



European Business Review

Knowledge creation dynamics within the international new venture
Sascha Fuerst Peter Zettinig

Article information:

To cite this document:

Sascha Fuerst Peter Zettinig , (2015), "Knowledge creation dynamics within the international new venture", *European Business Review*, Vol. 27 Iss 2 pp. 182 - 213

Permanent link to this document:

<http://dx.doi.org/10.1108/EBR-03-2013-0036>

Downloaded on: 15 November 2016, At: 00:10 (PT)

References: this document contains references to 85 other documents.

To copy this document: permissions@emeraldinsight.com

The fulltext of this document has been downloaded 1200 times since 2015*

Users who downloaded this article also downloaded:

(2014), "International new ventures: rapid internationalization across different industry contexts", *European Business Review*, Vol. 26 Iss 5 pp. 390-405 <http://dx.doi.org/10.1108/EBR-05-2014-0040>

(2004), "Finance strategies of rapidly-growing Finnish SMEs: Born Internationals and Born Globals", *European Business Review*, Vol. 16 Iss 6 pp. 590-604 <http://dx.doi.org/10.1108/09555340410565413>

Access to this document was granted through an Emerald subscription provided by emerald-srm:563821 []

For Authors

If you would like to write for this, or any other Emerald publication, then please use our Emerald for Authors service information about how to choose which publication to write for and submission guidelines are available for all. Please visit www.emeraldinsight.com/authors for more information.

About Emerald www.emeraldinsight.com

Emerald is a global publisher linking research and practice to the benefit of society. The company manages a portfolio of more than 290 journals and over 2,350 books and book series volumes, as well as providing an extensive range of online products and additional customer resources and services.

Emerald is both COUNTER 4 and TRANSFER compliant. The organization is a partner of the Committee on Publication Ethics (COPE) and also works with Portico and the LOCKSS initiative for digital archive preservation.

*Related content and download information correct at time of download.

Knowledge creation dynamics within the international new venture

Sascha Fuerst

*Department of International Business, Universidad EAFIT,
Medellin, Colombia, and*

Peter Zettinig

*Department of Marketing and International Business,
Turku School of Economics, University of Turku, Turku, Finland*

Abstract

Purpose – This paper aims to examine the dynamic process of knowledge creation of the international new venture (INV) through the interaction with network partners. The process of how INVs make use of external sources for the acquisition of international market knowledge is not well-understood.

Design/methodology/approach – To uncover the dynamics of the knowledge creation process, the authors applied event-driven process research by following the internationalization process of four INVs in real time. More specifically, they adopted qualitative diary research combined with periodic follow-up interviews as the main data collection method. A visual mapping strategy was used for the analysis of the process data.

Findings – The analysis shows that different pathways of knowledge acquisition through congenital learning, searching, vicarious learning and grafting interact with each other. Grafting and experiential learning alongside the partner lead to the acquisition of internationalization knowledge in particular. Knowledge sources for international market knowledge are proactively created by the entrepreneurs. The wider effectual stakeholder network constitutes an important source for international market knowledge.

Research limitations/implications – The authors followed the early internationalization process of the case firm in real time over a 10-month period. This provides a limited window of observation. Future research might extend the observation period to examine further the evolutionary nature of the different learning types throughout the growth of the INV. The case firms operate in Internet-enabled businesses and are all located in the same country and city (i.e. Colombia and the city of Medellin). Future studies might focus on firms operating in different industries and geographical areas.

Practical implications – Congenital technological knowledge is a prerequisite for internationalization. The entrepreneur, however, does not need to rely on congenital international market knowledge. Such knowledge can be developed through network partners. Foreign business and institutional knowledge can be obtained vicariously, also from professional advisors. Internationalization knowledge, however, needs to

This study would not have been possible without the entrepreneurs who constantly dedicated their valuable time delivering the diary information and participated in the interviews. The authors' gratitude goes to all individuals within the case companies who made this research project possible. Further, the authors would like to express their gratitude to the editors of the special issue for their interest in the proposed topic and the anonymous reviewer for the valuable comments received. An earlier version of the article was presented in 2012 at the 15th McGill International Entrepreneurship Conference in Pavia, Italy. The authors would like to thank the audience for their constructive feedback.



be developed in close interaction with an international cooperation partner, where a strong relationship commitment prevails.

Originality/value – The authors use effectuation theory combined with process research methods to gain insights into the dynamics of knowledge creation within the INV. Thereby, they are able to shed light on the dynamics of the process that is difficult to capture through cross-sectional research designs. Research on the internationalization process of young ventures in the context of Latin America is scarce. Therefore, the paper contributes new knowledge about the development of these firms in that particular region.

Keywords Effectuation, Latin America, Organizational learning, Knowledge acquisition, Born global, International new venture

Paper type Research paper

1. Introduction

The field of international entrepreneurship emphasizes the existence of firms that internationalize rapidly soon after their foundation or instantly from inception, often not even having sales in their home market. They are known as high-technology start-ups (Jolly *et al.*, 1992), international new ventures (INVs; Oviatt and McDougall, 1994), born globals (Knight, 1997; Knight and Cavusgil, 1996; Madsen and Servais, 1997; Rennie, 1993) or instant internationals (Preece *et al.*, 1999). This contrasts the behavior of conventional firms whose international involvement is described as a gradual development process characterized by a relatively long domestic business period before internationalization occurs (Bilkey and Tesar, 1977; Cavusgil, 1980; Johanson and Vahlne, 1977; Luostarinen, 1979). This paper adopts the term INV (Oviatt and McDougall, 1994, p. 49) defined “as a business organization that, from inception, seeks to derive significant competitive advantage from the use of resources and the sale of outputs in multiple countries”. Besides, international entrepreneurship is considered the “discovery, enactment, evaluation, and exploitation of opportunities – across national borders – to create future goods and services” (Oviatt and McDougall, 2005, p. 540).

The paper aims at providing explanations regarding the dynamic process of knowledge creation for internationalization within the INV while interacting with (international) network partners. Extant research in international entrepreneurship shows that knowledge for internationalization (i.e. international market knowledge) might rest, on the one hand, inside the firm (as acquired through previous international work experience of the entrepreneur) or, on the other hand, it might be sourced externally through network partners. Learning from network partners is especially relevant for INVs where the personal network of the entrepreneur has a positive influence on the knowledge intensity of the firm and its international market knowledge.

The contribution of an entrepreneur’s prior international experience to the internationalization of the INVs is well-understood. Less clear, however, is the process of how INVs make use of external sources for international knowledge. Recent contributions by Bruneel *et al.* (2010), Fernhaber *et al.* (2009) and Schwens and Kabst (2009) indicate that learning from a firm’s key exchange partners can stimulate the internationalization process of the young firm. However, these studies as well as earlier studies conducted by Yli-Renko *et al.* (2001, 2002) were not able to provide insights into the dynamics of knowledge creation for internationalization through network partners. Hence, our paper tries to contribute to the following research question: How do

interactions with network partners contribute to the creation of international market knowledge within the INV?

By tackling this particular research question, we also shed light on how the different pathways to acquiring international market knowledge evolve and interact with each other as the learning process of early internationalization unfolds (De Clercq *et al.*, 2012).

In a recent literature review about international entrepreneurship, Jones *et al.* (2011) identified few studies on entrepreneurial internationalization that consider entrepreneurship theory. This is surprising because international entrepreneurship is considered the intersection of the fields of international business and entrepreneurship (McDougall and Oviatt, 2000). Besides, there is a lack of studies that focus on the level of the entrepreneur or the entrepreneurial team with respect to entrepreneurial internationalization.

Scholars in the field of international entrepreneurship increasingly call for more process studies to investigate how the process of entrepreneurially driven internationalization evolves (Coviello and Jones, 2004; Jones and Coviello, 2005; Mathews and Zander, 2007; Zahra and George, 2002). Despite these calls, empirical work making use of a process method is still scarce. One of the reasons that research so far was not able to provide insights into the dynamics of knowledge creation for internationalization is mainly due to the cross-sectional nature of these studies.

Hence, our research adopts a process method in the form of qualitative diary research combined with a visual mapping strategy to generate and analyze process data. The use of effectuation theory brings into the study entrepreneurship theory and allows analyzing the phenomenon on the level of the entrepreneur or the entrepreneurial team.

2. Conceptual background

This section outlines the conceptual elements that are made use of within this paper. Knowledge and networks in the context of INVs are the focus, complemented by the dynamic model of effectuation as the guiding framework for analysis.

2.1 *The role of knowledge in the INV*

INVs are often described as (technological) knowledge-intensive (Autio *et al.*, 2000; Bell *et al.*, 2003; Coviello and McAuley, 1999; Jones, 1999). Oviatt and McDougall's (1994) INV theory considers knowledge as a unique resource and one of four necessary and sufficient elements of sustainable INVs. Firms that focus on knowledge creation as the source of their competitive advantage adapt easier to dynamic environments than firms that primarily depend on tangible resources. These firms are also less constrained by distance and country borders, as knowledge is more mobile than physical assets. As Autio *et al.* (2000) confirm, the more knowledge-intensive a firm, the faster the firm's growth in international sales. Hence, the INV literature ascribes knowledge an enabling role that makes rapid internationalization possible.

Besides the knowledge intensity of a firm's offering, the entrepreneur's knowledge from prior international work experience is another essential factor that contributes to rapid internationalization (Madsen and Servais, 1997; McDougall *et al.*, 1994; Oviatt and McDougall, 2005), as several studies have illustrated (Almeida and Bloodgood, 1996; Bloodgood *et al.*, 1996; Reuber and Fischer, 1997; Shrader *et al.*, 2000). This is attributed to the fact that a firm's future path is greatly influenced by the nature of its founder (Huber, 1991; Stinchcombe, 1965).

If the founder holds more personal knowledge about international markets, then it is more likely that international opportunities are exploited more rapidly. The increasing absorptive capacity (Cohen and Levinthal, 1990) of the entrepreneur, that is the ability of a firm to recognize, assimilate and apply information from the external environment, facilitates the accumulation of new international market knowledge. Consequently, the new knowledge about international markets reduces the uncertainty of operating abroad and the commitment to these markets increases (Eriksson and Chetty, 2003; Oviatt and McDougall, 2005; Zahra and Hayton, 2008). However, the ability to evaluate and use external knowledge is largely a function of the level of prior related knowledge (Cohen and Levinthal, 1990). Entrepreneurial absorptive capacity which is defined as the ability of an entrepreneur to comprehend new knowledge, recognize its value and subsequently commercialize it by creating a firm is largely shaped by scientific knowledge and business or market knowledge that the entrepreneur holds about a particular product and market (Acs *et al.*, 2013; Qian and Acs, 2013). Consequently, it is not only international market knowledge that contributes to an increasing absorptive capacity but also scientific knowledge or technological knowledge about the product to be commercialized. The knowledge spillover theory of entrepreneurship holds that the level of knowledge spillover largely depends on the ability of the entrepreneur to absorb knowledge spillovers and convert them into economic knowledge (Acs *et al.*, 2013).

The organizational learning literature identifies five learning processes through which firms acquire new knowledge (Huber, 1991): congenital learning, experiential learning, vicarious learning, grafting and searching/noticing. Congenital knowledge consists of the founder's inherited knowledge from previous work experience and the additional knowledge acquired through second-hand experience from the moment of the business idea until the official establishment of the company. Experiential learning relates to the knowledge acquired through direct experience which can be obtained intentional or unintentional as well as through systematic or unsystematic learning efforts. Experiential learning is obtained first-hand by the founder, whereas vicarious learning and grafting relate to knowledge acquisition processes through second-hand experience. Vicarious learning is learning from the experience of others. This occurs when the firm tries to learn about the strategies, practices and technologies of other firms. It often relates to a process of imitation and is facilitated by consultants, suppliers, trade fairs and professional networks. Grafting is acquiring knowledge through new members who possess knowledge not previously available to the firm. Grafting can take on the form of personnel recruitment that possesses specialized knowledge, cooperation in the form of alliances or joint ventures or the acquisition of other firms. The acquisition of knowledge is thus faster than through experiential learning and more complete than through imitation. Knowledge acquisition through searching relates to the broader scanning of the firm's external environment, the focused search for information in response to a specific problem or opportunity or performance monitoring which combines scanning and focused search to check on the firm's effectiveness of fulfilling its pre-established goals or stakeholders' expectations.

In addition to the technological knowledge possessed by the firm, the international market knowledge moderates the speed at which opportunities are exploited internationally (Oviatt and McDougall, 2005). International market knowledge comprises three dimensions (Eriksson *et al.*, 1997): foreign business knowledge (customers, competitors, distributors), foreign institutional knowledge (business

laws, cultural norms, regulatory standards, language skills) and internationalization knowledge (ability to develop and implement an internationalization strategy, how to knowledge).

In light of the importance of knowledge to explain the rapid internationalization of the new venture, the knowledge-based view from strategic management literature became a central aspect in international entrepreneurship research (Gassmann and Keupp, 2007; Prashantham, 2005; Rialp *et al.*, 2005). The knowledge-based view emerged from the resource-based view and considers knowledge as the most strategically important resource of the firm (Grant, 1996). Grant (1996) assigns a special role to the individual within the organization as the primary actor in knowledge creation and principal repository of knowledge. Referring to Simon (1991, p. 125 as cited in Grant, 1996, p. 112), he points out that all learning takes place inside individual human heads. This view is especially useful for an analysis of knowledge creation within the new venture where the individual entrepreneur or the entrepreneurial team represents the firm.

The knowledge-based view is greatly influenced by Penrose's (1959) theory of the growth of the firm which resembles a theory of the growth of knowledge of the firm because knowledge, and especially (experiential) tacit knowledge, is seen as the most important resource that enables the firm's growth. Penrose (1959) puts the entrepreneur center-stage with his or her creative will and ability of imagination. It is the entrepreneur who introduces new ideas with respect to products, new markets and methods of expansion. Hence, internationalization is entrepreneurially driven. The discovery of opportunities within the environment is for Penrose (1959) largely a function of the experience of the entrepreneur as acquired through learning-by-doing. The international entrepreneurship literature, however, assigns knowledge creation a more proactive role (Chetty and Campbell-Hunt, 2004). Knowledge for seizing business opportunities does not necessarily need to be developed incrementally through an endogenous learning process but can also occur faster, in larger steps, through interaction with network partners.

2.2 The role of networks for knowledge acquisition in the INV

Similar to knowledge, networks constitute an enabling factor for the early and rapid internationalization of new ventures. Founders of INVs make use of their networks from prior international work experience for combining resources that cross national borders, and they rely on hybrid structures such as networks to overcome the lack of resources that new ventures usually characterize (McDougall *et al.*, 1994; Oviatt and McDougall, 1994). Moreover, an entrepreneur's international network determines the internationalization speed (Oviatt and McDougall, 2005). Within this article, we focus our attention on the social network relationships of the international entrepreneur (Granovetter, 1985; Uzzi, 1997).

To overcome their resource constraints, INVs need to access external resources in the network (Zahra *et al.*, 2003). These can be tangible or intangible resources such as knowledge. Networks are shown to provide various types of knowledge for the internationalizing new venture (Coviello and Munro, 1995; Sharma and Blomstermo, 2003). In addition, networks can be useful in general for the acquisition, mobilization and development of organizational, human, physical, financial and social capital as the INV internationalizes (Coviello and Cox, 2006). Especially social capital facilitates the

creation and acquisition of knowledge (Nahapiet and Ghoshal, 1998; Yli-Renko *et al.*, 2001). In this context, social capital can be seen as resources embedded in a social structure of relationships that are accessed and/or mobilized in purposive actions (Lin *et al.*, 2001). Tura and Harmaakorpi (2005) refer to a resource-based view on social capital. The actor mobilizes other actors and their resources through purposive actions. In such a view, social capital resembles a capability of what one can do compared to what one has. A social relation becomes social capital if it increases the actors' capacity for action and access to relevant resources.

Benefits that accrue from social capital are information, influence and solidarity (Adler and Kwon, 2002). In the context of internationalization, information proved to be the most significant (Liesch and Knight, 1999). Yli-Renko *et al.* (2002) also showed that the acquisition of foreign market knowledge was found to be positively related with social capital, and, hence, the international growth of the firm. Social capital also seemed to be embedded in various types of relationships such as contacts with customers, distributors, suppliers and strategic partners. The findings support the view that the personal networks of entrepreneurs play an important role in providing information about market trends, competition and latest technological developments.

Knowledge creation is considered an ongoing and dynamic process with network partners. International entrepreneurial firms must constantly renew their knowledge and combine it in new ways (Tolstoy, 2009). Knowledge creation often begins with the availability of prior knowledge and then a search for new knowledge. This is followed by the combination of prior and new knowledge and action (Casillas *et al.*, 2009). An increasing entrepreneurial absorptive capacity positively contributes to the assimilation of new external knowledge through knowledge spillovers from the environment (Acs *et al.*, 2013; Qian and Acs, 2013). Access to new international market knowledge and technological knowledge can be enhanced through relevant international network contacts. So-called network pipelines or even global pipelines are able to facilitate knowledge flows between the local entrepreneurial firm and strategic partners in international markets (Bathelt *et al.*, 2004). Hence, the establishment of global pipelines becomes an important task for the INV to access knowledge relevant for its internationalization.

2.3 Internationalization as a process of effectuation

Sarasvathy (2001) introduced effectuation theory which might shape the design of a behavioral theory of the entrepreneurial firm (Sarasvathy and Dew, 2005). Management literature often stresses causal or predictive reasoning that takes pre-determined goals and a given set of means as the starting point and tries to accomplish the goal in the most optimal manner. This, however, does not reflect what most entrepreneurs experience. They rather act upon entrepreneurial contingencies. Thus, effectual reasoning considers a given set of means and allows goals to emerge contingently over time. Goals are therefore not pre-determined.

Natural laws constrain the effectuator but do not let these constraints dictate the design of the firm. Hence, effectuation implies that the future is contingent upon the actions of willful entrepreneurs that intersubjectively seek to reshape the world and fabricate new ones (Sarasvathy *et al.*, 2008).

The design space of entrepreneurs is determined by three elements (Sarasvathy *et al.*, 2008): high (Knightian) uncertainty, goal ambiguity and isotropy. Knightian uncertainty

relates to the impossibility to calculate probabilities for future consequences. In goal ambiguity, preferences are neither given nor well-ordered. Environmental isotropy points out that *ex-ante* it is not clear what elements of the environment to pay attention to and what to ignore. In a recent contribution that use effectuation theory to explain the internationalization behavior of existing small- and medium-sized enterprises, Kalinic *et al.* (2014) suggest that the internationalization process may have characteristics that resemble the effectual problem space: the lack of information about foreign markets makes planning difficult (high uncertainty), goals with respect to international markets may be blurry and not well-defined (goal ambiguity) and it is difficult to determine the value of information from the foreign environment (environmental isotropy).

Within the dynamic model of effectuation (Figure 1), the entrepreneur relies on three sets of means (Sarasvathy *et al.*, 2008):

- (1) Who I am (i.e. traits, abilities, attributes).
- (2) What I know (i.e. education, experience, expertise).
- (3) Whom I know (i.e. social network contacts).

These constitute the actual means the entrepreneur has at hand. In a next step, he or she evaluates the course of action (what I can do) based on who I am, what I know and whom I know. The effectuator starts imagining possible courses of action which consequences are mostly unpredictable. The interaction with other people determines the further course of action. These stakeholders not only commit human, intellectual, financial or social capital but also generate new sub-goals for the venture. Only those members who make actual commitments become part of the membership of the network. This provides an important restriction to free riders and opportunists.

Effectuation theory is both consistent with the resource-based view of the firm and (social) network theory. The actual means to hand correspond at the level of the firm to human, physical and organizational resources (Sarasvathy, 2001). Hence, if knowledge is the focal aspect of analysis in the sense of “what I know” then the knowledge-based view is equally consistent with effectuation theory. In respect to network theory,

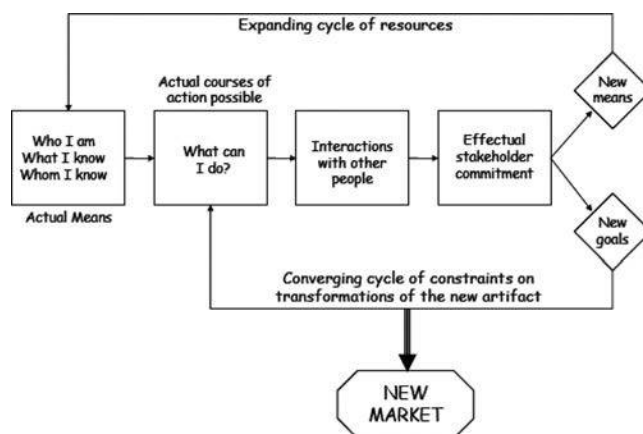


Figure 1.
The dynamic model
of effectuation

Source: Sarasvathy and Dew (2005, p. 543)

effectuation theory does not only take into consideration that extant networks can be leveraged and managed but also initiated and developed (Sarvasvathy and Dew, 2005). The analysis of intersubjective interactions between entrepreneurs and their stakeholders (e.g. early partners, customers, suppliers, professional advisors, local communities) seems to be equally a promising area for future research in entrepreneurship as Sarvasvathy and Venkataraman (2011) commented.

Andersson (2011) applied effectuation theory to achieve a better understanding about a born global's internationalization process. He concluded that effectuation theory has the ability to provide new insights into the early internationalization pattern of born globals by taking into consideration, on the one hand, the individual, firm as well as the network level, and, on the other hand, a pro-active entrepreneurial perspective.

Following Tolstoy (2009), knowledge creation is considered an ongoing and dynamic process with network partners. The dynamic model of effectuation seems to match the dynamism of this process. Furthermore, effectuation theory has the potential to shed light on knowledge creation through interaction with network partners through a lens of entrepreneurship theory and by analyzing the phenomenon at the level of the entrepreneur or entrepreneurial team.

3. Research process

The following section introduces process research as the chosen research approach for this study, provides a brief overview about the case firms and presents the techniques for data collection and analysis.

3.1 Process research

This study applies process research. Methods for process research have been put forward mainly within the literature on management and organization studies but rarely applied in the context of firm internationalization (for an overview of process approaches to the internationalization process of the firm, see Welch and Paavilainen-Mäntymäki, 2013).

Building on Aldrich's (2001) differentiation between outcome- and event-driven explanations, Van de Ven and Engleman (2004, p. 355) make a plea for event-driven process research to address the how question that "is concerned with describing and explaining the temporal sequences of events that unfold in the development of entrepreneurial ventures". In contrast to outcome-driven explanations, event-driven explanations are built forward, from observed or recorded events to outcomes, and, thus, the event-driven approach resembles process theory based on explanation of the temporal order, and sequence of change events that occur. Process studies generally analyze the phenomenon by using retrospective case histories conducted after the outcomes were known. However, as Van de Ven (1992, p. 181) commented:

[I]t is widely recognized that prior knowledge of the success or failure of a strategic change effort invariably biases a study's findings. While historical analysis is necessary for examining many questions and concerted efforts can be undertaken to minimize bias, it is generally better, if possible, to initiate historical study before the outcomes of a strategic change process become known. It is even better to undertake real-time study of strategic change processes as they unfold in their natural field settings.

Applying a process perspective, our study combines retrospective case histories with longitudinal real-time studies (Leonard-Barton, 1990). Capturing data in real time is facilitated by weekly solicited logs in combination with periodic follow-up interviews

(Balogun *et al.*, 2003; Kenten, 2010). Diaries in the form of solicited logs in combination with periodic follow-up interviews are considered a suitable technique to study change processes within organizations and to capture process data in real time (Balogun *et al.*, 2003; Kenten, 2010; Langley, 2007; Plowman, 2010; Symon, 1998).

3.2 Research setting

Our study focuses on four INVs in Internet-enabled businesses (i.e. software, video gaming and online medical tourism platform) located in the city of Medellin in Colombia (South America) (see Table I for an overview of the case firms). All firms were either involved in international business activities right from inception (Alpha, Beta, Gamma) or realized their first international sale after three years of founding (Delta). Besides, they all share the characteristic of being micro-firms directly run by their founders and owners consisting of two to five members.

3.3 Data collection

Following Leonard-Barton (1990), an interview was conducted with each firm to construct retrospectively the company's history ranging from the period of pre-founding until the moment of the interview. A timeline was constructed to detect major events that impacted the development of the firm. Before each session, the interviewees were contacted by email to inform them about the purpose of the interview, and they were asked to brainstorm ahead of the meeting about events they considered critical for the firm's development. Hence, at the beginning of each session, the ideas were collected and subsequently discussed and ordered by making use of a timeline. In three of the four interviews, a whiteboard was used to visualize the information during the interview session. The interviews lasted from 56 to 105 minutes. All interviews were digitally recorded and transcribed.

The first interview session was taken as an opportunity to present and familiarize the participants with the further research technique: the diaries in the form of solicited logs and the periodic follow-up. Since then, each Monday, an email were sent out to the participants asking the following questions:

Please take some minutes to review the activities of last week:

- What happened during the last week that you consider important for the development of your business?
- Any other memorable or interesting aspects that occurred during the last week?
- Do you feel that you learned something from it that might influence the way you conduct or develop further your business (new knowledge/insights)?

As the CEOs of Alpha and Beta were German native speakers, communication took place in German. Communication with Gamma and Delta took place in Spanish, with Spanish being the official language in Colombia. The interviewer was a German native speaker and a foreign resident in Colombia for 10 years when the first interviews were conducted.

Usually, each solicited log in the form of an email was responded the same or the next day by the participants, followed by two to three follow-up replies within the same email to clarify some of the log entries. As the participants responded directly under each question, each email constituted a written record of the conversation.

Firm characteristic	Alpha	Beta	Gamma	Delta
Service	Online medical tourism platform	Software development and customization	Software customization	Design and development of video games
Number of team members (as of January 2012)	One owner/manager; one employee	Four owners/managers	Four owners/managers; one employee	Three owners/managers; one employee
Office location	Medellin, Colombia	Medellin, Colombia	Medellin, Colombia	Medellin, Colombia
Location of clients (as of January 2012)	USA, Colombia	Switzerland, Colombia	31 countries	Internet-sales globally (App Store); publisher based in England
Foundation of firm (official registration date)	January 2010	February 2011	June 2008	March 2008
Interview/log partner	Thomas, CEO (founder)	Peter, CEO (founder); Pablo, COO (co-founder)	Carlos, CEO; Andres, CMO; Nicolas, CFO; Diego, CTO (founders)	Camilo, CEO (co-founder)

Table I.
Overview of case firms

3.4 Data analysis

All log entries were documented within a mind map software (Mindjet MindManager) immediately after they were received. This allowed to categorize and visualize the obtained information in real time and to list chronically the sequence of the events. Such an approach corresponds to a visual mapping strategy as put forward by Langley (1999) as an appropriate method for the analysis of process data.

Different colors were used for coding: For example, orange to highlight events related to activities of networking, and green for instances related to knowledge creation. Questions that arose were annotated as comments behind the respective note and used during the periodic follow-up interviews. Additionally, the original text (in German and Spanish) from the log was directly attached to each entry within the mind map as a text note. The mind map, however, was constructed in English language to facilitate analysis between the research team.

For data triangulation purposes, documents such as press articles, review reports of external consultants and business idea proposals were consulted. Additionally, the entrepreneurs were followed in real time to observe their social networking activities through the online platform for professional networking: LinkedIn, Facebook and Twitter, which were frequently used by all entrepreneurs.

The chosen research approach can best be described as partly deductive (theory-inspired) and partly inductive (data-inspired) (Orton, 1997). Initially, the study was informed by theories, as they relate to the knowledge-based view of the firm and networking for internationalization in the context of INVs. While observing the firms' development, it became evident that they did not follow precise plans, that they kept a high degree of flexibility in their expansion, that improvisation often prevailed and that business opportunities rather emerged by chance than by foresight. Thus, effectuation theory became an interesting theoretical lens for this study. Besides, effectuation theory also allowed to focus the analysis on the level of the individual or the entrepreneurial team and to take into consideration the pro-active behavior of the entrepreneur. The dynamic model of effectuation was adopted as the analysis framework for this study because it resembles processes and embraces a holistic perspective combining the knowledge-based view and networking behavior of new ventures. As such, we considered the model to suit well the research question of how do interactions with network partners contribute to the creation of international market knowledge within the INV?

4. Results

Following the logic of the dynamic model of effectuation, this section focuses on the description how each case firm internationalized and created new international market knowledge through the interaction with its network partners. Direct quotations are used to provide a thick description that contributes to the trustworthiness of the data (Lincoln and Guba, 1985).

4.1 The pre-founding conditions and the chosen course of action

Thomas, a physicist with a PhD in nanotechnology from Germany, moved in February 2009 to the city of Medellin in Colombia after working for several years as a European sales manager for a German multinational and as a chief technology officer for a company in London and the USA. Soon he started looking for a job but without success.

A headhunter recommended him to get self-employment, something all successful foreigners living in Colombia are doing, as he was told. He met Daniel, another German, at a social meeting of the German-Colombian Chamber of Commerce. Daniel was also looking for a job in Colombia. Thus, both of them sat together to brainstorm about business ideas. Thomas commented:

We looked at what we are able to do, what abilities we have, what we cannot do, what we like, what we don't like.

An Internet service seemed to be the most suitable solution, as Daniel was experienced with online marketing and Thomas with computer systems and programming. Due to the bad payment habits of Colombians and corruption-related issues, they also tried to identify a business opportunity where they directly deal with foreigners as customers. Daniel suggested an online matchmaking service (marriage agency) but the idea was soon abandoned due to ethical considerations. Finally, the idea of an online service for medical tourism was born. Medical tourism is an emerging business in the country and one of the strategic business clusters promoted by the city of Medellin. The idea emerged to provide medical procedures for patients from the USA in hospitals and clinics in Colombia. Nevertheless, as Thomas affirmed:

[Our online service] won't be restricted to Colombia only. [The online service] starts as a platform in Colombia but the strategic goal within the next five years is to transform [the online service] into the largest provider for medical tourism in Latin America.

Both entrepreneurs started exploring their business idea before Alpha eventually became constituted at the local chamber of commerce in January 2010.

Peter[1], a Swiss citizen and the lead founder of Beta, studied mechatronics and informatics in Switzerland. Already during his studies, he ran a business related to software programming. After he finished his studies, he was contacted by a German venture capitalist to lead the technological restructuring of a spin-off from Nokia in Helsinki. The company was later moved to Switzerland, where he also became a shareholder and a chief technology officer. During that time, he suggested to outsource the software development of the firm to Colombia. Peter was already familiar with the country through his Colombian wife. He identified a suitable firm in Colombia where he ended up becoming a shareholder and a chief technology officer for a period of five years after his permanent move to Colombia. During that time, he expanded the firm's business to Switzerland with an own sales office.

While he was working for the company in Colombia, he radically innovated the firm's technology and processes. After the technological turnover of the company, he was looking for new challenges which he couldn't find within the same firm. Besides, the CEO was very reluctant to introduce further innovations. Thus, Peter decided to leave the company with the desire to further develop his career and to implement a business idea he already had in mind while working for this firm in Colombia. As he commented:

The niche is in custom development. For me it was already clear to implement that idea. I wanted to find out if that hypothesis of mine really works [...] to bring together German-speaking SMEs with Colombian software developers if you channel the business through expats like me or German-speaking people, and create a local firm who represents that business. [...] I clearly see myself as an insider knowing what is needed from a technological standpoint in Switzerland or Germany and what you can offer in the market.

Based on that vision, Peter contacted some of his former work colleagues from the Colombian firm and took them on board for establishing the new firm Beta. Beta was officially registered in February 2011. His ambition was putting together a diverse team with different skills and personal networks.

In February 2008, the software engineers Andres, Carlos, Daniel, Diego and Nicolas (all Colombian citizens) found themselves suddenly without a job due to the insolvency of their former employer, a small Colombian software firm. They came together over a cup of coffee in one of Medellin's shopping malls to discuss their future professional careers. As they all faced the same problem of finding a new job, they decided to become self-employed and to create a company. The insolvency of their former employer left open a market opportunity that they decided to explore further: The customization of Kayako, a helpdesk software. Some of the international clients they already worked for at their former employer eventually became customers of Gamma. Hence, the business idea was born to offer customization services for Kayako. Before Gamma was constituted in June 2008, the five entrepreneurs already began to work as freelancers in the business of Kayako customization.

In 2006, after Luis, a Colombian citizen, returned from his undergraduate studies in real-time interactive simulation in the USA, he had the idea of starting a firm in Colombia dedicated to the development of video games. Already in the USA, Luis gained relevant experience as a programmer at a major video game publisher and continued to work for a Colombian firm upon his return as a technology programmer for 2D and 3D applications. He called a friend in Colombia, Camilo, and they discussed the idea of setting up a business dedicated to the development of video games. Camilo is a systems engineer with four years of international work experience in countries such as Israel, Costa Rica and Taiwan. The software development platform Unity seemed to be the right tool, but they didn't have enough experience with the software yet to develop a game. So they decided first to gain more experience with Unity by producing interactive simulations for clients in Colombia before taking on the challenge to develop a video game that could be sold internationally. Delta eventually was constituted in March 2008 together with Luis's brother Alejandro. After two years of experience with Unity, the three entrepreneurs finally decided to focus on the core business of Delta, the development of video games. As Camilo commented:

When I participated in UNITE [game developers conference] in 2010 in November I observed how were the talks, how were the people, what did they ask us, because there was a buyer-sellers meeting that day, what they asked for. We saw that the business [industry] moves towards mobile games.

This was a fundamental observation for Delta that immediately caused a change in the way how they approached their business. If the initial idea was to develop a larger game for personal computers, they now decided to develop smaller games for mobile devices that could be distributed, for instance, through Apple's online store, the App Store.

What characterizes the entrepreneurs of all four case firms is that they started developing their business idea based on their skills and knowledge (what I know) that they developed through previous work experience. Such experience was already developed while working abroad (outside Colombia) or in interaction with international clients from their home base in Colombia (e.g. the entrepreneurs of Gamma who interacted with clients abroad while working for their former employer in Colombia).

Hence, the knowledge that ultimately defines the course of action (what I can do) was already developed in an international context. Consequently, the course of action of each case firm was already expressed as an international business opportunity. Table II provides an overview about the actual means and course of action for each case firm.

Having defined their course of action built on the means that are available to each entrepreneur, the next section describes how internationalization happens in each firm and how this leads to the acquisition of international market knowledge. The interaction with network partners plays a fundamental role in this process.

4.2 From the chosen course of action to the creation of international market knowledge

Two country markets are initially relevant for Thomas, the owner of Alpha: On the one hand, he needs to get hospitals and clinics from Colombia onto his platform, as the medical service providers, and, on the other hand, potential patients from the USA need to register on the platform and make use of the medical services offered in Colombia. In each market, Thomas faces uncertainty and he needs to find a way of how to gather

Firm	Actual means (Who I am, What I know)	Course of action (What I can do)
Alpha	One lead founder German national Physicist with experience in computer systems and programming Extensive international work experience in Germany, England and USA Co-founder (German) with experience in online marketing	Online platform for medical tourism between USA and Colombia/Latin America
Beta	One lead founder Swiss national Studied mechatronics and informatics in Switzerland Extensive international work experience in Switzerland, Finland Serial entrepreneur Co-founders (Colombians) with a diverse set of programming and management skills (former co-workers)	Software development and customization services for SMEs in German-speaking countries
Gamma	Four founders Colombian nationals System engineers from Colombia Experienced with international clients One of them with limited work experience abroad	Customization services for Kayako help desk software
Delta	Two lead founders Colombian nationals Studies in real-time interactive simulation in the USA and systems engineering in Colombia Some international work experience	Development of video games for international markets

Table II.
The pre-founding conditions and chosen course of action

relevant market knowledge that allows him to operate in both countries. As Thomas stated:

We just build up [a pool of possible hospitals and clinics]. And this is where the problems arise since it is a new industry in Colombia [medical tourism]. The hospitals and doctors, for instance, are not used to sign complex contracts. [...] The laws in the USA are quite complex too and grant a lot of freedom to patients [...] which might require an adaptation of the content of our contracts and website to the legal situation in the USA.

The doctor of one clinic who supports Thomas's business idea introduces him to Stephen B., a specialist in hospitality law and a university professor from Houston (USA). Daniel, his co-founder, establishes contact to Renee S., the President of the Medical Tourism Association, located in Florida (USA). The subsequent interactions with both Stephen B. and Renee S. trigger events that facilitate the acquisition of relevant knowledge about how to adapt the business model to the USA market. Figure 2 graphically depicts the development of the interactions with relevant citations (to be read in a chronological order starting from the top downwards within each branch).

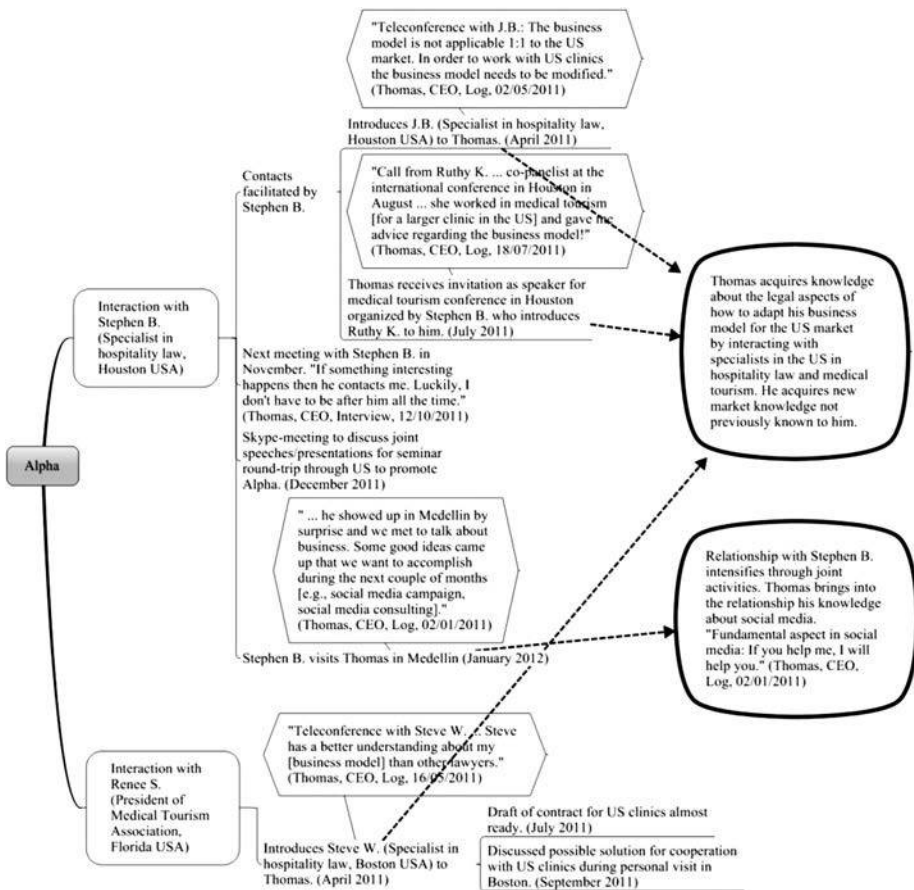


Figure 2. Alpha: network interactions and knowledge acquisition in the USA

Besides of his role as a network facilitator, Stephen B. increasingly engages in joint actions with Thomas with the intention to promote his consultancy services in hospitality law not only in the USA but also in Colombia.

Generally, through the interaction with specialists in the USA in hospitality law and medical tourism, Thomas gains new international market knowledge that led to a modification of the initial business model (i.e. adaptation of the current business model to comply with US laws). Besides, through the interaction with Stephen B., Alpha's service is extended to include a consultancy services in social media for the medical tourism industry in the USA and Colombia.

In Colombia, Thomas deliberately contacts hospitals and clinics. Through direct negotiations, he gains insights into the functioning of the industry, the relationships between doctors and clinics and how contracts need to be designed and tailored to each institution. In a further intend to get closer relationships with clinics and to gain access to relevant market knowledge, Thomas initiates a mini-cluster project with some of the clinics he already cooperates with. The interaction with some of these clinics led to a surprising opportunity for Alpha: Thomas received the offer to manage the establishment of a sales office in the USA for some of the clinics under the umbrella of Alpha's brand name. This direct investment opportunity would allow Thomas to get a representation of Alpha financed in the USA [Figure 3](#) depicts chronologically some of the interactions with clinics in Colombia.

What is seen is that Thomas acquires relevant market knowledge through a learning-by-doing approach by directly negotiating with clinics. Besides, he deliberately creates a mini-cluster project which allows him to get access to further specialized industry knowledge.

The chosen course of action for Beta requires a market presence in Colombia and the identification of possible clients in German-speaking countries. To implement his idea, Peter contacted a fellow student from his informatics studies in Switzerland, Christian.

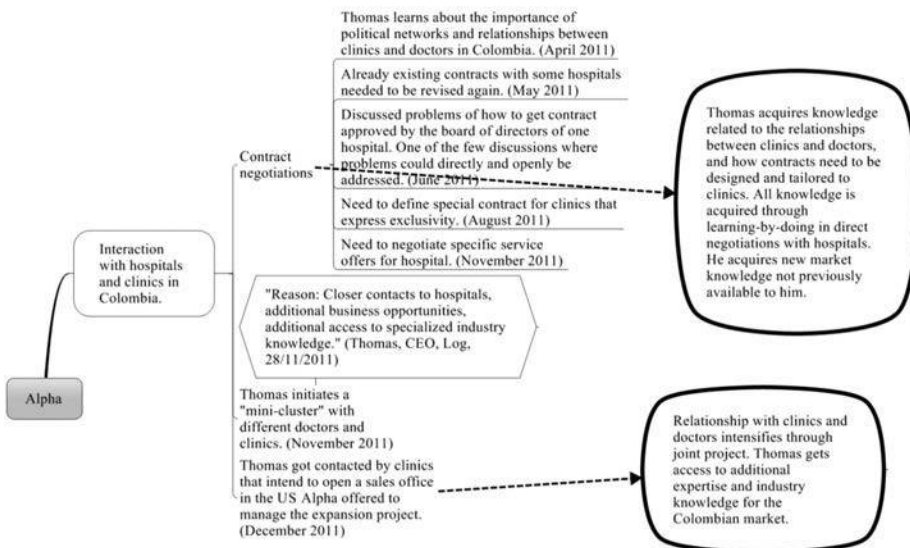


Figure 3.
Alpha: network
interactions and
knowledge
acquisition in
Colombia

Christian by himself contacted another fellow student from his MBA studies in London, Markus. Both of them are Swiss citizens and live and work in Switzerland. Peter could convince both of them about his business idea, and the three of them decided to constitute the firm Epsilon, located in Switzerland. The function of Epsilon consists in client acquisition for Beta and the deployment, training and support of each project directly with the customer in Europe. Initially, clients are recruited in Switzerland before the business is expanded to other German-speaking countries such as Austria and Germany.

In May 2011, Peter received a lucrative offer from a headhunter for a job in Switzerland. He left Colombia but continued as a shareholder in both Beta and Epsilon. His absence created uncertainty within the companies and between them. The initial joint-venture talks between the firms were temporarily put on hold and Epsilon recruited fewer clients. Nevertheless, Beta and Epsilon decided to continue their operations to see how things will play out. When Peter quit his new job in Switzerland and returned to Colombia in August 2011, businesses again were taken up as before. Figure 4 illustrates the development of the interaction between Beta and Epsilon[2].

Peter's presence proved to be essential if business wants to be accomplished with Epsilon in Switzerland. So far, through the interaction with Epsilon, Beta was able to gain important knowledge about the behavior and needs of current and potential clients in Switzerland which also helped to redefine the product portfolio.

Gamma is attending users of the Kayako software that range from small to large multinational companies. Gamma internationalized instantly and acquired clients in 31 countries on five continents within less than two years from its foundation. The company derives most of its sales, over 90 per cent, outside its home continent South America, with no client in its home market Colombia. Through the interaction with the firm that produces Kayako and Kayako users, Gamma gained more and more expertise about the software which also led to the notion that Gamma not only customizes the software for its users but also contributes directly to the development of the software as a Kayako partner.

For the purpose of this paper, we elaborate on the emergence of a new line of business for Gamma that emerged through the interaction with Kayako and that became a central part of Gamma's business: the design and programming of software for mobile devices.

In April 2011, Gamma was contacted by Kayako with the offer to develop the client interface of its software for mobile devices such as iPhone and Blackberry. Gamma considered this as an interesting opportunity and starting point for entering a new line of business that they already thought about but did not take any action. As the current technical knowledge of Gamma was not sufficient for that project offer, new knowledge needed to be acquired quickly within one week to accept the project offer. Coincidentally, another long-standing client of Gamma requested a similar service and Gamma was able to make use of its recently acquired know-how for this new project opportunity. Figure 5 provides examples of the flow of interaction between Gamma and both firms that ultimately led to the creation of new technical expertise and knowledge about (international) market trends which the firm continues to exploit globally.

Selling video games in international or global markets required the cooperation of a marketing and sales partner. As Delta chose to develop games for mobile devices that are digitally distributed through online stores, the cooperation of a video game publisher became crucial. Therefore, in March 2011, Delta contacted a renowned video game publisher[3] located in England. The publisher focuses on publishing of mobile video

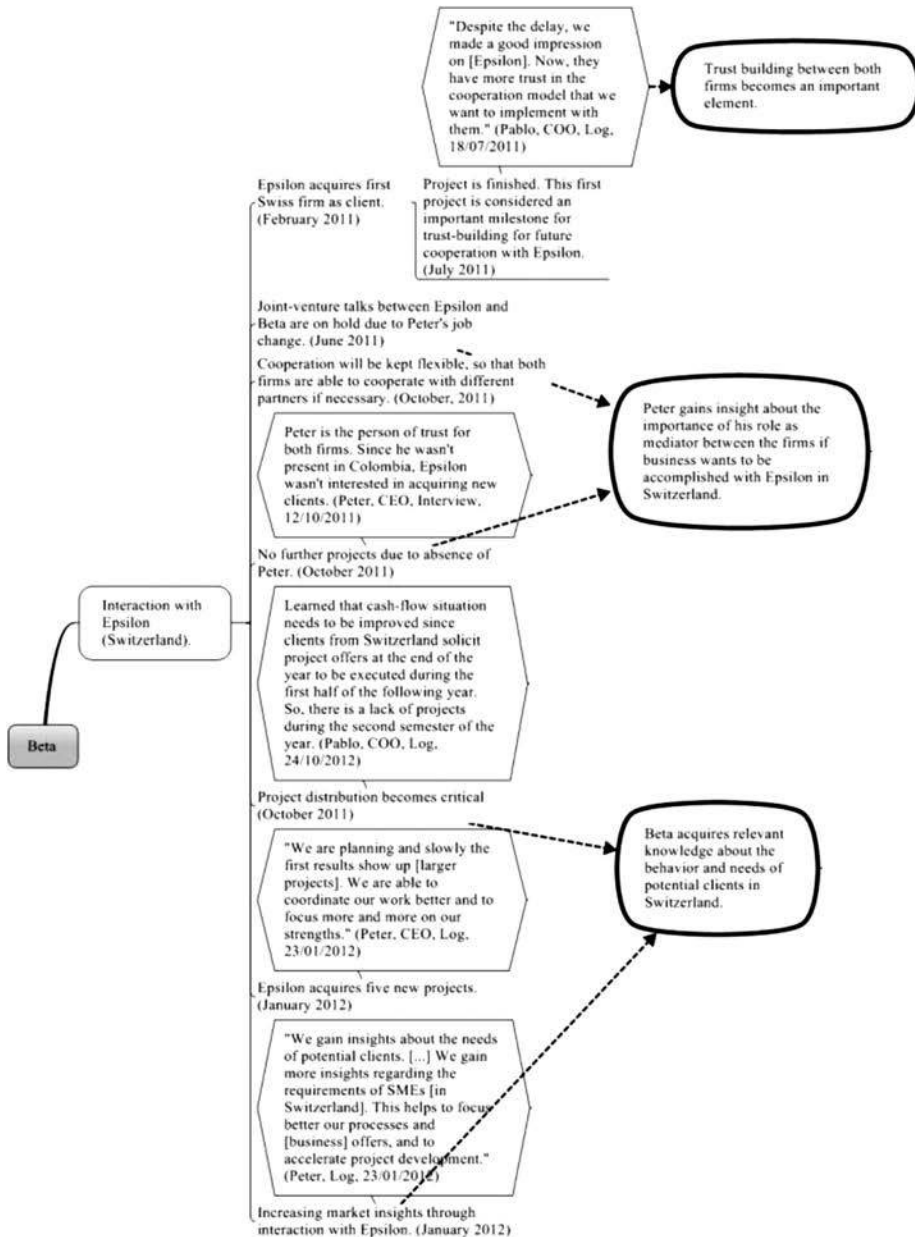


Figure 4.
Beta: network
interactions and
knowledge
acquisition in
Switzerland

games developed by independent studios. Delta received the acceptance in May 2011. The news was happily received by Delta, as the publisher was considered the number one distributor world-wide for independently developed games by that time. A contract was signed with obligations for both parties, and the publisher assigned a producer to

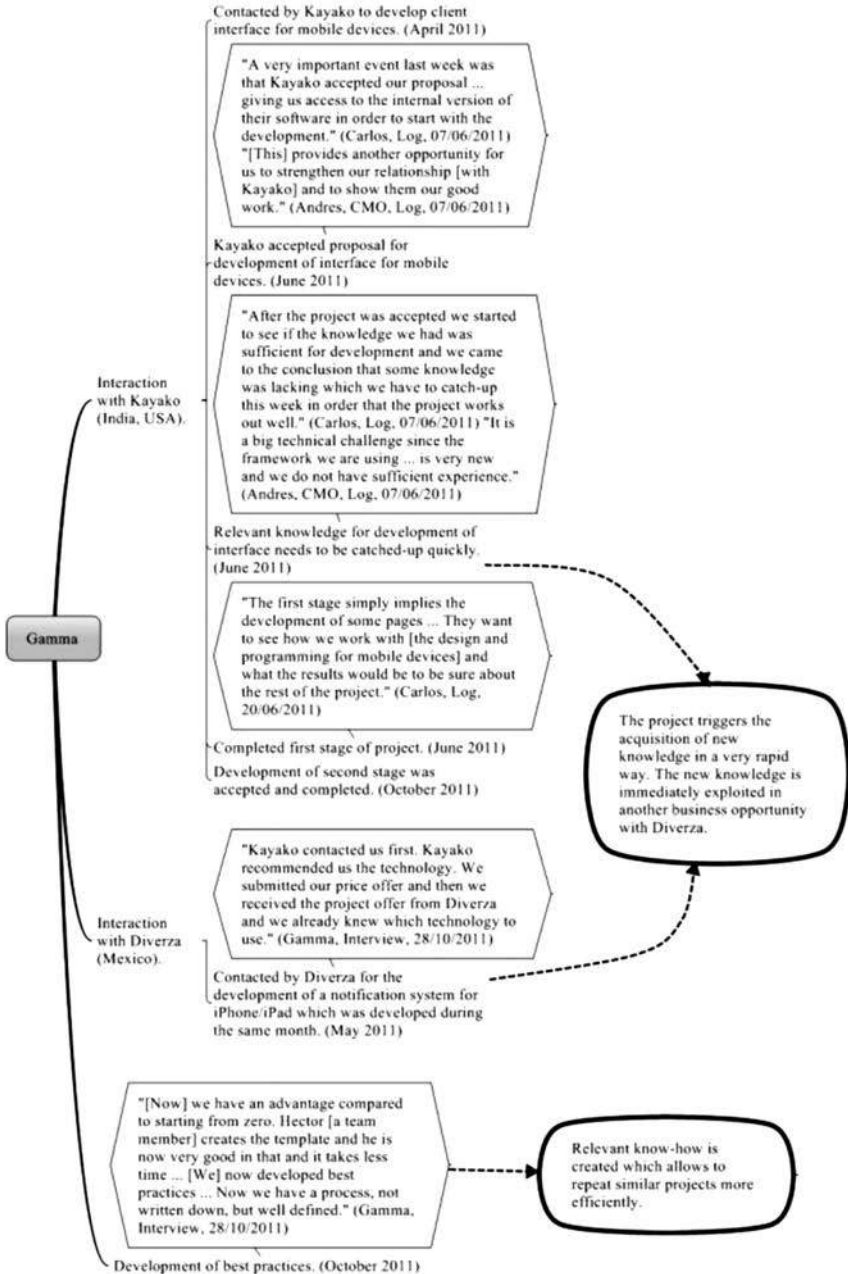


Figure 5. Gamma: network interactions and knowledge acquisition for the development of a new line of business

Delta who helped to prepare the game for its global sale through the App Store. The continuous interaction with the producer, followed by the contact with the publisher's marketing team, allowed Delta to enhance its technical knowledge and to gain new marketing-related insights that helped to make the game globally more competitive. Besides, the acquired knowledge was subsequently applied to the development of the second game to be published another time through the same publisher. The insights that Camilo gained about the promotion of the video game through the Internet let him develop a new service: a review Web site in Spanish language for mobile video games which did not exist in the market. Figure 6 chronologically depicts the interaction between Delta and the publisher supported by relevant direct quotations.

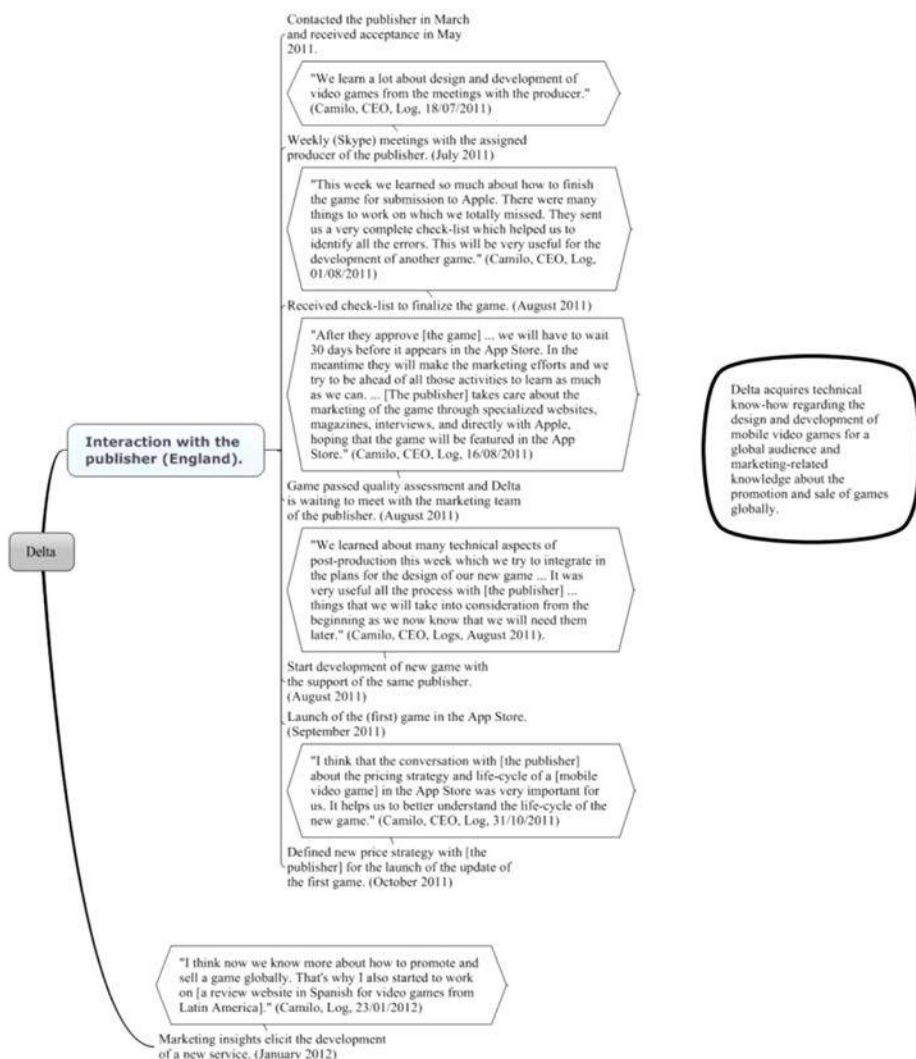


Figure 6.
Delta: network
interactions and
knowledge
acquisition with a
global publisher

Although the two games rely on the support of the publisher to be sold in the global market, Delta aims at an independent distribution once it built up a strong brand name and sufficient technical and marketing-related knowledge to do so.

Table III provides a comparative overview regarding each firm's stakeholder(s), the type of stakeholder, the commitment that the stakeholder brings into the relationship and the knowledge that was created through the interaction with that particular stakeholder. In line with Sarasvathy and Dew's (2005) view that networks can not only be leveraged but also initiated and developed, the table indicates if the contact was the result of an active or reactive move of the entrepreneur.

This section described the internationalization process of the case firms and the acquisition of international market knowledge by following the dynamic model of effectuation. The next section interprets the findings and contrasts them with extant theory. This approach follows an explanation-building strategy (Yin, 2003).

5. Discussion

Following the dynamic model of effectuation, the entrepreneurs created a general vision for their international business idea based on their actual means to hand. The technological knowledge was developed during prior work experience. However, not all technological knowledge was a result of work experience abroad. The entrepreneurs of Gamma, for instance, developed their expertise in Colombia while interacting with clients abroad working for their former employer. Hence, the inherited technological knowledge (Huber, 1991) was previously developed under the exposure to international clients and can be considered an important prerequisite for all four INVs to internationalize rapidly. This finding partially supports the literature that emphasizes on the importance of prior international work experience for the INV (Almeida and Bloodgood, 1996; Bloodgood *et al.*, 1996; Reuber and Fischer, 1997; Shrader *et al.*, 2000), but it also shows that working abroad is not always necessary in order for the firm to internationalize rapidly.

In the cases of Alpha and Beta, technological knowledge remained fairly constant during the observed period and international market knowledge was developed through interaction with their network partners. Gamma and Delta, however, both improved their technological knowledge and gained new international market knowledge. Hence, existing technological knowledge might be enhanced through interaction with stakeholders, but it is international market knowledge that is always built up newly.

Bengtsson (2004) posited that more congenital foreign market knowledge in the firm leads to a faster and more committed internationalization process. Contrary, our findings revealed that the firms internationalized instantly or quickly despite the absence of congenital international market knowledge.

While the technological knowledge needed to be ripe for all entrepreneurs in order to be exploited internationally, the entrepreneur's prior social network was not always important to internationalize the business. Beta and Gamma made use of their prior social (Peter's former study colleague Christian) and business networks, respectively (former international clients from previous job of Gamma's entrepreneurs), to enter international markets. As Alpha and Delta still needed to build suitable international network contacts, they needed relatively more time to

Firm	Stakeholder	Move toward stakeholder	Stakeholder type	Stakeholder commitment	Knowledge creation (new mean)
Alpha	Specialists in hospitality law and medical tourism in the USA	Active (recommended by business contacts)	Professional advisors	Consultancy services	Foreign business knowledge, foreign institutional knowledge: industry insights and legal knowledge regarding the US market
	Stephen B. (USA)	Active (recommended by business contact)	Cooperation partner	Joint promotion activities	Foreign business knowledge: industry insights regarding the US market
	Clinics, hospitals and doctors in Colombia	Active (deliberately chosen)	Client	Services as medical providers	Foreign business knowledge: knowledge about client behavior and needs
	Mini-cluster in Colombia	Active (deliberately chosen)	Cooperation partner	Services as medical providers, possible financing	Foreign business knowledge: industry insights regarding the Colombian market
Beta	Epsilon (Switzerland)	Active (deliberately chosen)	Sales and distribution partner	Projects, client acquisition and marketing/sales efforts	Foreign business knowledge, internationalization knowledge: industry insights regarding the Swiss market (client behavior and needs), business expansion and marketing-related knowledge
Gamma	Kayako (India/USA), Diverza (Mexico)	Reactive (existing client)	Client	Projects	Technological knowledge, foreign business knowledge: new technical knowledge. Insights into market trends
Delta	Publisher (England)	Active (deliberately chosen)	Marketing and sales partner	Technological know-how and marketing/sales efforts	Technological knowledge, foreign business knowledge, internationalization knowledge: improved technical knowledge, market insights and trends, and new marketing-related knowledge

Table III.
Stakeholder
characteristics and
knowledge creation

offer their services internationally compared to the other two case firms. This finding coincides with the literature that stresses the importance of an entrepreneur's prior international network contacts in order for the firm to venture quickly abroad (Coviello and Cox, 2006; Coviello and Munro, 1995; Oviatt and McDougall, 2005; Sharma and Blomstermo, 2003; Yli-Renko *et al.*, 2002). However, it also shows that such international networks or contacts can be created rapidly from scratch to internationalize, as was the case for Alpha (e.g. professional advisors, cooperation partners) and Delta (e.g. the publisher).

The interaction with stakeholders and the subsequent transformation of the initial course of action is evidently linked to a process of knowledge creation. Knowledge creation is represented in the dynamic model of effectuation as the accumulation of new means (i.e. accumulation of knowledge which impacts the existing knowledge base of the entrepreneur in the sense of "what I know"). Stakeholders were found to be professional advisors including lawyers (Alpha), clients (Alpha, Gamma) and marketing/sales partners (Beta, Delta). Extant research mainly focuses on interactions in supplier and customer relationships (Yli-Renko *et al.*, 2002, Tolstoy, 2009). A notable exception is Fletcher and Harris (2012), who identified a broader range of sources for international market knowledge, including government advisors, lawyers, consultants, trade fair visits and conferences. Our study equally broadens this view by considering all partners that successively entered the firm's stakeholder network and that contributed to its internationalization.

Through the subsequent interaction with stakeholders, the initial course of action (i.e. the general vision of the business) was increasingly transformed and refined: Alpha successively defined specific areas for medical treatment and adapted its business model to the legal requirements in the US market; Beta narrowed down its product portfolio based on customer insights; Gamma started a new line of business (i.e. software customization services for mobile devices); and Delta defined its general vision of development of video games for international markets more narrowly to the development of video games for mobile devices distributed globally through the Internet.

Stakeholders significantly influenced the chosen course of action in international markets which provides evidence for the dynamics of stakeholder interactions within the framework of effectuation. For Alpha and Beta, this meant a more gradual adjustment to the behavior and needs of clients, and for Gamma and Delta, a rather punctuated event. In the case of Gamma, it was triggered by a client request (i.e. the offer by Kayako to develop the client interface of its software for mobile devices), and in the case of Delta, through the contractual agreement with the publisher. Hence, knowledge acquisition in these cases followed a similar pattern and consisted, on the one hand, in a cumulative, gradual process, and, on the other hand, in a sudden, rather disruptive incident.

The interaction with network partners triggered new business opportunities. Alpha received the possibility to open a sales office in the USA and added a social media consulting service to its current portfolio. Camilo, the CEO of Delta, created a new service with the review Web site for mobile video games in Spanish language. This finding reveals that new (international) markets are often created by chance in interaction with stakeholders. Hence, the dynamic model of effectuation provides an

explanation for how new businesses emerge that are not in line with a previous plan (Crick and Spence, 2005).

As shown in Table III, different stakeholder interactions led to the creation of different types of international market knowledge. More specifically, different pathways of knowledge acquisition through congenital learning, searching, vicarious learning and grafting interacted with each other as the internationalization process of each case firm unfolded.

All case firms built on their congenital (technological) knowledge to create a business idea with international potential. This was followed by a process of focused search: for Alpha, this meant the identification and establishment of network contacts in the USA and Colombia to obtain foreign market and institutional knowledge; for Beta, this consisted in the identification of a possible sales channel in Switzerland; similar for Delta, who needed to identify a global marketing and sales partner. Gamma did not engage in prior focused search, as the firm was approached by an established international client to exploit the business opportunity. The active move toward the stakeholder within the dynamic model of effectuation reflects the focused search initiative of each case firm (Table III).

Vicarious learning, which is learning from the experience of others, became most evident where Alpha interacted with professional advisors in the USA and the potential clients (i.e. clinics, hospitals and doctors) in Colombia. In these cases, the CEO of Alpha gains foreign business and institutional knowledge by borrowing from the knowledge and expertise of others. Vicarious learning through imitating became evident in the case of Delta where the CEO actively observed the publisher's marketing activities with the intention to replicate similar strategies for future game releases.

Grafting became the dominant type of knowledge acquisition once the firms engaged in more frequent interactions with partners, for instance, Alpha's interaction with Stephen B. in the USA or the mini-cluster in Colombia. These trust-based relationships allowed knowledge to be acquired more rapidly than through vicarious learning. The relationships also triggered joint activities which led to experiential knowledge acquisition. Experiential learning through interaction with partners became most evident in the cases of Beta and Delta's cooperation with their strategic alliance partners (the Swiss-based partner Epsilon and the publisher, respectively). Grafting and experiential learning seemed to co-exist as the relationship between the firms evolved. Delta, for instance, acquired a considerable amount of technological and marketing-related knowledge through the cooperation with the publisher. This knowledge was subsequently applied for further game development. Where grafting and experiential learning alongside the strategic alliance partner became evident (most pronounced in the cases of Beta and Delta), the firms also acquired internationalization knowledge, that is in these cases, the knowledge about how to develop and implement a marketing and sales strategy for international markets. This finding is contrary to Fletcher and Harris (2012), who could not find network relationships to be an important source for internationalization knowledge. The authors argue that young or newly internationalizing firms lack strong and committed relationships necessary for the creation of internationalization knowledge. In the case of Beta, the CEO was also the co-founder of the Swiss sales and distribution partner. Hence, a close, committed relationship between both firms was easier to achieve. In the case of Delta, a

contractual agreement existed which intensified cooperation. [Fletcher and Harris \(2012\)](#) identify government advisors and consultants as important sources for internationalization knowledge. Our case firms did not participate in any government-sponsored export promotion program. Nevertheless, they were able to develop internationalization knowledge through network partners. The firms either built up or identified relevant partners quickly. The case of Beta provides an illustrative example of how the entrepreneur pro-actively creates an (international) knowledge source (in this case, Epsilon) to accomplish the firm's internationalization objectives.

Similar to the creation of the knowledge source by Beta, Alpha initiated the establishment of a mini-cluster project with the intention to broaden access to specialized industry knowledge. These findings provide a strong notion for the fact that knowledge sources are not only limited to existing entities in the market (e.g. existing firms or professional advisors) but they also can be proactively created if no suitable partners are identified.

[Bengtsson \(2004\)](#) uses organizational learning theory to explain the born global phenomenon. In line with [Bengtsson \(2004\)](#), we consider grafting in the form of intensified cooperation with partners a learning process that makes the internationalization process faster and more committed. The dynamic model of effectuation considers those stakeholders who make actual commitments as part of the membership of the network. These stakeholders not only commit human, intellectual, financial or social capital but also generate new sub-goals for the venture. Consequently, we do not limit grafting to the recruitment of new personnel as [Fletcher and Harris \(2012\)](#) but consider a wider network of stakeholders as an important source for international market knowledge.

6. Conclusions

This study represents an inquiry into the creation of international market knowledge through interaction with network partners from a perspective of effectuation theory. Effectuation theory, and more specifically, the dynamic model of effectuation, seems to provide an adequate framework for our analysis, as it focuses on process and embraces a holistic view combining the knowledge-based view with the network perspective. Moreover, the study applies process research and makes use of specific methods for such type of research (i.e. qualitative diary research combined with a visual mapping strategy). Following the case firms in real time to observe how the interactions with their stakeholders unfolded allowed researching the phenomenon longitudinally, and, hence, shed light on the topic from a different perspective than research based on cross-sectional data.

Most important, the study was able to provide insights into the dynamics of knowledge creation and showed that different stakeholder interactions led to the creation of different types of international market knowledge. A pattern is observed regarding the different pathways of knowledge acquisition: congenital (technological) knowledge constituted the starting point for all firms followed by a focused search process leading to vicarious learning and grafting. Grafting became the dominant form of knowledge acquisition where the firms intensified their cooperation with their partners through strategic alliances. In parallel to grafting, the firms engaged in

experiential learning alongside their partners. This led to the creation and acquisition of internationalization knowledge in particular.

As the findings indicate, international market knowledge is proactively developed in interaction with network partners. Partners are not only restricted to clients but can also be marketing, sales, and distribution partners or professional advisors such as lawyers. To internationalize rapidly, the entrepreneur requires technical expertise regarding the product but no prior international market knowledge. This knowledge is acquired through the network partner. Applying a process method not only explained how specific relationships came about and developed, it also revealed that some knowledge sources can proactively be developed by the entrepreneur.

The chosen framework (i.e. the dynamic model of effectuation) and methods (i.e. qualitative diary research, visual mapping strategy) allowed capturing and documenting successively all relationships the entrepreneurs engaged. This led to a much broader scope of analysis than studies in the extant literature that rather focus on a limited set of relationships (e.g. supplier, clients).

We followed the early internationalization process of the case firm in real time over a 10-month period. This provides a limited window of observation. Future research might extend the observation period to examine further the evolutionary nature of the different learning types throughout the growth of the INV. The case firms operate in Internet-enabled businesses and are all located in the same country and city (i.e. Colombia and the city of Medellin). Future studies might focus on firms operating in different industries and geographical areas. Our research did not touch upon intercultural issues. Alpha and Beta, for instance, were founded by foreign nationals in Colombia, whereas Gamma and Delta were founded by Colombian nationals. There might be differences the way how the entrepreneurs use different learning types and how they engage in networking activities based on their cultural background. Being a Swiss national, Peter, the CEO of Beta, for instance, mobilized his existing social network in Switzerland to establish the sales office Epsilon in that country. During his temporal leave from Beta, the cooperation between Epsilon and Beta stagnated due to a lack of trust between the Swiss-managed Epsilon and the Colombian-managed Beta. Such intercultural issues are an interesting aspect to be considered for future research. Further, our study did not examine the impact of the newly founded ventures on existing firms in the market, that is the economic impact of the knowledge transfer process stimulated by the interaction with network partners – a further aspect to be considered for future research. Finally, the insights gained from this study regarding the different learning types and their relatedness to particular stakeholder interactions could be verified quantitatively using survey data from a larger population of INVs.

For the entrepreneur interested in the establishment of an INV, our findings reveal important insights. The entrepreneur needs to develop a strong technical expertise regarding a product of an international/global appeal. Congenital technological knowledge is a prerequisite for internationalization. The entrepreneur, however, does not need to rely on congenital international market knowledge. Such knowledge can be developed through network partners. Foreign business and institutional knowledge can be obtained vicariously, also from professional advisors. Internationalization knowledge, however, needs to be developed in close interaction with an international cooperation partner where a

strong relationship commitment prevails. Ideally, as our study revealed, this should be an international marketing, sales or distribution partner. This highlights the importance for a newly created INV to rely on a limited set of key cooperation partners which enable knowledge acquisition through grafting and experiential learning alongside the partner. In all cases, knowledge sources can pro-actively be identified through networking activities (the entrepreneur does not necessarily need to possess a pre-established social or business network for internationalization). If suitable network partners cannot be identified, the entrepreneur can also create in a pro-active manner such knowledge sources as the cases of Alpha and Beta illustrated (i.e. mini-cluster in Colombia and distribution partner Epsilon in Switzerland, respectively).

Notes

1. The original name is kept confidential.
2. The names of the CEO and COO of Beta were changed to maintain confidentiality.
3. The name of the publisher is kept confidential.

References

- Acs, Z.J., Audretsch, D.B. and Lehmann, E.E. (2013), "The knowledge spillover theory of entrepreneurship", *Small Business Economics*, Vol. 41 No. 4, pp. 757-774.
- Adler, P.S. and Kwon, S.W. (2002), "Social capital: prospects for a new concept", *Academy of Management Journal*, Vol. 27 No. 1, pp. 17-40.
- Aldrich, H.E. (2001), "Who wants to be an evolutionary theorist? Remarks on the occasion of the year 2000 OMT distinguished scholarly career award presentation", *Journal of Management Inquiry*, Vol. 10 No. 2, pp. 115-127.
- Almeida, J.G. and Bloodgood, J.M. (1996), "Internationalization of new ventures: implications of the value chain", in Reynolds, P.D. (Ed.), *Frontiers of Entrepreneurship Research*, Center for Entrepreneurial Studies, Babson College, Babson Park, MA, pp. 211-225.
- Andersson, S. (2011), "Research note: international entrepreneurship, born globals and the theory of effectuation", *Journal of Small Business and Enterprise Development*, Vol. 18 No. 3, pp. 627-643.
- Autio, E., Sapienza, H. and Almeida, J. (2000), "Effects of age at entry, knowledge intensity, and imitability on international growth", *Academy of Management Journal*, Vol. 43 No. 5, pp. 909-924.
- Balogun, J., Huff, A.S. and Johnson, P. (2003), "Three responses to the methodological challenges of studying strategizing", *Journal of Management Studies*, Vol. 40 No. 1, pp. 197-224.
- Bathelt, H., Malmberg, A. and Maskell, P. (2004), "Clusters and knowledge: local buzz, global pipelines and the process of knowledge creation", *Progress in Human Geography*, Vol. 28 No. 1, pp. 31-56.
- Bell, J., McNaughton, J., Young, R. and Crick, D. (2003), "Towards an integrative model of small firm internationalization", *Journal of International Entrepreneurship*, Vol. 1 No. 4, pp. 339-362.
- Bengtsson, L. (2004), "Explaining born globals: an organisational learning perspective on the internationalisation process", *International Journal of Globalisation and Small Business*, Vol. 1 No. 1, pp. 28-41.

- Bilkey, W.J. and Tesar, G. (1977), "The export behavior of smaller Wisconsin manufacturing firms", *Journal of International Business Studies*, Vol. 8 No. 1, pp. 93-98.
- Bloodgood, J., Sapienza, H.J. and Almeida, J.G. (1996), "The internationalization of new high-potential US ventures: antecedents and outcomes", *Entrepreneurship Theory and Practice*, Vol. 20 No. 4, pp. 61-76.
- Bruneel, J., Yli-Renko, H. and Clarysse, B. (2010), "Learning from experience and learning from others: how congenital and interorganizational learning substitute for experiential learning in young firm internationalization", *Strategic Entrepreneurship Journal*, Vol. 4 No. 2, pp. 164-182.
- Casillas, J.C., Moreno, A.M., Acedo, F.J., Gallego, M.A. and Ramos, E. (2009), "An integrative model of the role of knowledge in the internationalization process", *Journal of World Business*, Vol. 44 No. 3, pp. 311-322.
- Cavusgil, S.T. (1980), "On the internationalization process of firms", *European Research*, Vol. 8 No. 6, pp. 273-281.
- Chetty, S. and Campbell-Hunt, C. (2004), "Explosive international growth and problems of success amongst small to medium-sized firms", *International Small Business Journal*, Vol. 21 No. 1, pp. 5-28.
- Cohen, W. and Levinthal, D. (1990), "Absorptive capacity: a new perspective on learning and innovation", *Administrative Science Quarterly*, Vol. 35 No. 1, pp. 128-152.
- Coviello, N.E. and Cox, M.P. (2006), "The resource dynamics of international new venture networks", *Journal of International Entrepreneurship*, Vol. 4 Nos 2/3, pp. 113-132.
- Coviello, N.E. and Jones, M.V. (2004), "Methodological issues in international entrepreneurship research", *Journal of Business Venturing*, Vol. 19 No. 4, pp. 485-508.
- Coviello, N.E. and McAuley, A. (1999), "Internationalization and the smaller firm: a review of contemporary empirical research", *Management International Review*, Vol. 39 No. 3, pp. 223-256.
- Coviello, N. and Munro, H. (1995), "Growing the entrepreneurial firm: networking for international market development", *European Journal of Marketing*, Vol. 29 No. 7, pp. 49-61.
- Crick, D. and Spence, M. (2005), "The internationalization of 'high performing' UK high-tech SMEs: a study of planned and unplanned strategies", *International Business Review*, Vol. 14 No. 2, pp. 167-185.
- De Clercq, D., Sapienza, H.J., Yavuz, R.I. and Zhou, L. (2012), "Learning and knowledge in early internationalization research: past accomplishments and future directions", *Journal of Business Venturing, Special Forum on International Entrepreneurship*, Vol. 27 No. 1, pp. 143-165.
- Eriksson, K. and Chetty, S. (2003), "The effect of experience and absorptive capacity on foreign market knowledge", *International Business Review*, Vol. 12 No. 6, pp. 673-695.
- Eriksson, K., Johanson, J., Majkgard, A. and Sharma, D. (1997), "Experiential knowledge and cost in the internationalization process", *Journal of International Business Studies*, Vol. 28 No. 2, pp. 337-360.
- Fernhaber, S.A., McDougall-Covin, P.P. and Shepherd, D.A. (2009), "International entrepreneurship: leveraging internal and external knowledge sources", *Strategic Entrepreneurship Journal*, Vol. 3 No. 4, pp. 297-320.
- Fletcher, M. and Harris, S. (2012), "Knowledge acquisition for the internationalization of the smaller firm: content and sources", *International Business Review*, Vol. 21 No. 4, pp. 631-647.

- Gassmann, O. and Keupp, M.M. (2007), "The competitive advantage of early and rapidly internationalizing SMEs in the biotechnology industry: a knowledge-based view", *Journal of World Business*, Vol. 42 No. 3, pp. 350-366.
- Granovetter, M. (1985), "Economic action and social structure: the problem of embeddedness", *The American Journal of Sociology*, Vol. 91 No. 3, pp. 481-510.
- Grant, R.M. (1996), "Toward a knowledge-based theory of the firm", *Strategic Management Journal*, (Winter special issue), Vol. 17, pp. 109-122.
- Huber, G.P. (1991), "Organizational learning: the contributing processes and the literatures", *Organization Science*, Vol. 2 No. 1, pp. 88-115.
- Johanson, J. and Vahlne, J.-E. (1977), "The internationalization process of the firm: a model of knowledge development and increasing market commitments", *Journal of International Business Studies*, Vol. 8 No. 1, pp. 23-32.
- Jolly, V.K., Alahuhta, M. and Jeannet, J.P. (1992), "Challenging the incumbents: how high technology start-ups compete globally", *Journal of Strategic Change*, Vol. 1 No. 2, pp. 71-82.
- Jones, M.V. (1999), "The internationalization of small UK high technology based firms", *Journal of International Marketing*, Vol. 7 No. 4, pp. 15-41.
- Jones, M.V. and Coviello, N.E. (2005), "Internationalization: conceptualising an entrepreneurial process of behavior in time", *Journal of International Business Studies*, Vol. 36 No. 3, pp. 284-303.
- Jones, M.V., Coviello, N.E. and Tang, Y.K. (2011), "International entrepreneurship research (1989-2009): a domain ontology and thematic analysis", *Journal of Business Venturing*, Vol. 26 No. 6, pp. 632-659.
- Kalinic, I., Sarasvathy, S.D. and Forza, C. (2014), "Expect the unexpected: implications of effectual logic on the internationalization process", *International Business Review*, Vol. 23 No. 3, pp. 635-647.
- Kenten, C. (2010), "Narrating oneself: reflections on the use of solicited diaries with diary interviews", *Forum: Qualitative Social Research*, Vol. 11 No. 2, Art. p. 16.
- Knight, G.A. (1997), "Emerging paradigm for international marketing: the born global firm", *Doctoral dissertation*, Department of Marketing and Supply Chain Management, MI State University, East Lansing, MI.
- Knight, G.A. and Cavusgil, S.T. (1996), "The born global firm: a challenge to traditional internationalization theory", in Cavusgil, S.T. (Ed.), *Advances of International Marketing*, JAI Press, Greenwich, CT, Vol. 8, pp. 11-26.
- Langley, A. (1999), "Strategies for theorizing from process data", *Academy of Management Review*, Vol. 24 No. 4, pp. 691-710.
- Langley, A. (2007), "Process thinking in strategic organization", *Strategic Organization*, Vol. 5 No. 3, pp. 271-282.
- Leonard-Barton, D. (1990), "A dual methodology for case studies: synergistic use of a longitudinal single site with replicated multiple sites", *Organization Science*, Vol. 1 No. 3, pp. 1-19.
- Liesch, P.W. and Knight, G.A. (1999), "Information internalization and hurdle rates in small and medium enterprise internationalization", *Journal of International Business Studies*, Vol. 30 No. 2, pp. 383-394.
- Lin, N., Cook, K. and Burt, R. (2001), *Social Capital*, Walter de Gruyter, NY, New York.
- Lincoln, Y.S. and Guba, E.G. (1985), *Naturalistic Inquiry*, SAGE Publications, London.
- Luostarinen, R.K. (1979), *Internationalization of the Firm*, Helsinki School of Economics, Helsinki.

- McDougall, P.P. and Oviatt, B.M. (2000), "International entrepreneurship: the intersection of two research paths", *Academy of Management Journal*, Vol. 43 No. 5, pp. 902-906.
- McDougall, P.P., Shane, S. and Oviatt, B.M. (1994), "Explaining the formation of international new ventures: the limits of theories from international business research", *Journal of Business Venturing*, Vol. 9 No. 6, pp. 469-487.
- Madsen, T.K. and Servais, P. (1997), "The internationalization of born globals: an evolutionary process?", *International Business Review*, Vol. 6 No. 6, pp. 561-583.
- Mathews, J.A. and Zander, I. (2007), "The international entrepreneurial dynamics of accelerated internationalization", *Journal of International Business Studies*, Vol. 38 No. 3, pp. 1-17.
- Nahapiet, J. and Ghoshal, S. (1998), "Social capital, intellectual capital, and the organizational advantage", *Academy of Management Review*, Vol. 23 No. 2, pp. 242-266.
- Orton, J.D. (1997), "From inductive to iterative grounded theory: zipping the gap between process theory and process data", *Scandinavian Journal of Management*, Vol. 13 No. 4, pp. 419-438.
- Oviatt, B.M. and McDougall, P.P. (1994), "Towards a theory of international new ventures", *Journal of International Business Studies*, Vol. 25 No. 1, pp. 45-64.
- Oviatt, B.M. and McDougall, P.P. (2005), "Defining international entrepreneurship and modeling the speed of internationalization", *Entrepreneurship Theory & Practice*, Vol. 29 No. 5, pp. 537-553.
- Penrose, E. (1959), *The Theory of the Growth of the Firm*, 4th ed., Oxford University Press, Oxford.
- Plowman, P.J. (2010), "The diary project: revealing the gendered organisation", *Qualitative Research in Organizations and Management: An International Journal*, Vol. 5 No. 1, pp. 28-46.
- Prashantham, S. (2005), "Toward a knowledge-based conceptualization of internationalization", *Journal of International Entrepreneurship*, Vol. 3 No. 1, pp. 37-52.
- Preece, S.B., Miles, G. and Baetz, M.C. (1999), "Explaining the international intensity and global diversity of early-stage technology based firms", *Journal of Business Venturing*, Vol. 14 No. 3, pp. 259-281.
- Qian, H. and Acs, Z.J. (2013), "An absorptive capacity of knowledge spillover entrepreneurship", *Small Business Economics*, Vol. 40 No. 2, pp. 185-199.
- Rennie, M.W. (1993), "Born global", *McKinsey Quarterly*, Vol. 4 No. 4, pp. 45-52.
- Reuber, A.R. and Fischer, E. (1997), "The influence of the management team's international experience on the internationalization behavior of SMEs", *Journal of International Business Studies*, Vol. 28 No. 4, pp. 807-825.
- Rialp, A., Rialp, J. and Knight, G.A. (2005), "The phenomenon of early internationalizing firms: what do we know after a decade (1993-2003) of scientific inquiry?", *International Business Review*, Vol. 14 No. 2, pp. 147-166.
- Sarasvathy, S.D. (2001), "Causation and effectuation: toward a theoretical shift from economic inevitability to entrepreneurial contingency", *Academy of Management Review*, Vol. 26 No. 2, pp. 243-288.
- Sarasvathy, S.D. and Dew, N. (2005), "New market creation through transformation", *Journal of Evolutionary Economics*, Vol. 15 No. 3, pp. 533-565.
- Sarasvathy, S.D., Dew, N., Read, S. and Wiltbank, R. (2008), "Designing organizations that design environments: lessons from entrepreneurial expertise", *Organization Studies*, Vol. 29 No. 3, pp. 331-350.

- Sarasvathy, S.D. and Venkataraman, S. (2011), "Entrepreneurship as method: open questions for an entrepreneurial future", *Entrepreneurship Theory & Practice*, Vol. 35 No. 1, pp. 113-135.
- Schwens, C. and Kabst, R. (2009), "How early opposed to late internationalizers learn: experience of others and paradigms of interpretation", *International Business Review*, Vol. 18 No. 5, pp. 509-522.
- Sharma, D.D. and Blomstermo, A. (2003), "The internationalization process of born globals: a network view", *International Business Review*, Vol. 12 No. 6, pp. 739-753.
- Shrader, R.C., Oviatt, B.M. and McDougall, P.P. (2000), "How new ventures exploit trade-offs among international risk factors: lessons for the accelerated internationalization of the 21st century", *Academy of Management Journal*, Vol. 43 No. 6, pp. 1227-1248.
- Simon, H.A. (1991), "Bounded rationality and organizational learning", *Organization Science*, Vol. 2 No. 1, pp. 125-134.
- Stinchcombe, A.L. (1965), "Social structure and organizations", in March, J.G. (Ed.), *Handbook of Organizations*, Rand McNally, Chicago, IL, pp. 149-193.
- Symon, G. (1998), "Qualitative research diaries", in Symon, G. and Cassell, C. (Eds), *Qualitative Methods and Analysis in Organisational Research: A Practical Guide*, SAGE Publications, London, pp. 94-117.
- Tolstoy, D. (2009), "Knowledge combination and knowledge creation in a foreign-market network", *Journal of Small Business Management*, Vol. 47 No. 2, pp. 202-220.
- Tura, T. and Harmaakorpi, V. (2005), "Social capital in building regional innovative capability", *Regional Studies*, Vol. 39 No. 8, pp. 1111-1125.
- Uzzi, B. (1997), "Social structure and competition in interfirm networks: the paradox of embeddedness", *Administrative Science Quarterly*, Vol. 42 No. 1, pp. 35-67.
- Van de Ven, A.H. (1992), "Suggestions for studying strategy process: a research note", *Strategic Management Journal*, Vol. 13 No. S1, pp. 169-188.
- Van de Ven, A.H. and Engleman, R.M. (2004), "Event- and outcome-driven explanations of entrepreneurship", *Journal of Business Venturing*, Vol. 19 No. 3, pp. 343-358.
- Welch, C. and Paavilainen-Mäntymäki, E. (2013), "Putting process (back) in: research on the internationalization process of the firm", *International Journal of Management Reviews*, Vol. 16 No. 1, pp. 2-23.
- Yin, R. (2003), *Case Study Research: Design and Methods*, 3rd ed., SAGE Publications, Thousand Oaks, CA.
- Yli-Renko, H., Autio, E. and Sapienza, H.J. (2001), "Social capital, knowledge acquisition, and knowledge exploitation in young technology-based firms", *Strategic Management Journal*, Vol. 22 Nos 6/7, pp. 587-613.
- Yli-Renko, H., Autio, E. and Tontti, V. (2002), "Social capital, knowledge and the international growth of technology-based new firms", *International Business Review*, Vol. 11 No. 3, pp. 279-304.
- Zahra, S. and George, G. (2002), "International entrepreneurship: the current status of the field and future research agenda", in Hitt, M., Ireland, D., Sexton, D. and Camp, M. (Eds), *Strategic Entrepreneurship: Creating an Integrated Mindset*, Blackwell, Oxford, pp. 255-288.
- Zahra, S.A. and Hayton, J.C. (2008), "The effect of international venturing on firm performance: the moderating influence of absorptive capacity", *Journal of Business Venturing*, Vol. 23 No. 2, pp. 195-220.
- Zahra, S., Matherne, B. and Carleton, J. (2003), "Technological resource leveraging and the internationalisation of new ventures", *Journal of International Entrepreneurship*, Vol. 1 No. 2, pp. 163-186.

About the authors

Sascha Fuerst is an Associate Professor in the Department of International Business at the Universidad EAFIT in Medellin, Colombia, where he teaches international entrepreneurship in the Master of International Business program (MIB). His research focuses on the internationalization process of new ventures applying qualitative process research. Sascha has written and published about small firm internationalization within the context of global value chains and international marketing. He is the former Head of the International Business Department and past Coordinator of the MIB program at the Universidad EAFIT. Sascha Fuerst is the corresponding author and can be contacted at: sfuerst@eafit.edu.co

Peter Zettinig is a University Research Fellow at the University of Turku, School of Economics, Finland, where he teaches international business-related courses in master's degree and executive and doctoral programs. Before that, Peter has been Senior Lecturer at Victoria University of Wellington in New Zealand, where he was Program Director for the international business undergraduate programs. His research interests revolve around one major fascination, how change unfolds in different contexts of international business. His work has been published in different outlets, for instance *European Management Journal*, *Journal of Teaching in International Business*, *Thunderbird International Business Review* and *International Journal of Cross Cultural Management*.

For instructions on how to order reprints of this article, please visit our website:

www.emeraldgroupublishing.com/licensing/reprints.htm

Or contact us for further details: permissions@emeraldinsight.com