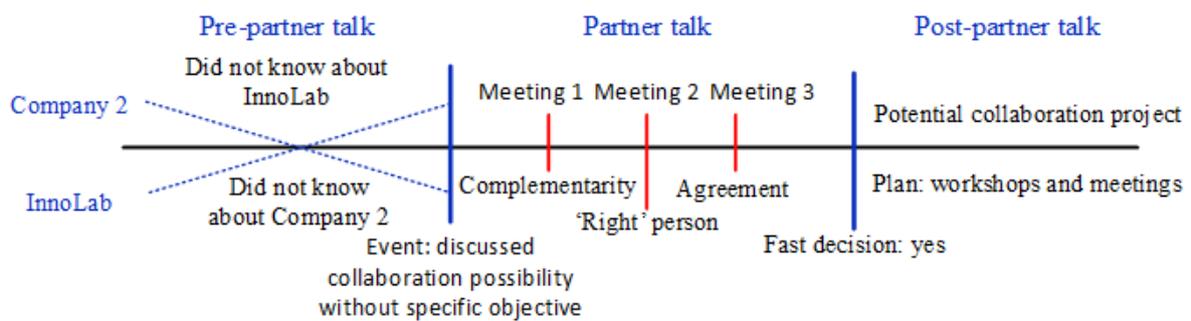


Figure 5. Process of partnership selection for company 2

Table 7. Illustrative quotes of the process of partnership selection for company 2

	Illustrative quotes (company 2)
a	“I met the chairman of [Case company 2] at an event and we started talking.” - Selector 1
b	"We may have not ended up to find them at all if we haven't been open to different kinds of companies that we encountered in different kinds of areas." - Selector 4
c	“And the chairman said: ‘this is something we could possibly profit from to the rest of the organisation, that is, more or less, the key for the next phase’”. - Selector 1
d	“their open attitude and how they responded to our idea” - Selector 3
e	"It turned out that we had a few common interests in business. Very complementary” - Selector 3
f	“We don't have the knowledge within [Planiva] when it comes to IT.” - Selector 4
g	“I think she is a champion, quite a lot of energy that I think it is of essence for [InnoLab]” - Selector 4
h	“We knew from the start that we don't have a specific case or we don't have a project that we are starting up, but we could see that there is a potential.” - Partner 2
i	“We have a project now with a customer that could be very interesting for [Planiva] and within their business area, so we can see that we are in the same area and with the same type of customer, so there is a potential to do something.” - Partner 2

4.3.3 Case company 3

Pre-partner talk

Similar to company 1, company 3 came from a partner selector's network (a), and not from the list of companies selected through the structured funnel of criteria (b). Partner 3 knew about InnoLab and saw its value (c).

Partner talk

At **meeting 1**, there was a generic offer for collaboration rather than a specific business opportunity (d). Company 3 expected a more specific project during the partner talk (e). There are currently projects between company 3 and Planiva, but on a project basis with a customer-supplier relationship (f), not with InnoLab. Another employee from Planiva, who is in charge of these projects, "is also concerned about [InnoLab]. He is trying to get them into [InnoLab]. (...) He is phoning and talking to them" (Partner 2).

No decision has been made yet on the collaboration within the community, mainly due to the difficulty to find the right person (g) as well as the right channel (h) at company 3.

The visual map of the process of partnership selection for company 3 follows in figure 6, and the illustrative quotes follow in table 8.

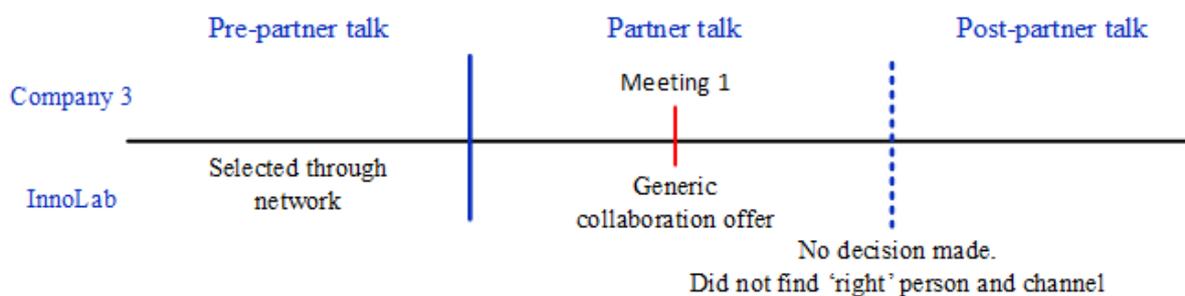


Figure 6. Process of partnership selection for company 3

Table 8. Illustrative quotes of the process of partnership selection for company 3

	Illustrative quotes (company 3)
a	“Me and [Partner 3] were on the same board.” - Selector 1
b	“No, it was not on the list of companies” - Selector 2
c	“[Partner 3] and I had a discussion and we said: we have something here, but... we don’t know who.” - Selector 1
d	“We said that we want to get you situated here to start the development process of new business ventures and innovation.” - Selector 1
e	"One expectation would be that we have concrete projects. And not: 'maybe it will be some projects', because we can't take decisions on that, really. We need to know, need to have more concrete projects" - Partner 3
f	“We have projects with them today. Yeah. But that is on a regular basis. We are consultants and they are a provider.” - Selector 2
g	“We had a couple of meetings with different parties and they couldn’t actually see who would fit” - Selector 1
h	“We are trying to find a way into the organisation and, but, the guys we find can’t take us” - Selector 2

4.3.4 Case company 4

Pre-partner talk

Case company 4 was a result from the initial selection funnel process, ticking all criteria boxes (a). In addition, this company was also known from before (b), being part of the Selector 2’s network. The partner selectors pointed that they “had an idea on how to do business” (Selector 3), but were not focused on a specific project (c).

Partner talk

During the partner talk, four interactions occurred. The first one was **meeting 1** to introduce the idea of InnoLab (d) and to talk about a business proposal (e). Even though there was an idea, there was not a clear business objective (f). Interestingly, the introduction to InnoLab was coherent with what the partner approached reported, but the common project discussion was not the clear to them (g). The second interaction was by **email** to follow up on the initial meeting with a tentative project (h). **Meeting 2** and **meeting 3** were face-to-face meetings. The actions taken were that Planiva decided to assign a project leader for this possible partnership (i), to “try to find a project about this” (Selector 2).

The process is still in the partner talk, as no **final decision** has been made. The partner selectors pointed that “they had a weak response on the project and [InnoLab]“ (Selector 3). That is

attributed by them because “it was a bit confusing for them” (Selector 3). The approached partner reported high uncertainty in the community at the moment (j).

The visual map of the process of partnership selection for company 4 follows in figure 7, and the Illustrative quotes follow in table 9.

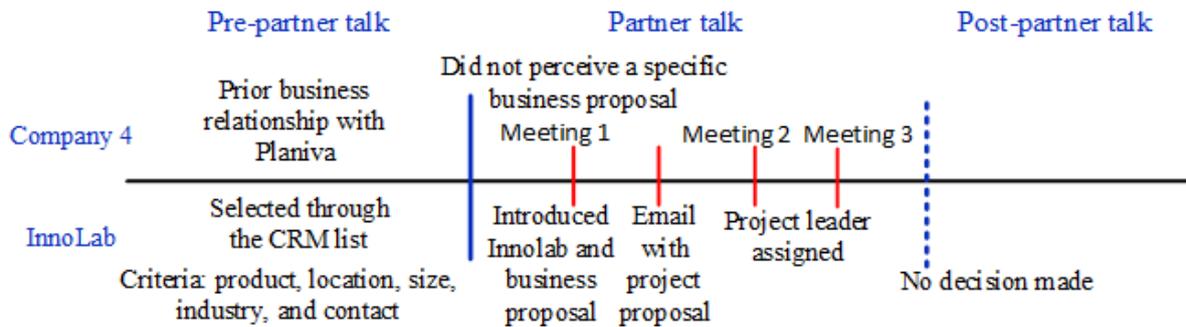


Figure 7. Process of partnership selection for company 4

Table 9. Illustrative quotes of the process of partnership selection for company 4

	Illustrative quotes (company 4)
a	“We used our CRM system and some criteria. They are producing products. They are situated outside [city name], the right region. It is a big company, part of the same cluster. We knew them well, we have a lot of contacts with them” - Selector 2
b	“We knew about them before, we have worked with them in some projects, we had key persons that we could contact,” - Selector 2
c	“I told them we are looking into change our business models and have business areas. We have to make a change, and we are looking for partners to use” - Selector 2
d	“They explained the reason for [InnoLab] and the thinking behind it” - Partner 4
e	“We discussed a common project, indoor climate, which involved acoustics” (Selector 3) <i>and</i> “We talked about innovation. We talked about the acoustics” - Selector 2
f	“I had the idea. But it was not as clear. We try different angles in that meeting and see if they are... but... didn’t think that we connected.” - Selector 2
g	“At that meeting there was not put forward a specific business proposal” - Partner 4
h	“A specific business proposal came afterwards in an email, as I remember correctly.” - Partner 4
i	“At that meeting we find the need of a project leader for this one. And then we picked Julia” - Selector 2
j	“It depends a little bit on the future who would be here. What players would be here? Are they are really related to us and what we do?” (Partner 4).

4.3.5 Case company 5

Pre-partner talk

As well as with company 2, the present company did not have a pre-partner talk phase, as an exception to the rationale presented in other cases.

Partner talk

The first contact happened during an event with one of the partner selectors. Company 5 was attracted to InnoLab at the **event**, as the approached partner regards: “I explained basically and he said ‘this sounds interesting. We are looking for something new where we could sit’” (Selector 3). There was an **internal discussion** at Planiva to determine if the company would be a fit (a).

The content of **meeting 1** was “to understand more about the meaning of [InnoLab] and the possibilities and of course also what other competences or people were at the place” (Partner 5). It was also to find the complementarity between the companies:

“They had a strong network, and they are helping companies, if I remembered right, in management and business development and so forth and that is what we are doing in a sense. Even if they are not technicians or engineers, they are still in the process. So that was what we wanted to investigate when we had a meeting with them. And I think the meeting...the outcome of the meeting was that this was possible to discuss further.” (Selector 3).

Thus, no business proposals were thought of beforehand. During **meeting 2**, they have deepened their negotiation, where company 5 team visited InnoLab.

The **final decision** from the partner approached was a ‘no’, mostly because of the office facilities (b). The intangibles from the offer were not a problem, but Case company 5 did not perceive a good fit (c).

The visual map of the process of partnership selection for company 5 follows in figure 8, and the illustrative quotes follow in table 10.

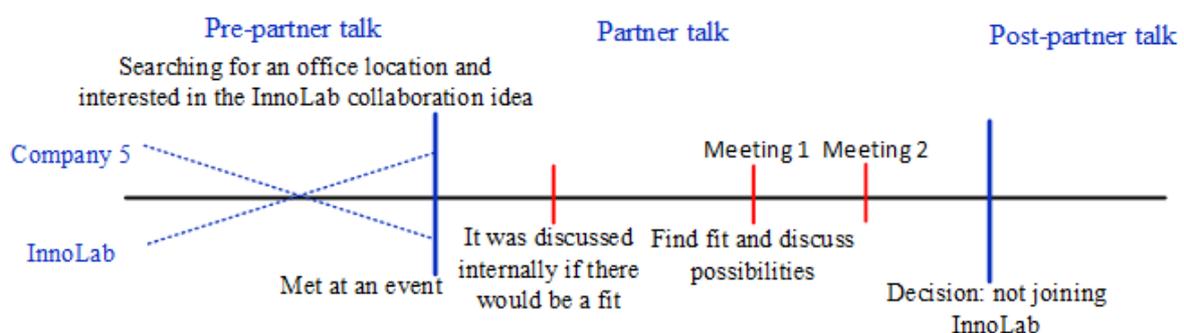


Figure 8. Process of partnership selection for company 5

Table 9. Illustrative quotes of the process of partnership selection for company 5

	Illustrative quotes (company 5)
a	“We had a discussion with [Selector 1], and he was a bit reluctant with this idea, because they are so quite off compared to what we are doing. But we saw some synergies together with them” - Selector 3
b	“[we] were looking for something with more open... more easy access. Openness and maybe also more open space. In the rooms, there was a lot of furniture and walls” - Partner 5
c	“We understood the value, but maybe we found that the knowledge areas or the other companies weren't the most accurate for our service, for our customers” - Partner 5

4.3.6 Case company 6

Pre-partner talk

This phase starts by selecting company 6 through the more structured process, going through the funnel with criteria (a). It was also identified how the company could be complementary to Planiva (b).

Partner talk

The partner talk consists of two interactions: one meeting and one follow-up email. The content of **meeting 1** was “about future possibilities for collaborations within [InnoLab]” (Selector 3), with no clear business objective. The response was that “we had some **email** communication. ‘It is interesting’ she said. But I have to confirm it with my boss.” (Selector 3). Ever since this last communication, no actions have been taken.

The visual map of the process of partnership selection for company 6 follows in figure 9, and the illustrative quotes follow in table 11.

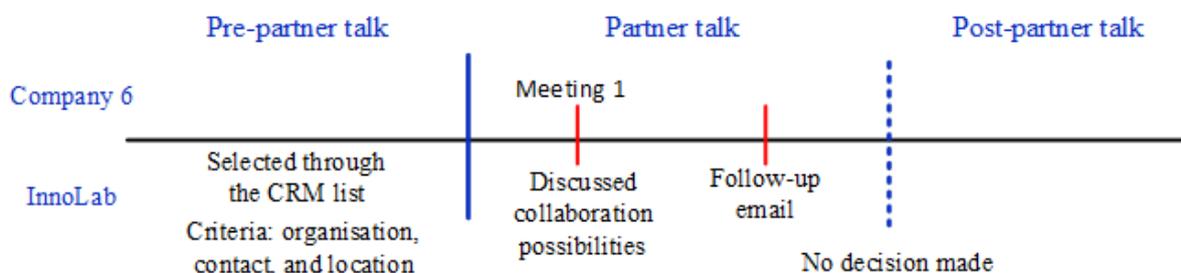


Figure 9. Process of partnership selection for company 6

Table 11. Illustrative quotes of the process of partnership selection for company 6

	Illustrative quotes (company 6)
a	[Company 6] “came from our list. (...) I know that the way they are organised, there is a person in [City A] that could be interested in being here, because they are based outside [City B]” - Selector 3
b	“they had businesses that could fit with what we are doing” - Selector 3

4.3.7 Case company 7

Pre-partner talk

This company was selected through the CRM lists, in the structured way (a), although also being part of one partner selector’s network (b).

Partner talk

During the partner talks, **meeting 1** took place in which a project was discussed (c). On the other hand, a second partner selector did not transpire the claritude of the idea: “We talked about [InnoLab], and innovation and problems of putting development to business and so on. (...) It was more feeling it. I think we connected well with that guy” (Selector 2).

No decision has been made on joining InnoLab. More meetings seem to be needed during the partner talks, to clarify InnoLab’s offer (d).

The visual map of the process of partnership selection for company 7 follows in figure 10, and the illustrative quotes follow in table 12.

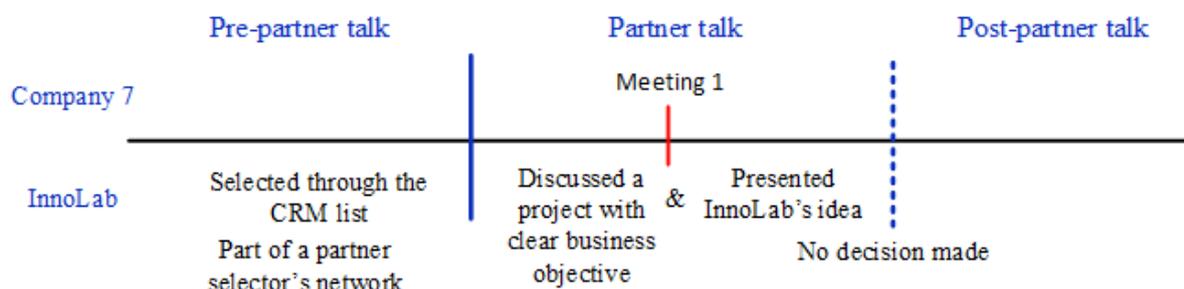


Figure 10. Process of partnership selection for company 7

Table 12. Illustrative quotes of the process of partnership selection for company 7

Illustrative quotes (company 7)	
a	“They were in our list. We had a contact with another consultant that knew them” - Selector 2
b	“I know the CEO of [Case company 7], and I sometimes see him at conferences and so on” - Selector 3).
c	“With [Case company 7], it is more of a project based discussion. We have had some common R&D, some early stage R&D activities before I came into [Planiva]. So with a clear business idea in mind.” - Selector 3)
d	“I will introduce [InnoLab] as resourceful for projects. I mentioned it to the CEO, but I don’t think he got what I was talking about” - Selector 3)

4.3.8 Case company 8

Pre-partner talk

Company 8 was selected through InnoLab’s network. Company 8 did not meet the criteria to become an InnoLab partner (a), but it was considered an interesting company for a more specific project (b).

Partner talk

The first talk took place over the **phone** was an introduction of the two parties, during which company 8 “presented kind of an interesting business” that would “maybe be of interest for us to be part of” (Selector 4). During **meeting I**, InnoLab and company 8 discussed a “common wish of creating more business together” (Selector 4), but not a specific business objective. They also found some complementarity as “they [company 8] have the technology” and “we [InnoLab] have a business model that we could package in some way” (Selector 4). The next step is to assess the fit in an internal meeting (c).

The visual map of the process of partnership selection for company 8 follows in figure 11, and the illustrative quotes follow in table 13.

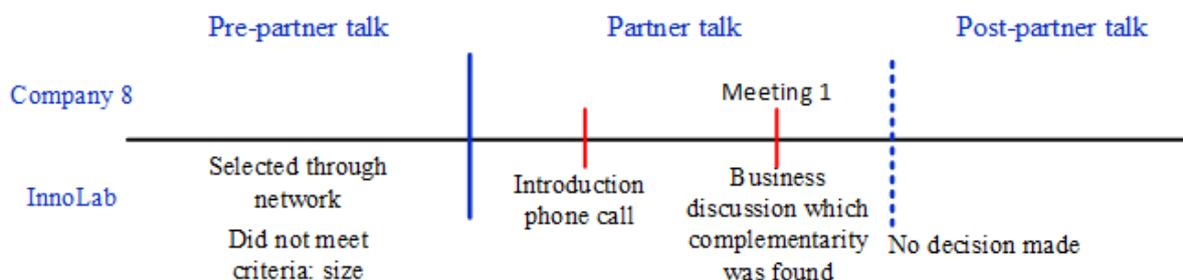


Figure 11. Process of partnership selection for company 8

Table 13. Illustrative quotes of the process of partnership selection for company 8

Illustrative quotes (company 8)	
a	“They don’t meet the criteria that they don’t meet the certain size.” - Selector 4
b	“they could be interesting in a project of indoor climate in houses” - Selector 4
c	The next phase for me is to look at my notes from that meeting to make a short description of this business idea that they are working with and present to [Selector 2] and [Selector 3] and have a discussion with them. I think that when I have had that presentation internally, have that talk, that will lead to either yes or no” - Selector 4.

4.3.9 Case company 9

Pre-partner talk

This company was selected through networks, instead of the more structured approach. Interestingly, it was the network of one of InnoLab’s partners, who saw long-run opportunities with company 9 (a).

Partner talk

During the partner talks, two interactions unfolded. During **meeting 1** at InnoLab was introduced, but there was not a clear business objective in mind (b). The second interaction was a follow-up email, which [Partner 9] did not respond on (c).

The visual map of the process of partnership selection for company 9 follows in figure 12, and the illustrative quotes follow in table 14.

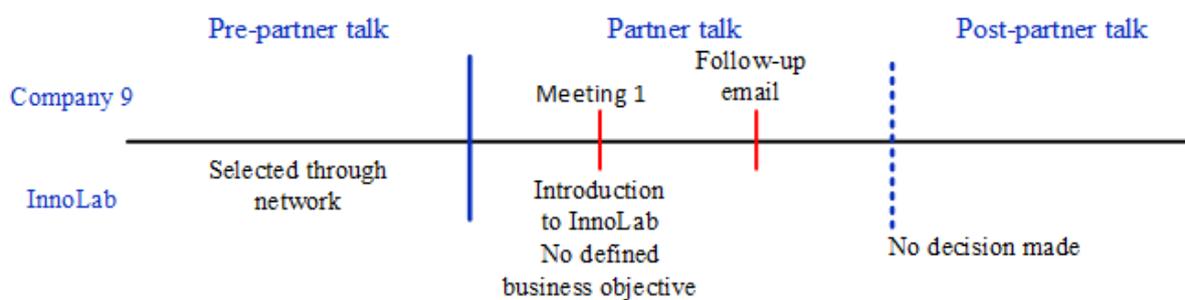


Figure 12. Process of partnership selection for company 9

Table 14. Illustrative quotes of the process of partnership selection for company 9

	Illustrative quotes (company 9)
a	“It was actually [Company 1], giving us the idea. They talked to [Partner 9], because they had some business together. They saw the opportunity” - Selector 3
b	“It was not for a specific project, it was more to discuss [InnoLab]. [Company 1] was quite enthusiastic about it.” - Selector 3
c	“I had contact with him over the telephone in late September/early October, but it eventually died out” - Selector 3

5 .Analysis and discussion

In the following chapter, the prior revealed findings will be analysed and discussed, in line with the literature covered in chapter 2. First, subchapter 5.1 will cover the perceived overall process of partner selection in the light of the theories of causation, effectuation, and bricolage. Subchapter 5.2 will illustrate the entire selection process for each partner approached, through the goggles of causation, effectuation and bricolage. Finally, in subchapter 5.3, we will discuss the overall outcome of the analysis.

5.1 Overall process of partner selection

Different approaches to select partners for the community were identified and could be related to Sarasvathy's (2001) theory of causation and effectuation. One approach was defined very unstructured by approaching potential partners without a specific business objective in mind, considering the potential outcome of collaboration alone. This refers to the effectuation theory (Sarasvathy, 2001) as the objective is not clear from the beginning, but develops along the way affected by environmental contingencies (Chandler et al., 2011). Fischer (2012) classifies this approach as means-driven, drawing back from Sarasvathy's (2001) effectuation theory. At the same time, this approach relates to Baker, Miner and Eesley's (2003, p.264) defined characteristic of the theory of bricolage, where the partner selector "did not search broadly for, or planned in advance for specific resources". We also see this in relation to what was said regarding the importance of networking; looking at 'whom do we know?' (Sarasvathy, 2001), as well as "[drawing] on resources readily at hand" (Baker, Miner and Eesley, 2003, p.264), covers both the theory of effectuation and bricolage. To conclude, both theories of effectuation and bricolage can be related to this perceived approach of partner selection for the community.

Another approach of partner selection was defined more planned and structured, with the CRM system as the starting point to form a list of possible organisations to contact for a partnership. Relating to Sarasvathy's (2001) theory of causation, Schirmer (2013), who discussed the this theory in relation to partner selection, states that it involves a structured approach to gather information relevant to make a decision, in this case, who to approach to be a potential partner for the community. Fischer (2012) refers to this as goals-driven. Although criteria is part of the causal process (Sarasvathy, 2001), when using the CRM system, one of the criteria used was whether they had a key contact person at the potential partner, relating more to the question 'whom do I know?' Thus, this approach was not solely causal, but also with a dose of effectuation.

Interestingly, one of the partner selectors who expected to use the planned, strategic selection approach only realised that it was difficult to maintain this approach in practise. When meeting approached partners at conferences or indirectly from their network, the set criteria was often not fully met, but those partners were selected anyway. This relates more towards the theory of effectuation, as they interact with the mean, in this case potential partner, to find out if it can result in new goals (Sarasvathy & Dew, 2005), as well as the theory of bricolage, as from the moment they met, it was discussed how to use the available resources to create something new (Baker & Nelson, 2005).

5.2 Process per partner approached

In this subchapter, we will relate the selection process per partner approached to the theories of causation, effectuation and bricolage, going through the phase's pre-partner talk, partner talk and - if data is available - post-partner talk. Please refer to appendix E for all the completed tables relating to behaviours of causation, effectuation and bricolage for each company.

5.2.1 Case company 1

Pre-partner talk

The pre-partner talk phase with this company can be related to the theory of effectuation (Sarasvathy, 2001), as it was a strong link to Selector's 1 network, having the process of partnership selection done in a means-driven way (Schirmer, 2013), not focusing on how they can achieve business opportunities, but rather on how their collaboration has potential (1 - see appendix E, table 1, quote b). It endorses the experimentation dimension to test 'what InnoLab can do with what Company 1 can do' (2). Another theory presented in this phase is bricolage, represented in the vision to combine resources for new purposes as they call 'combining value chains to generate new businesses' (3).

Partner talk

The decision, as quickly as it was made, was (4) an action taken to emerging opportunities, rather than questioning whether a workable solution would be found, thus relating to the theory of bricolage (Baker & Nelson, 2005; Fisher, 2013; Senyard, Baker & Davidsson, 2009). Additionally, (5) looking to use the physical location resource in order to respond to the opportunities InnoLab foresees appearing, bricolage is the eminent theory represented during the partner talk.

Post-partner talk

As company 1 is currently part of InnoLab, we analysed a shift from the eminent theory of bricolage towards a more causal approach in this phase as (6) they are now in the process of discussing a concrete business plan, thus relating more to causation (Chandler et al., 2011; Fisher, 2013; Sarasvathy, 2001)

To conclude, the pre-partner talk phase is a blend of all three theories, consistent with a hint of end-driven partnership formation following the proposed criteria by Planiva (causation). At the same time, it lacked a more defined business objective, selecting through the means given (effectuation), adding to the experimentation dimension of bricolage, which consisted on the trial of different resources combination. The partner talk phase, as short as it was, is related to bricolage. After the decision to join InnoLab, the process became more causal, shifting the drive of this collaboration towards a defined end. See figure 13 for a visual overview of the process for company 1, and appendix E, table 1, to clarify the theories framing.

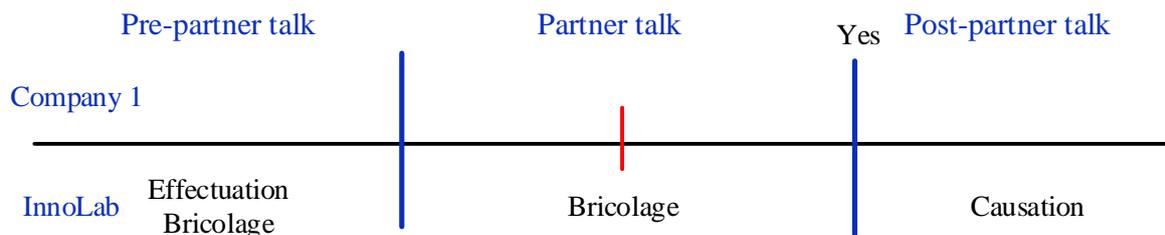


Figure 13. Visual theories overview of the selection process for company 1

5.2.2 Case company 2

Pre-partner talk

Without any activities occurring in the first segment of pre-partner talk, this company, together with Case company 5, is an exception to the timeline.

Partner talk

The contact form, the motivations and pre-conditions on relationship prove that the partnership selection approach for the partner talk phase can be drawn back to the theories of effectuation and bricolage (Sarasvathy, 2001, Baker & Nelson, 2005). This phase can be predominantly classified as bricolage (Baker & Nelson, 2005; Fisher, 2013; Senyard, Baker & Davidsson, 2009): (1) by taking actions to emerging opportunities without questioning whether a workable solution would be found; (2 and 3) by combining their existing resources for new purposes (solutions and opportunities); and (4) by rejecting the limitations of the environment, working

around rules and standards when rejecting the selection criteria that Company 2 did not fulfil. Besides bricolage, the partner-talk phase can also be partly classified as effectuation. For starters, this partnership was means-driven (Fischer, 2012), focusing on company 2 as a desirable means disregarding not having a clear business objective decided upfront. Therefore, we can relate this phase to the effectuation theory because (5) they were willing to experiment with new products and business models because they saw potential to become part of InnoLab and (6) allowed the business to evolve as opportunities would emerge, discussing how this collaboration can develop (Chandler et al., 2011; Fischer, 2012; Sarasvathy 2001).

Post-partner talk

As Company 2 accepted the offer to join InnoLab as a partner, the timeline proceeds to the post-partner talk phase. During this particular phase, we analysed that more structure emerged, defining the goals to achieve at InnoLab. This reflects back to causation, as they are (6) getting a clearer vision of where they want to end up (Chandler et al., 2011; Fisher, 2013; Sarasvathy, 2001).

To conclude, the process of partnership selection for company 2 starts at partner-talk, which we interpret as both bricolage and effectuation, whereas the post-partner talk has a shift to a causal approach. See figure 14 for a visual overview of the process for company 2, and appendix E, table 2, to clarify the theories framing.

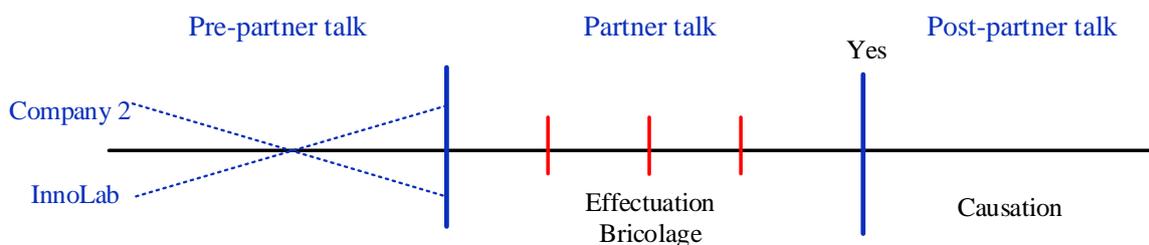


Figure 14. Visual theories overview of the selection process for company 2

5.2.3 Case company 3

Pre-partner talk

Similar to Case company 1, Case company 3 came from the network, relating to the theory of effectuation (Sarasvathy, 2001), referring to the question ‘whom do I know?’ which characterises the process as means-driven (Schirmer, 2013). At the same time, it can be argued that this phase contains an element of the theory of bricolage, as Selector 1 (1) ignored the

criteria set for selecting partners, proceeding to contact them (Baker & Nelson, 2005; Fisher, 2013; Senyard, Baker & Davidsson, 2009).

Partner talk

During the partner talk phase, InnoLab discussed to (2) experiment with different approaches (3) to develop new businesses and innovate, even with difficulties to find the ‘right person’ that would sit at InnoLab, relating to the theory of effectuation (Chandler et al., 2011; Fisher, 2013; Sarasvathy, 2001). In spite of the effectual approach, company 3 also took a more causal approach, referring to (4) concrete projects, or business plans (ibid). No final decision has been made yet by company 3 on joining InnoLab.

To conclude, we argue that the pre-partner talk phase consists of both effectuation and bricolage, transitioning to effectuation and causation during the partner talk phase. See figure 15 for a visual overview of the process for company 3, and appendix E, table 3, to clarify the theories framing.

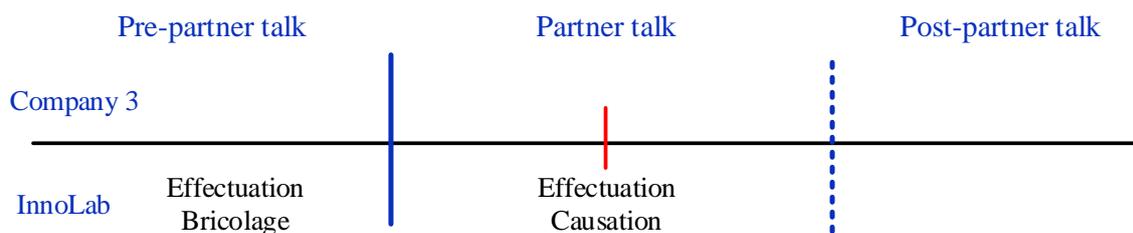


Figure 15. Visual theories overview of the selection process for company 3

5.2.4 Case company 4

Pre-partner talk

This company was selected in a predominantly causal manner through Planiva’s CRM system, using a pre-defined set of criteria (Sarasvathy, 2001). Before talking to Case company 4, they (1) identified long-run opportunities in developing the collaboration and selected what who they thought would provide the best returns, and (2) gathered and reviewed information regarding the market and competition (Fisher, 2012; Chandler et al., 2011; Sarasvathy, 2001), thus goals-driven (Schirmer, 2013). At the same time, this phase partly relates to effectuation as they (3) intended to experiment with different business models and in different areas (Fisher, 2013; Chandler et.al, 2011; Sarasvathy, 2001) and the partnership formation was also means-driven (Schirmer, 2013) as they were known from the network which empowered Selector 2 and Selector 3 to contact them even though there were no specific business objectives set..

Partner talk

Similar to the pre-partner talk phase, the partner talk phase is also analysed to possess elements of causation and effectuation, but predominantly effectuation. Causation because they (4) discussed a common project for which they had a clear vision on where they wanted to end up (Fisher, 2012; Chandler et al., 2011; Sarasvathy, 2001) according to the two partner selectors, thus very goal-driven (Schirmer, 2013). However, one selector and Partner 4 perceived this process to be more effectual, as they pointed that (5) no defined business proposal was put forward making them try a number of different approaches to find a suitable business model, thus eventually (6) having a different outcome than they first have imagined (Chandler et al., 2011; Fisher, 2013; Sarasvathy, 2001). According to Partner 4, a more defined business proposal was only sent in a follow-up email, therefore not defined beforehand. No final decision has been made yet by company 4 on joining InnoLab.

To conclude, we argue that both the pre-partner talk and partner talk phases consists of both causation and effectuation. Our interpretation of the effectuation and causation approaches, manifested in the partner talk phase, sustains, even when we encountered distinctive information on how it was given during the partner talk phase. The only room for interpretation is that the levels of causation and effectuation would vary when verifying if there was the defined project since the first meeting (thus beforehand) or defined later on. See figure 16 for a visual overview of the process for company 4, and appendix E, table 4, to clarify the theories framing.

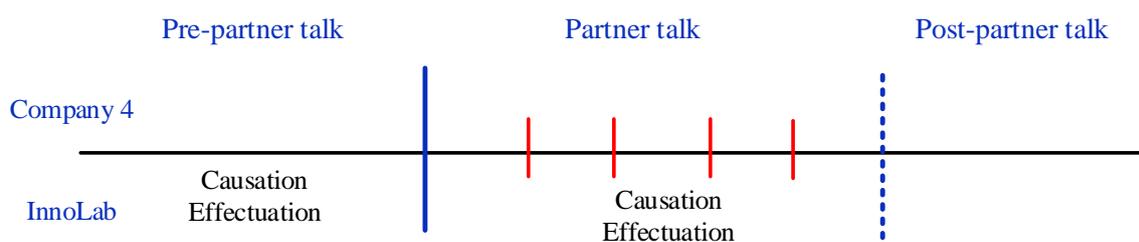


Figure 16. Visual theories overview of the selection process for company 4

5.2.5 Case company 5

Pre-partner talk

Similar to Company 2, Company 5 did not have a pre-partner talk phase. InnoLab and Company 5 were not familiar to one another before.

Partner talk

Partner 5 and Selector 3 were introduced during an event. Interestingly, InnoLab selectors initiated the partner talks aiming for collaboration, representing bricolage because InnoLab considered company 5 interesting while (1) not directly questioning whether a workable solution would be found (Baker & Nelson, 2005; Fisher, 2013; Senyard, Baker & Davidsson, 2009). As company 5 defied the criteria to become a partner at InnoLab, an internal discussion was needed to discuss the fit, which the outcome was to (2) reject the limitations of the criteria, working around the rules (ibid). At meeting 1, the discussion was more effectuation related, as (3) they tried to find different ways to work together (Chandler et al., 2011; Fisher, 2013; Sarasvathy, 2001). The final decision was a decline to join InnoLab.

To conclude, the process of partnership selection starts at the partner talk phase, which consists of both bricolage and effectuation. See figure 17 for a visual overview of the process for company 5, and appendix E, table 5, to clarify the theories framing.

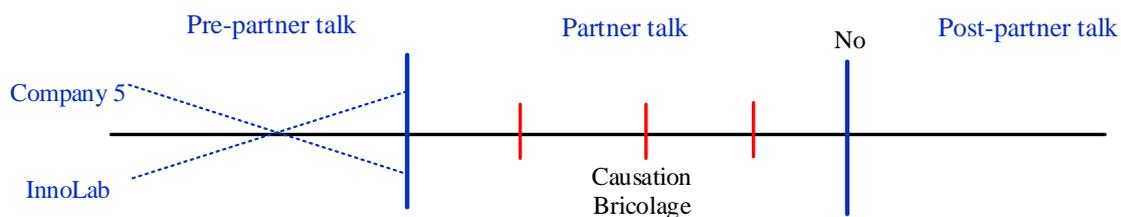


Figure 17. Visual theories overview of the selection process for company 5

5.2.6 Case company 6

Pre-partner talk

Similar to company 4, this company came from the CRM system and was assessed on the earlier mentioned criteria, meaning they were selected through a structured process of (1) reviewing information about the market to end up with company 6, relating to a more causal approach (Chandler et al., 2011; Fisher, 2013; Sarasvathy, 2001).

Partner talk

The partner talk phase on its turn, we identify to be more effectual, as (2) they tried to find different ways to do business together, without a specific goal in mind (Chandler et al., 2011; Sarasvathy, 2001; Schirmer, 2013). Concerning finding the right person, the partner selectors of InnoLab have not been successful so far. No decision has been made yet on joining InnoLab.

To conclude, we relate the pre-partner talk phase to the theory of causation, whereas the partner talk phase has a shift towards the theory of effectuation. See figure 18 for a visual overview of the process for company 6, and appendix E, table 6, to clarify the theories framing.

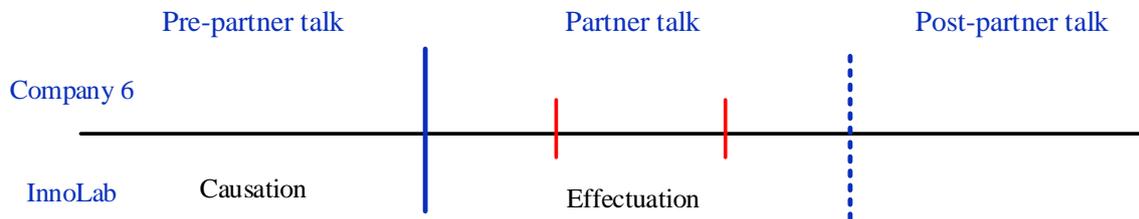


Figure 18. Visual theories overview of the selection process for company 2

5.2.7 Case company 7

Pre-partner talk

Company 7 was also selected following the criteria (1), being related to the theory of causation (Chandler et al., 2011; Fisher, 2012; Sarasvathy, 2001), for similar reasons as for company 4 and 6.

Partner talk

During meeting 1, the two participating partner selectors seemed to have different views on what was discussed. One selector had (2) a clear vision on where InnoLab and company 7 wanted to end up, relating to the theory of causation (Chandler et al., 2011; Fisher, 2012; Sarasvathy, 2001), whereas another selector reported an effectual approach by (3) finding different ways of doing business together (Chandler et al., 2011; Fisher, 2012; Sarasvathy, 2001). No final decision has been made on joining InnoLab.

To conclude, we argue the pre-partner talk phase to be causal, whereas the partner talk is perceived in different ways by the partner selectors with contrasting elements of causation and effectuation. See figure 19 for a visual overview of the process for company 7, and appendix E, table 7, to clarify the theories framing.

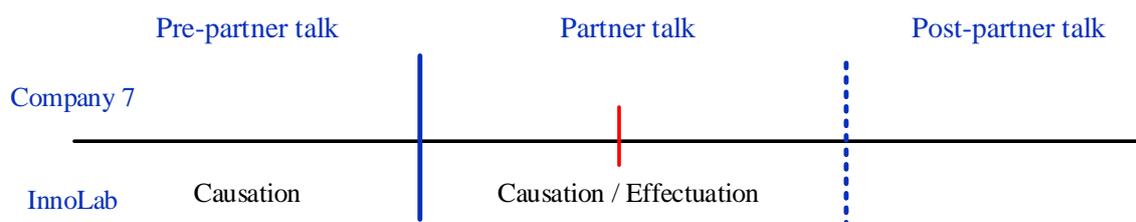


Figure 19. Visual theories overview of the selection process for company 7

5.2.8 Case company 8

Pre-partner talk

Before talking to this company, there was already (1) a clear idea on where they wanted to end up, relating to the theory of causation (Chandler et al., 2011; Fisher, 2012; Sarasvathy, 2001). At the same time, (2) the rules and standards were ignored, as company 8 did not fulfil the criteria set before, relating to the theory of bricolage (Baker & Nelson, 2005; Fisher, 2013; Senyard, Baker & Davidsson, 2009).

Partner talk

The content of the phone call was a factual discussion on company 8's business (3) which was considered interesting to experiment with at InnoLab as partners, relating to the effectual approach (Chandler et al., 2011; Fisher, 2013; Sarasvathy, 2001). During meeting 1, they (4) tried to combine their resources to package it in a new way for new purposes - an identified element of bricolage (Baker & Nelson, 2005; Fisher, 2013; Senyard, Baker & Davidsson, 2009). No final decision has been made to join InnoLab.

To conclude, we draw the pre-partner talk phase back to the theories of causation and bricolage, while the partner talks contained elements of effectuation and bricolage. See figure 20 for a visual overview of the process for company 8, and appendix E, table 8, to clarify the theories framing.

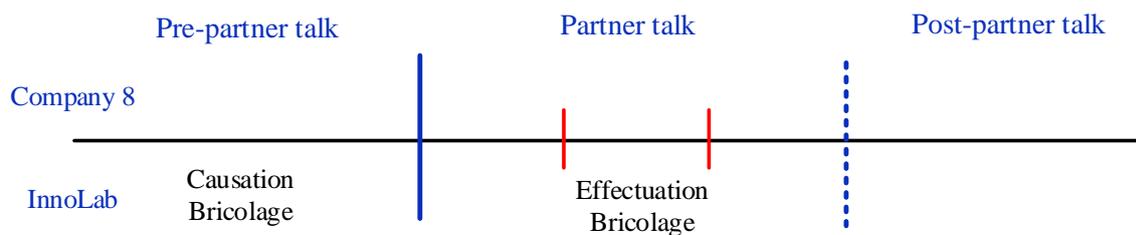


Figure 20. Visual theories overview of the selection process for company 8

5.2.9 Case company 9

Pre-partner talk

The selection process for company 9 originated from a queue of company 1, already part of the community. They have suggested company 9 to take part of InnoLab in order to (1) experiment with different business models. By being qualified as means-driven at this stage (Schirmer, 2013), we can classify the pre-partner talk as effectual at most (Chandler et al., 2011; Fisher, 2012; Sarasvathy, 2001).

Partner Talk

When contacting company 9, one of the selectors reports that a very specific business objective was not in place (2), but there was flexibility to let it emerge in discussions, relating to the effectuation theory (Chandler et al., 2011; Fisher, 2012; Sarasvathy, 2001). No final decision has been made to join InnoLab.

We conclude that the pre-partner talk was analysed mostly in the light of causation, whereas when contacting company 9 a more effectual approach arose. See figure 21 for a visual overview of the process for company 9, and appendix E, table 8, to clarify the theories framing.

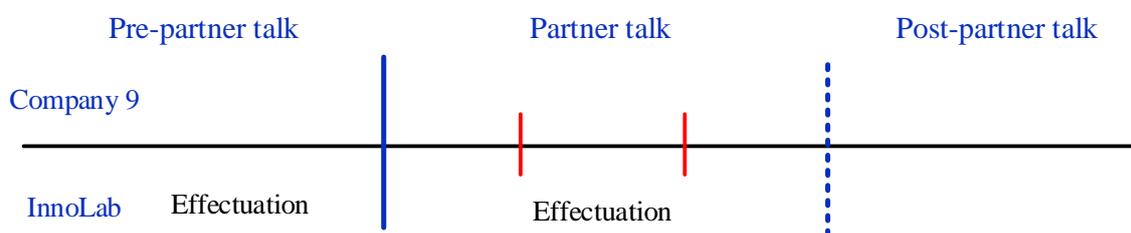


Figure 21. Visual theories overview of the selection process for company 9

5.3 Overall discussion

In this subchapter, a summary of all companies analysed is given in the light of the theories of causation, effectuation and bricolage. Later, each key finding of this research is presented.

5.3.1 Summary of all case companies' processes

Table 15 provides an overview of all the companies studied in relation to the theories of causation (C), effectuation (E) and bricolage (B) for each phase of the process of partnership selection.

Table 15. Overview of theories applied per company and phase

Company	Pre-partner talk			Partner talk			Post-partner talk		
	C	E	B	C	E	B	C	E	B
Company 1		X	X			X	X		
Company 2	Not applicable				X	X	X		
Company 3		X	X	X	X		No decision made		
Company 4	X	X		X	X		No decision made		
Company 5	Not applicable				X	X	Declined		
Company 6	X				X		No decision made		
Company 7	X			X	X		No decision made		
Company 8	X		X		X	X	No decision made		
Company 9		X			X		No decision made		

Based on the processes, which are illustrated in this table, we derive most of our findings that follow under the next headings.

5.3.2 The process changes over time

One of the key findings of this study is that the process of partnership selection for the researched open innovation community changes over time between the theories of causation, effectuation and bricolage. Schirmer (2013) specifically focused on the process of partnership selection in the light of the theories of causation and effectuation. As presented in her research, the whole process of partnership selection was given in a “one or the other” logic, where each step of the partnership selection process was either in a causal approach or effectuation approach (see figure 1 and figure 2). As presented in the earlier section of this analysis, six of the cases we have researched has a shift from the dominant theories to another balance, illustrating the dynamic nature of the process of partnership selection. We reason that the process does not follow a schematised path of either causation, effectuation or bricolage. Therefore, we refute Schirmer’s (2013) schematised process of either causation or effectuation, empowered by the analysis of the present research, empowered by the arguments of Sarasvathy (2001) on how effectuation and causation are integral to human behaviour, coexisting.

Fisher (2012), in his studies, completed a table of the bricolage approach to entrepreneurship across six cases. In two of them, he was forced to separate his conclusions into "early" and "late" appearances of bricolage theory in the formation process. Our research thrived to perceive the dynamic nature of bricolage and its levels variation. Thus, separating in three phases (pre-partner talk, partner talk and post-partner talk) allowed us as researchers to follow the dynamism of the selection process and accompany how levels of bricolage were applied differently according to each phase of the process.

This very much related to Baker & Nelson's (2005, p.353) selective bricolage pattern, where "businesses were started or radically changed using bricolage, but bricolage was rejected once the business was established or the transition completed". Selective bricolage acts "by selectively enacting limitations with regard to inputs, these firms were able to generate relatively efficient business routines that permitted them to focus on growth" (Baker & Nelson, 2005, p.354). We observed this happening in the case companies 1, 2, 3, and 8 we studied. The theory of bricolage varied throughout the timeline. Even if limited by the small population that accepted to collaborate, we saw a shift to a causal approach - for companies 1 and 2 - as the partnership was established. This corroborated to the selective bricolage nature, which unlocks efficiency to permit growth moving away from being locked into the vicious bricolage cycle (Baker & Nelson, 2005).

We also perceived this shift from bricolage in the pre-partner talk phase to the partner talk phase, which acted in a bricolage manner while overruling selection criteria and proceeding to approach the partner selected either way. Thus, when bringing the theory of bricolage to the partnership selection ground, we argue that it very much happens in the institutional/regulatory environment, grounded by repeatedly seeing the limitation rejection and working around the rules in the pre-partner talk and partner talk phase (Baker & Nelson, 2005).

To conclude, the theories of causation and effectuation (Sarasvathy, 2001), as well as bricolage (Baker & Nelson, 2005), are dynamic throughout the process of partnership selection. As no defined patterns or logic in the dynamic nature of the theories manifested in the cases could be found, we argue that there is no natural order on how they are manifested.

5.3.3 The three theories are intertwined

As we have analysed, each step of the process (pre-partner talk, partner talk and post-partner talk) could be related to one, two or the three theories happening concomitantly - our cases represented one or two. What we have also analysed is that effectuation and causation can be

manifested at the same time, in accordance to Sarasvathy (2001), but also intertwined with bricolage, as explored by Fisher (2012) and Baker, Miner and Eesley (2003). Therefore, we conclude that the three theories share common dimensions, which intertwine between causation, effectuation and bricolage.

Our analysis illustrates the intertwined nature described by Sarasvathy (2001) for the theories of causation and effectuation. When she exposed her theories, she “deliberately juxtapose them [causation and effectuation theories] as a dichotomy to enable clearer theoretical exposition” (Sarasvathy, 2011, p.245), meaning that she acknowledges that in practise the theories are much alike.

Therefore, due to this intertwinement and the abstract nature of the theories, we emphasise that it was perceived to be difficult to assign specific analysed individual behaviour into individual behaviours in relation to the theories of causation, effectuation and bricolage. The individual behaviours, analysed from the interviews, were in accordance to the behavioural overview based on research from Chandler et al., 2011; Fisher, 2012; Senyard, Baker & Davidsson, 2009).

5.3.4 The process is not related to personal style

Fisher (2012) converted the three different theoretical perspectives into individual behaviour, which we have successfully used for our within-case analysis. However, we have observed that the behaviour of an individual cannot be related solely and specifically to one of the three theories. To clarify, when partner selectors were asked how they planned their selection process, some mentioned a more causational approach, where another mentioned a more effectual approach. Yet, when analysed how the process took place in practice, the selection process for these individuals was influenced by the interaction between participants within this process, resulting in a previously described shift of theory for the process they initially intended to relate to. Thus, we conclude that the characterisation of the dominant approach does not rely on individual predisposed to act in an effectuation, causation or bricolage approach, but rather on the set of interactions between the partner approached and the partner selector that define which approach would be most dominant.

5.3.5 Causation is overrated by research

Sarasvathy's (2001) seminal work presented the effectuation theory opened many research doors. Whereas she starts to research effectuation in the goggles of entrepreneurship and venture formation (Sarasvathy, 2001), she also pointed that there are many other fields to

explore this broad concept in. She criticised literature in an elegant manner when presenting a different logic than the one literature has vastly explored at that time. Indeed, it makes sense to have a more effectual and bricolage approach in the process of partnership selection for a community under formation, compared to the causal approaches such as covered in subchapter 2.1.2 and 2.1.3, where we explored the embedded nature of uncertainty and complexity. It was said that effectuation is optimal in this context of relevance of “explicit assumption of dynamic, nonlinear, and ecological environments” (Sarasvathy, 2001, p.251), being positively correlated with uncertainty (Chandler et al., 2011). Whereas “causation is negatively associated with uncertainty” (Chandler et al., 2011, p.375). Bricolage embraces uncertainty, like effectuation, as stated (Senyard, Baker & Davidsson, 2009): “successful bricolage behaviours may assist in the development of firms that are better able to manage market uncertainties”, referring to the optimal application of bricolage to uncertain environments.

We cannot draw any conclusions of the success of the open innovation community initiated by these partners approached. The fact that it happens differently than the R&D alliances and other causal logic partnership selection modes explored by literature (e.g. Li et al., 2008; Chen et al., 2010; Geum et al., 2013) is already an argument to develop further research of this defying approach to select partners. Endorsed by the pleas of researchers (c.f. Fisher, 2013; Schirmer, 2012; Sarasvathy, 2001), we emphasise the need of the academia to further develop this defying theories of effectuation and bricolage, both under the partnership selection domain and beyond.

6. Conclusions, limitations and implications

In this final chapter, subchapter 6.1 will summon what has been researched, and the outcome of that research. Subchapter 6.2 will describe the limitations of this research as well as the implications for further research. Moreover, subchapter 6.3 will provide managerial implications.

6.1 Conclusions

Having identified a research gap regarding the unexplored theory of bricolage for partnership selection for open innovation communities and the necessity of applying Sarasvathy's theory of causation and effectuation in other contexts, this research has focused on the process of partnership selection for an open innovation community. The theories of causation, effectuation and bricolage have been applied to analyse how this process occurs. Using qualitative in-depth interviews with four partner selectors and five partners approached, data has been collected on a total of nine different companies that have taken part in the process of being selected. This data allowed us to map out visually the behaviour and activities during the selection process before the partner selectors talked to the approached company, while interacting with the approached company and - if applicable - after the approached company decided to join the open innovation community. Identifying individual behaviour in the three different phases of the partnership selection process allowed us to relate each of the three phases to the theories of causation, effectuation and bricolage. Comparing the analysed nine cases, we first found out that the process of partnership selection for an open innovation community changes over time, contrasting Schirmer (2013), who schematised the full process of partnership selection in either a causal or an effectual manner. Second, following up on the first finding, the theories are intertwined, meaning that there are shared dimensions between them. Third, we concluded that individual behaviour is not linear and locked to one theory, as it can change due to the emerging interaction with potential partners. Fourth and final, we argued that causation is overrated by research, acknowledging the need for further research in the eminent theories of effectuation and bricolage for the process of partnership selection.

6.2 Limitations and implications for further research

We have encountered some limitations during this study, which led to suggested implications for further research. First, few cases have been researched to generalise the outcome of this research (Bryman & Bell, 2011). Therefore, the process of partnership selection for open innovation communities needs to be further empirically tested in a broader scope, using cases in different contexts and industries. Second, we observed that the studies applying the theories

of causation and effectuation for partnership selection are researched in one presence of time, rather than the full process. Since we identified the dynamic nature of bricolage, effectuation and causation, intertwined and shifting along the process, we argue that more research needs to be conducted to understand fully the dynamics in the process of partnership selection. Third, due to the premature stage of the researched case and time constraints, the outcome of the partnership in relation to theories applied has not been included in this study. Therefore, this study has not been able to conclude whether the theories applied during the selection process have an influence on the final decision to join the community. In addition, no research could be conducted on the influence - if there is any - of the applied theories during the process of partnership selection on the long-term performance between partners within open innovation communities. Fourth, we have not been able to fit the influence of the governance form in the community into this research scope. Thus, an implication for further research would be to research the influence of governance forms within an open innovation community on the innovation performance of that community. Fifth and final, we suggest the theory of bricolage to be further researched in relation to forms of collaboration other than open innovation communities, as the theory of bricolage in this context is novel to literature.

6.3 Managerial implications

We hope to make a contribution to managers by building up on Sarasvathy's (2001) quest of making room for effectuation in their decision models. In line with her arguments that much has been taught in the causal logic, we aim to educate that there are approaches that can be applied to the process of partnership selection, other than the goal-driven partnership formation. Thus, a managerial implication is to be open minded and flexible to have a means-driven and bricolage approach on partnership selection process.

This implies that standardised corporate rules for partnership selection might be overruled. More than that, we wish to open eyes that a partner can be selected not solely on a project basis with a clear business objective, but also to find such business objectives later when opportunities emerge.

Additionally, we would like to inform some practical implications of the findings of the present research. One would be that even though it can be planned to act in a causal, effectual, or bricolage manner, the interactivity of the process of partnership selection might shift the dimensions of each behaviour conducive to the three theories. Another implication is that if the environment of which the partners are being selected is perceived to be complex and uncertain,

such as the open innovation community, it is more logical that effectuation and bricolage will be applied, meaning being less goal-driven.

However, we cannot draw conclusions on which partnership selection approach or theory will result in better performance.

REFERENCES

- Andersson, S. (2011). International entrepreneurship, born globals and the theory of effectuation. *Journal of Small Business and Enterprise Development*, 18(3), pp.627-643.
- Baker, T. and Nelson, R. (2005). Creating Something from Nothing: Resource Construction through Entrepreneurial Bricolage. *Administrative Science Quarterly*, 50(3), pp.329-366.
- Baker, T., Miner, A. S., & Eesley, D. T. (2003). Improvising firms: Bricolage, account giving and improvisational competencies in the founding process. *Research Policy*, 32, 255–276.
- Bendell, J (2011). *Evolving Partnerships: A Guide to Working with Business for Greater Social Change*. Sheffield: Greenleaf Publishing.
- Bierly, P. and Gallagher, S. (2007). Explaining Alliance Partner Selection: Fit, Trust and Strategic Expediency. *Long Range Planning*, 40(2), pp.134-153.
- Brouthers, K., Brouthers, L. and Wilkinson, T. (1995). Strategic alliances: Choose your partners. *Long Range Planning*, 28(5), p.134.
- Bryman, A. and Bell, E. (2011). *Business research methods*. Oxford: Oxford Univ. Press.
- Chanal, V. and Caron-Fasan, M. (2010). The Difficulties involved in Developing Business Models open to Innovation Communities: the Case of a Crowdsourcing Platform. *M@n@gement*, 13(4), p.318.
- Chandler, G.N., DeTienne, D., McKelvie, A., & Mumford, A. (2011). Causation and effectuation processes: A validation study. *Journal of Business Venturing*, 26, 375–390.
- Chen, S., Wang, P., Chen, C. and Lee, H. (2010). An analytic hierarchy process approach with linguistic variables for selection of an R&D strategic alliance partner. *Computers & Industrial Engineering*, 58(2), pp.278-287.
- Chesbrough, H. (2003). *Open innovation*. Boston, Mass.: Harvard Business School Press.
- Chesbrough, H. (2006). *Open business models*. Boston, Mass.: Harvard Business School Press.
- Chesbrough, H. and Crowther, A. (2006). Beyond high tech: early adopters of open innovation in other industries. *R&D Management*, 36(3), pp.229-236.
- Chesbrough, H., Vanhaverbeke, W. and West, J. (2006). *Open innovation*. Oxford: Oxford University Press.

- Chu, K. (2013). Motives for participation in Internet innovation intermediary platforms. *Information Processing & Management*, 49(4), pp.945-953.
- Crespin-Mazet, F., Goglio-Primard, K. and Scheid, F. (2013). Open innovation processes within clusters – the role of tertius iugens. *Management Decision*, 51(8), pp.1701-1715.
- Cropper SA, Ebers M, Huxham CS, Smith PR. (2008). Introducing Inter-organizational relations. In *The Oxford handbook of inter-organizational relations*. Cropper S, Ebers M, Huxham C (Eds.). Oxford University Press, USA.
- Cummings, J. and Holmberg, S. (2012). Best-fit Alliance Partners: The Use of Critical Success Factors in a Comprehensive Partner Selection Process. *Long Range Planning*, 45(2-3), pp.136-159.
- Dahlander, L. and Gann, D. (2010). How open is innovation?. *Research Policy*, 39(6), pp.699-709.
- Dekker, H. (2008). Partner selection and governance design in interfirm relationships. *Accounting, Organizations and Society*, 33(7-8), pp.915-941.
- Di Domenico, M., Haugh, H. and Tracey, P. (2010). Social Bricolage: Theorizing Social Value Creation in Social Enterprises. *Entrepreneurship Theory and Practice*, 34(4), pp.681-703.
- Doz, Y. and Hamel, G. (1998). *Alliance advantage*. Boston: Harvard Business School Press.
- Duymedjian, R. and Ruling, C. (2010). Towards a Foundation of Bricolage in Organization and Management Theory. *Organization Studies*, 31(2), pp.133-151.
- Eisenhardt, K. (1989). Building Theories from Case Study Research. *The Academy of Management Review*, 14(4), p.532.
- Emden, Z., Calantone, R. and Droge, C. (2006). Collaborating for New Product Development: Selecting the Partner with Maximum Potential to Create Value. *J Product Innovation Man*, 23(4), pp.330-341.
- Felin, T. and Zenger, T. (2014). Closed or open innovation? Problem solving and the governance choice. *Research Policy*, 43(5), pp.914-925.
- Fisher, G. (2012). Effectuation, Causation, and Bricolage: A Behavioral Comparison of Emerging Theories in Entrepreneurship Research. *Entrepreneurship Theory and Practice*, 36(5), pp.1019-1051.

- Fleming, L. and Waguespack, D. (2007). Brokerage, Boundary Spanning, and Leadership in Open Innovation Communities. *Organization Science*, 18(2), pp.165-180.
- Frey, K., Lüthje, C. and Haag, S. (2011). Whom Should Firms Attract to Open Innovation Platforms? The Role of Knowledge Diversity and Motivation. *Long Range Planning*, 44(5-6), pp.397-420.
- Geum, Y., Lee, S., Yoon, B. and Park, Y. (2013). Identifying and evaluating strategic partners for collaborative R&D: Index-based approach using patents and publications. *Technovation*, 33(6-7), pp.211-224.
- Gioia, D., Corley, K. and Hamilton, A. (2012). Seeking Qualitative Rigor in Inductive Research: Notes on the Gioia Methodology. *Organizational Research Methods*, 16(1), pp.15-31.
- Hitt, M., Dacin, M., Levitas, E., Arregle, J. and Borza, A. (2000). PARTNER SELECTION IN EMERGING AND DEVELOPED MARKET CONTEXTS: RESOURCE-BASED AND ORGANIZATIONAL LEARNING PERSPECTIVES. *Academy of Management Journal*, 43(3), pp.449-467.
- Howells, J. (2006). Intermediation and the role of intermediaries in innovation. *Research Policy*, 35(5), pp.715-728.
- Ireland, R., Hitt, M. and Vaidyanath, D. (2002). Alliance Management as a Source of Competitive Advantage. *Journal of Management*, 28(3), pp.413-446.
- Kuratko, D., Morris, M. and Covin, J. (2011). Corporate innovation and entrepreneurship. South-Western.
- Lévi-Strauss, C. (1966). *The savage mind*. Chicago: University of Chicago Press.
- Kvale, S. (1996). *Interviews*. Thousand Oaks, Calif.: Sage Publications.
- Landström, H. & M. Benner (2010). Entrepreneurship research: a history of scholarly migration. In H. Landström and F. Lohrke (eds.) *Historical Foundations of Entrepreneurship Research*. Cheltenham: Edward Elgar. pages. 15-45.
- Langley, A. (1999). Strategies for Theorizing from Process Data. *The Academy of Management Review*, 24(4), p.691.
- Lévi-Strauss, C. (1966). *The savage mind*. Chicago: University of Chicago Press.

Li, D., Eden, L., Hitt, M. and Ireland, R. (2008). Friends, Acquaintances, or Strangers? Partner Selection in R&D Alliances. *Academy of Management Journal*, 51(2), pp.315-334.

M. L. Tushman (2004) From engineering management/R&D management, to the management of innovation, to exploiting and exploring over value nets: 50 years of research initiated by the IEEE-TEM. *IEEE Trans. Eng. Manage.*, vol. 51, no. 4, pp. 409–411.

Marshall, M. (1996). Sampling for qualitative research. *Fam Pract*, 13(6), pp.522-526.

O'Sullivan, D. and Dooley, L. (2009). Applying innovation. Thousand Oaks: Sage.

Perkmann, M. and Spicer, A. (2014). How Emerging Organizations Take Form: The Role of Imprinting and Values in Organizational Bricolage. *Organization Science*, 25(6), pp.1785-1806.

Robson, C. (2002). *Real world research*. Oxford, UK: Blackwell Publishers.

Salunke, S., Weerawardena, J. and McColl-Kennedy, J. (2013). Competing through service innovation: The role of bricolage and entrepreneurship in project-oriented firms. *Journal of Business Research*, 66(8), pp.1085-1097.

Sarasvathy, S. (2001). Causation and Effectuation: Toward a Theoretical Shift from Economic Inevitability to Entrepreneurial Contingency. *The Academy of Management Review*, 26(2), p.243.

Sarasvathy, S. and Dew, N. (2005). New market creation through transformation. *Journal of Evolutionary Economics*, 15(5), pp.533-565.

Saunders, M., Lewis, P. and Thornhill, A. (2003). *Research methods for business students*. Harlow, England: Prentice Hall.

Sawhney, M. and Prandelli, E. (2000). Communities of Creation: Managing Distributed Innovation in Turbulent Markets. *California Management Review*, 42(4), pp.24-54.

Schirmer, H. (2013). Partnership Steering Wheels: How the Formation Process of a Cross-Sector Partnership can Influence its Governance Mechanisms. *Journal of Corporate Citizenship*, 2013(50), pp.23-45.

Senyard, J.M., Baker, T., & Davidsson, P. (2009). Entrepreneurial bricolage: Towards systematic empirical testing. Babson College Entrepreneurship Research Conference (BCERC), June 4–6, 2009, Boston, USA.

- Solesvik, M.Z. and Gulbrandsen, M. (2013). Partner Selection for Open Innovation. *Technology Innovation Management Review*. April 2013: pp.11-16.
- Thompson, P. and Sanders, S. (1998). PEER-REVIEWED PAPER: Partnering Continuum. *J. Manage. Eng.*, 14(5), pp.73-78.
- TROTT, P. and HARTMANN, D. (2009). WHY 'OPEN INNOVATION' IS OLD WINE IN NEW BOTTLES. *International Journal of Innovation Management*, 13(04), pp.715-736.
- van de Vrande, V., de Jong, J., Vanhaverbeke, W. and de Rochemont, M. (2009). Open innovation in SMEs: Trends, motives and management challenges. *Technovation*, 29(6-7), pp.423-437.
- Von Hippel, E. (2005). *Democratizing innovation*. Cambridge, Mass.: MIT Press.
- West, J. and Lakhani, K. (2008). Getting Clear About Communities in Open Innovation. *Industry & Innovation*, 15(2), pp.223-231.
- Wuyts, S. and Geyskens, I. (2005). The Formation of Buyer—Supplier Relationships: Detailed Contract Drafting and Close Partner Selection. *Journal of Marketing*, 69(4), pp.103-117.
- Yin, R. (1984) Case study research. Beverly Hills, CA: Sage Publications.
- Yoshino, Michael Y. and U. Srinivasa Rangan (1995) Strategic Alliances: An Entrepreneurial Approach to Globalization, Cambridge, MA: Harvard University Press.

Appendix A: Literature review process

Our systematic approach on literature review took place as follows. The searches were performed through Lund University libraries, which within the business field has access to 162 databases that include influential academic databases, such as ScienceDirect and Emerald.

The following table shows keywords used to explore current literature, followed by the number of results within that search. The filters applied were search only in Lund University classification of academic journals, and language set to English.

Keywords	Number of results
"Open Innovation" platform*	217
Partner* selection open innovation	22
Partner* selection criteria	624
Partner* selection criteria innovation	41
R&D partner* criteria	109
Inter-firm collaboration selection criteria	4
Partner* collaboration open innovation	121
Bricolage partner*	11
Effectuat* causat* partner*	3
Physical open innovation communit*	147

The articles not incorporated in this research were discarded because of various reasons. Generally, they were just simply not referring to the terms researched in a business context. Much of the research would focus in urban planning, medicine, engineering, therapy, among others. Another reason is because only the abstract from the article was in English, and a second language would be the body of the academic article.

Appendix B: Interview Guide I

Interview guide for InnoLab partner selectors

Background questions

What was the motivation to start InnoLab?

How much have you been involved with InnoLab?

How have you been approached to be involved in InnoLab?

Pre-Partner talk

How did you find potential partners to invite to InnoLab? Describe the process.

- Did the potential partners do business with Planiva before? (Whose network)

How did you select between those which ones to contact?

- What were you looking for in a partner?
- How did you identify beforehand if those companies had what it takes to be part of InnoLab?

Did you have specific business opportunities in mind when selecting partners?

Would you select partners differently for InnoLab and for other projects in the company?

- Was the way you thought about selecting partners, the way you actually acted upon it?

Partner talks (25 min)

What are partners you selected or talked to?

- In what order and when?
- Why that one?

(per partner) Could you draw on the timeline what happened when? (Refer to timeline)

- How far in the process are you? (refer to timeline)

(per partner) Describe the focus and the content of your initial talks with ... (name partner)?

How did you sell INNOLAB to the partner?

- How did you try to get the interest of the partner?

- What did you offer? (tangibles)
- What was the value offered? (intangible)

What were your expectations from the partner company for joining InnoLab?

- What were the partner expectations to join InnoLab?

Did you discuss a clear business opportunity for the collaboration in the meeting?

Post-partner talk (15 min)

Did the decision-making process (line of thought) regarding InnoLab change over time?

Do you think you talked to the right person in the company (decision maker)?

What was the reason that the partner accepted/denied or is still indecisive?

What would you do differently next time with this partner?

What are your key learnings?

What was your strategy to keep the interest of the partner?

Is there anything that we did not ask but you would like to say?

Appendix C: Interview Guide II

Interview guide for approached partners

Introduction

Introduce ourselves, and the purpose of the interview

Confidentiality

Recording

Background questions

Name

What is your position in the company you work for?

First contact/approach:

Please elaborate on the process of discussing a partnership with INNOLAB from start to end.

- When were you approached?
- By whom?
- Where?
- What was discussed?
- What was offered?
- What was the value offered?
- Was it clear to understand?
- What were your expectations for that meeting?
- To what extent were the expectations met?
- Was it a specific business opportunity that was discussed at first?
- What interested you in the proposal?
- What did not interest you?
- How did you respond initially?

Follow-up

- Was there a follow-up on initial discussion with [partner selector]?
 - o If yes, what was your response?
- Did the initial idea for partnership change?

- Were there any negotiations during the follow up?

Internal process

Are/were you in the position of decision making for joining InnoLab?

- If not, who could take/took this decision?

Was it difficult to sell internally?

- Why? Or why not?

How did you evaluate the proposal?

Final decision making

Has there been a final decision made? If yes, when?

- What made you decide this way?
- What would you like to have seen in the proposal?

- Why do you think you were approached by Planiva to participate at InnoLab?

Regarding Planiva

Do you think Planiva could be a partner for your company to collaborate with?

- Why or why not?
- Do you see InnoLab as part of Planiva or a separate organisation?
- Did you take that into consideration?

Is there anything that we did not ask but you would like to say?

Appendix D: Scales to measure behaviour of bricolage, effectuation and causation

Table 1. Instrument to measure effectuation, causation and bricolage behaviours and activities

Theory	Qualification	Pre-partner talk	Partner talk	Post-partner talk	Quote
Causation (Chandler et al., 2011; Fisher, 2012; Sarasvathy, 2001)					
	Identified and assessed long-run opportunities in developing the firm and selected what we thought would provide the best returns				
	Calculated the returns of various opportunities				
	Write a business plan				
	Organised and implemented control processes				
	Gathered and reviewed information about market size and competitive analysis				
	We had a clear and consistent vision for where we wanted to end up				
	The product/service that we now provide is essentially the same as originally conceptualised				
Effectuation (Chandler et al., 2011; Fisher, 2012; Sarasvathy, 2001)					
Experimentation	We experimented with different products and/or business models				
	The product/service that we now provide is substantially different than we first imagined				
	We try a number of different approaches until to find a business model that works				
Affordable loss	We were careful not to commit more resources than we could afford to lose				
Flexibility	We allowed the business to evolve as opportunities emerged				
Pre-commitments	Entered into agreements with customers, suppliers, and other organisations				

(Continues in the next page)

(Continuation of table 1, appendix E)

Theory	Qualification	Pre-partner talk	Partner talk	Post-partner talk	Quote
Bricolage (Baker & Nelson, 2005; Fisher, 2012; Senyard, Baker & Davidsson, 2009)					
Definition	Making do—Took action to emerging opportunities (rather than questioning whether a workable solution could be found)				
	Combination of resources for new purposes—Combined existing resources in creating solutions				
	Combination of resources for new purposes—We combine resources to accomplish new opportunities that the resources weren't originally intended to accomplish				
	The resources at hand—We use any existing resource that seems useful to responding to a new problem or opportunity				
Domains	Physical inputs—used forgotten, discarded, worn, or presumed “single-application” materials to create new solutions				
	Labor inputs—involved customers, suppliers, and hangers-on in providing work on projects				
	Skills inputs—encouraged the use of amateur and self-taught skills that would otherwise go unapplied				
	Institutional/regulatory environment—rejected the limitations of the environment. Worked around rules and standards				

Appendix E: Proof of theories framing

Please refer to this appendix for the framing of illustration quotes into the theories of causation, effectuation, and bricolage.

Table 1. Framing for company 1

Theory	Qualification	Pre-partner talk	Partner talk	Post-partner talk	Quote
Causation (Fisher, 2012; Chandler et al., 2011; Sarasvathy, 2001)					
	Write a business plan			6	(h) “We have a thing with four different paths with [Case company 1]. I am having a meeting next week about industrialising their design processes”. - Selector 1
Effectuation (Chandler et al., 2011; Fisher, 2012; Sarasvathy, 2001)					
Experimentation	We experimented with different products and/or business models	2			(in-text) They are interested in what we can and we are interested in what they can” - Selector 1
	We try a number of different approaches until to find a business model that works	1			(b) “I have a trustful relationship with [Partner 1], and on this level, we don’t talk about how we produce things, but more on how businesses should be a perfect fit in the long run.” - Selector 1

(Continues in the next page)

(Continuation of figure 1, appendix E)

Theory	Qualification	Pre-partner talk	Partner talk	Post-partner talk	Quote
Bricolage (Baker & Nelson, 2005; Fisher, 2012; Senyard, Baker & Davidsson (2009))					
Definition	Making do—Took action to emerging opportunities (rather than questioning whether a workable solution could be found)		4		(e) “Give me an offer and a price, than it’s done.” - Partner 1
	Combination of resources for new purposes— Combined existing resources in creating solutions	3			(in-text) “kind of a more generic discussion about innovation and how we generate new business and combining value chains to generate new business” - Selector 1
	The resources at hand—We use any existing resource that seems useful to responding to a new problem or opportunity		5		(c) “When I decided that we should open something here physically, [Partner 1] said: fine with us, that is interesting.” - Selector 1 AND “There was no negotiation, it was instantly.” - Selector 1

Table 2. Framing for company 2

Theory	Qualification	Pre-partner talk	Partner talk	Post-partner talk	Quote
Causation (Chandler et al., 2011; Fisher, 2012; Sarasvathy, 2001)					
	We had a clear and consistent vision for where we wanted to end up			7	(i) “We have a project now with a customer that could be very interesting for [Planiva] and within their business area, so we can see that we are in the same area and with the same type of customer, so there is a potential to do something.” - Partner 2
Effectuation (Chandler et al., 2011; Fisher, 2012; Sarasvathy, 2001)					
Experimentation	We experimented with different products and/or business models		5		(h) “We knew from the start that we don’t have a specific case or we don’t have a project that we are starting up, but we could see that there is a potential.” - Partner 2
Flexibility	We allowed the business to evolve as opportunities emerged		6		(In-text) "It was going more into detail about what this actually means for us. How this collaboration would proceed. How we work in [InnoLab]." (Selector 1)

(Continues in the next page)

(Continuation of figure 2, appendix E)

Theory	Qualification	Pre-partner talk	Partner talk	Post-partner talk	Quote
Bricolage (Baker & Nelson, 2005; Fisher, 2012; Senyard, Baker & Davidsson, 2009)					
Definition	Making do—Took action to emerging opportunities (rather than questioning whether a workable solution could be found)		1		(in-text) "come and sit with us" - Selector 1 AND (b) "And the chairman said: 'this is something we could possibly profit from to the rest of the organisation, that is, more or less, the key for the next phase'". - Selector 1
	Combination of resources for new purposes— Combined existing resources in creating solutions		2		(f) "We don't have the knowledge within [Planiva] when it comes to IT." - Selector 4
	Combination of resources for new purposes— We combine resources to accomplish new opportunities that the resources weren't originally intended to accomplish		3		(e) "it turned out that we had a few common interests in business. Very complementary" - Selector 3
Domains	Institutional/regulatory environment—rejected the limitations of the environment. Worked around rules and standards		4		(b) "We may have not ended up to find them at all if we haven't been open to different kinds of companies that we encountered in different kinds of areas." - Selector 4

Table 3. Framing for company 3

Theory	Qualification	Pre-partner talk	Partner talk	Post-partner talk	Quote
Causation (Fisher, 2012; Chandler et al., 2011; Sarasvathy, 2001)					
	Write a business plan		4		(e) "One expectation would be that we have concrete projects. And not: 'maybe it will be some projects', because we can't take decisions on that, really. We need to know, need to have more concrete projects" - Partner 3
Effectuation (Chandler et al., 2011; Fisher, 2012; Sarasvathy, 2001)					
Experimentation	We experimented with different products and/or business models		2		(d) "We said that we want to get you situated here to start the development process of new business ventures and innovation." - Selector 1
	We try a number of different approaches until to find a business model that works		3		(g) "We had a couple of meetings with different parties and they couldn't actually see who would fit" - Selector 1
Bricolage (Baker & Nelson, 2005; Fisher, 2012; Senyard, Baker & Davidsson, 2009)					
Domains	Institutional/regulatory environment—rejected the limitations of the environment. Worked around rules and standards	1			(b) "No, it was not on the list of companies" - Selector 2

Table 4. Framing for company 4

Theory	Qualification	Pre-partner talk	Partner talk	Post-partner talk	Quote
Causation (Chandler et al., 2011; Fisher, 2012; Sarasvathy, 2001)					
	Identified and assessed long-run opportunities in developing the firm and selected what we thought would provide the best returns	1			(in-text) [InnoLab] “had an idea on how to do business” (Selector 3)
	Gathered and reviewed information about market size and competitive analysis	2			(a) “We used our CRM system and some criteria. They are producing products. They are situated outside [city name], the right region. It is a big company, part of the same cluster. We knew them well, we have a lot of contacts with them” - Selector 2
	We had a clear and consistent vision for where we wanted to end up		4		(e) “We discussed a common project, indoor climate, which involved acoustics” (Selector 3) <i>and</i> “We talked about innovation. We talked about the acoustics” - Selector 2
Effectuation (Chandler et al., 2011; Fisher, 2012; Sarasvathy, 2001)					
Experimentation	We experimented with different products and/or business models	3			(c) “I told them we are looking into change our business models and have business areas. We have to make a change, and we are looking for partners to use” - Selector 2
	The product/service that we now provide is substantially different than we first imagined		6		(g) “At that meeting there was not put forward a specific business proposal” - Partner 4
	We try a number of different approaches until to find a business model that works		5		(f) “I had the idea. But it was not as clear. We try different angles in that meeting and see if they are... but... didn’t think that we connected.” - Selector 2

Table 5. Framing for company 5

Theory	Qualification	Pre-partner talk	Partner talk	Post-partner talk	Quote
Effectuation (Chandler et al., 2011; Fisher, 2012; Sarasvathy, 2001)					
Experimentation	We try a number of different approaches until to find a business model that works		3		(in-text) "...So that was what we wanted to investigate when we had a meeting with them. And I think the meeting...the outcome of the meeting was that this was possible to discuss further" - Selector 3
Bricolage (Baker & Nelson, 2005; Fisher, 2012; Senyard, Baker & Davidsson, 2009)					
Definition	Making do—Took action to emerging opportunities (rather than questioning whether a workable solution could be found)		1		(in-text) "I explained basically and he said 'this sounds interesting. We are looking for something new where we could sit'"
Domains	Institutional/regulatory environment—rejected the limitations of the environment. Worked around rules and standards		2		(a) "We had a discussion with [Selector 1], and he was a bit reluctant with this idea, because they are so quite off compared to what we are doing. But we saw some synergies together with them" - Selector 3

Table 6. Framing for company 6

Theory	Qualification	Pre-partner talk	Partner talk	Post-partner talk	Quote
Causation (Chandler et al., 2011; Fisher, 2012; Sarasvathy, 2001)					
	Gathered and reviewed information about market size and competitive analysis	1			(a) [Company 6] “came from our list. (...) I know that the way they are organised, there is a person in [City A] that could be interested in being here, because they are based outside [City B]” - Selector 3
Effectuation (Chandler et al., 2011; Fisher, 2012; Sarasvathy, 2001)					
Experimentation	We try a number of different approaches until to find a business model that works		2		(in-text) “about future possibilities for collaborations within [InnoLab]” (Selector 3) [with no clear business objective].

Table 7. Framing for company 7

Theory	Qualification	Pre-partner talk	Partner talk	Post-partner talk	Quote
Causation (Chandler et al., 2011; Fisher, 2012; Sarasvathy, 2001)					
	Gathered and reviewed information about market size and competitive analysis	1			(a) “They were in our list. We had a contact with another consultant that knew them” - Selector 2
	We had a clear and consistent vision for where we wanted to end up		2		(c) “With [Case company 7], it is more of a project based discussion. We have had some common R&D, some early stage R&D activities before I came into [Planiva]. So with a clear business in mind.” - Selector 3
Effectuation (Chandler et al., 2011; Fisher, 2012; Sarasvathy, 2001)					
Experimentation	We try a number of different approaches until to find a business model that works		3		(in-text) “We talked about [InnoLab], and innovation and problems of putting development to business and so on. (...) It was more feeling it. I think we connected well with that guy”

Table 8. Framing for company 8

Theory	Qualification	Pre-partner talk	Partner talk	Post-partner talk	Quote
Causation (Fisher, 2012; Chandler et al., 2011; Sarasvathy, 2001)					
	We had a clear and consistent vision for where we wanted to end up	1			“they could be interesting in a project of indoor climate in houses” - Selector 4
Effectuation (Chandler et al., 2011; Fisher, 2012; Sarasvathy, 2001)					
Experimentation	We experimented with different products and/or business models		3		(in-text) [Company 8] “presented kind of an interesting business” [that would] “maybe be of interest for us to be part of” - Selector 4.
Bricolage (Baker & Nelson, 2005; Fisher, 2012; Senyard, Baker & Davidsson, 2009)					
Definition	Combination of resources for new purposes— Combined existing resources in creating solutions		4		(in-text) “they [company 8] have the technology” and “we [InnoLab] have a business model that we could package in some way” - Selector 4
Domains	Institutional/regulatory environment—rejected the limitations of the environment. Worked around rules and standards	2			(a) “They don’t meet the criteria that they don’t meet the certain size.” - Selector 4

Table 9. Framing for company 9

Theory	Qualification	Pre-partner talk	Partner talk	Post-partner talk	Quote
Effectuation (Chandler et al., 2011; Fisher, 2012; Sarasvathy, 2001)					
Experimentation	We experimented with different products and/or business models	1			“It was actually [Company 1], giving us the idea. They talked to [Partner 9], because they had some business together. They saw the opportunity” - Selector 3
Flexibility	We allowed the business to evolve as opportunities emerged		2		(b) “It was not for a specific project, it was more to discuss [InnoLab]. [Company 1] was quite enthusiastic about it.” - Selector 3