J Int Entrep (2010) 8:343–370
DOI 10.1007/s10843-010-0064-8

Internationalization as an entrepreneurial process

Roger Schweizer · Jan-Erik Vahlne · Jan Johanson

Published online: 25 May 2010

Abstract When firms cross borders it is, by definition, internationalization. We believe that often internationalization should be seen as either a by-product of a firm's efforts to improve its position within its network or networks, or as the result of an entrepreneurial action. We consider three theoretical approaches as a starting point and breathe life into them with a rich case study. We suggest adjustments to Johanson and Vahlne's business network internationalization process model, an update of the Uppsala internationalization process model, to emphasize the entrepreneurial aspects of the process.

Keywords Internationalization · Entrepreneurial process · Uncertainty · Effectuation

Introduction

Most international business studies have implicitly regarded the internationalization process of the firm, i.e., *"the process of increasing involvement in international markets"* (Welch and Luostarinen, p.36), as the outcome of intensions to expand internationally and consequent efforts to do so. The tendency to see international-

The authors wish to thank JIEN's reviewers and Hamid Etemad, the editor, for their helpful suggestions on this article. We are grateful to The Swedish Research Council for funding this project. We thank Jan Smith for his generous cooperation.

R. Schweizer (✉) · J.-E. Vahlne
Department of Business Administration, School of Business, Economics and Law,
University of Gothenburg, P.O. Box 610, 405 30 Göteborg, Sweden
e-mail: Roger.Schweizer@handels.gu.se

J.-E. Vahlne
e-mail: Jan-Erik.Vahlne@handels.gu.se

J. Johanson
Department of Business Studies, Uppsala University, P.O. Box 513, 75120, Uppsala, Sweden
e-mail: Jan.Johanson@fek.uu.se

ization in this way is more explicit in international entrepreneurship studies that challenge traditional internationalization theory and stress efforts to rapidly internationalize firms (e.g., Oviatt and McDougall 1994; Jones and Coviello 2005). Frequently, this literature emphasizes the role of cooperative strategies, alliances, and networks in early steps abroad. However, the assumption that a firm's network is important to its international expansion implies that other firms are also engaged in networks, and that international market environments and, of course domestic ones as well, are also networks, and that they too link firms to each other to some extent.

Johanson and Vahlne (2009) discuss this trend in an article pointedly subtitled "*From liability of foreignness to liability of outsidership,*" in which they revisit their original Uppsala internationalization process model published in 1977. They posit that internationalization is best understood as a by-product of a firm's efforts to improve its position in its network or networks. Drawing on a business network view (e.g., Coviello and Munro 1995, 1997; Håkansson 1982; Hägg and Johanson 1982; Scott 1993), Johanson and Vahlne (2009) argue that the challenges faced by firms involved in international ventures and also the possibilities that they may enjoy are less a matter of country specificity than of relationship specificity. Rather provocatively, they write that the difficulties and rewards associated with foreign market entry are very much the same as those associated with domestic market entry. As they see it: "*markets are networks of relationships in which firms are linked to each other in various, complex and, to a considerable extent, invisible patterns. Hence insidership in relevant network(s) is necessary for successful internationalization*" (ibid., p.1411).They point out further that relationships not only offer firms an opportunity to learn, but also to build trust and commitment, essential prerequisites for internationalization (ibid.).

Purpose of the paper

The discussion by Johanson and Vahlne (2009) that we summarize above is at a conceptual level. We attempt in this paper to confirm the validity of Johanson and Vahlne's business network internationalization process model (2009) by confronting it with empirical reality, and in doing so we develop an entrepreneurial process model. Accordingly, as we will discuss in detail in a section devoted to our methodology, we employ an abductive research process and an in-depth case study that examines one manager's concerted efforts to improve his company's performance by identifying and developing business opportunities. In particular, we follow how that manager became aware of one specific business opportunity, how he shepherded his resources, and eventually increased the international involvement of his firm. In sum, our aim is to establish the empirical validity and thereby further develop the proposed model of Johanson and Vahlne (2009). Thus, we contribute to the literature on firm internationalization processes in general and to a more recent stream of research that sees such processes as a by-product of the attempts of managers and entrepreneurs to identify and develop business opportunities in their networks. It is important to note is that our final model, which emphasizes the entrepreneurial nature of the internationalization process, is developed and refined through continuous interaction between the theoretical framework and our empirical data (i.e., the case study). Thus, our model has been developed through a combined process of abstraction and analytical generalization (Yin 1994).

The structure of the paper

We have structured this paper to match as closely as possible our actual research process (for a comprehensive discussion about the difficulties of presenting the results of an abductive journey, see Dubois (1994) and Schweizer (2005)). Thus, the literature review section that follows starts with an outline of Johanson and Vahlne's business network internationalization process model (2009), our research point of departure. In the remaining parts of the section, we include theories and studies that we did not initially see as germinal, but that we realized as we progressed are indeed critical; i.e., (1) studies on entrepreneurship and opportunity identification and development (e.g., Ardichvili et al. 2003); (2) studies on effectuation by Sarasvathy and colleagues (e.g., Dew and Sarasvathy 2002; Sarasvathy 2001); and (3) the literature on dynamic capabilities (e.g., Sapienza et al. 2006). After the literature review, we discuss methodology, and then present the case study. Thereafter, we present the findings of various abductive iterations. We use these reflections to develop Johanson and Vahlne's (2009) business network internationalization process model, highlighting its entrepreneurial nature.

Literature review

The business network internationalization process model

The firm context of Johanson and Vahlne's revised model (2009) is a network environment with the focal firm at the center of a web of simultaneously enabling and constraining relationships. Thus, the focal firm has some access to the resources provided by various actors in the network while the firm's partners enjoy the same access. Hence, the firm and its partners are mutually dependent. On the whole, these relationships must be beneficial to the participants in the dyadic relationships otherwise they would look to form other relationships. Decision makers are characterized by bounded rationality and behave in accordance with Cyert and March's (1963) theory of the firm, i.e., they conduct search and evaluation of alternatives one at a time. Thus, partners act to improve or defend existing relationships.

As we show in Fig. 1, there are two types of variables in Johanson and Vahlne's model (2009): state and change, each of which consists of two categories. The variables affect each other, thus the model is dynamic. The first state variable category is knowledge, especially of opportunities, but also of the capabilities and resources of other actors. The more knowledge firms have about each other, the closer their relationship. It follows that a substantial part of that knowledge is unavailable to actors remote from the focal firm. This implies that opportunities are

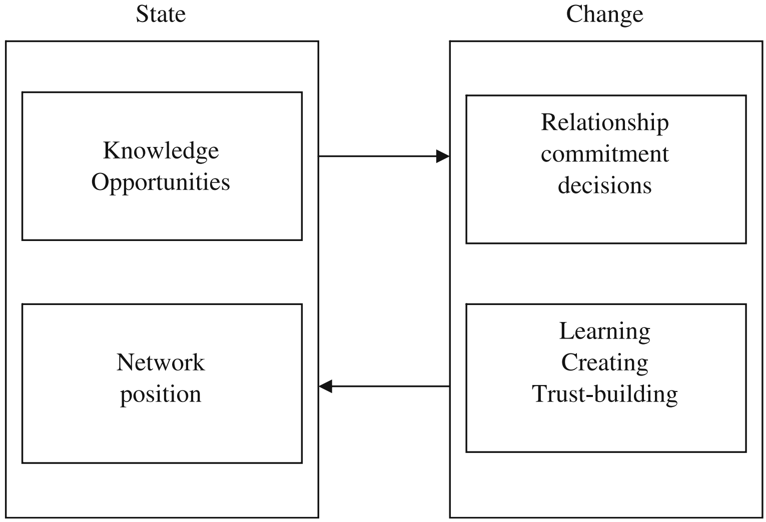

Fig. 1 The business network internationalization process model (Johanson and Vahlne 2009:1424)

visible only to a limited number of actors. The second state variable category is the network position. A focal firm with a good network position enjoys a beneficial exchange with its partners.

One of the two change categories is learning, creating, and trust building. Individuals engage in such actions the results of which are made available as resources to the firms on both sides of a relationship, although not necessarily symmetrically. The other change variable category is relationship-commitment decisions, that is, to increase or decreases the level of commitment vis-à-vis a (potential) partner. It is through these decisions that a firm establishes itself in a network. Primarily, a focal firm makes a commitment change because of the first state variable, for example, when it learns that an actor on the other side of the relationship is either unable or unwilling to cooperate as desired.

In the Johanson and Vahlne model, internationalization is seen as the result of opportunity-seeking efforts made by the focal firm in order to improve or defend its position in a network or networks. In their model, such efforts relate in some way to one or more partners, so that, as they put it, *what happens, happens in relationships*. Taking a simple example, a company across an international border signals to another that it wants to do business. If they do business, the result is called internationalization.

Business opportunity identification and development

Ardichvili et al. (2003) note that while much of the early literature on entrepreneurship implicitly assumes that recognition of an opportunity is preceded by a systematic search increasingly authors argue that individuals do not search for opportunities, but recognize the value of new information and ideas as they come upon them by chance (e.g., Koller 1988). Ardichvili et al. (2003) point out that such *accidental* discovery may result from heightened entrepreneurial alertness, that is that the entrepreneur has experiences in a *passive search mode* and in that mode she or he is receptive to, although not engaged in, a formal, systematic search process. Nonetheless, we agree with Kirzner (1973) and Shane (2000) that accidental discovery should not be confused with lucky discovery. Kirzner (1973) argues that opportunities exist in the market; they arise because markets are never in equilibrium. Hence, opportunity recognition results from the discovery of the hitherto unknown, from entrepreneurial alertness, and from a readiness to be surprised. This view of accidental discovery also implies that opportunity recognition is associated with a firm's current business activities rather than with specific opportunity-seeking activities (Johanson and Vahlne 2009). According to the Schumpeter (1942) school of thought, opportunities are created by entrepreneurs. In our view, while entrepreneurs do create opportunities, they are still the outcome of previous learning.

In their three-stage model on entrepreneurial opportunity identification and development from perception to discovery to creation, Ardichvili et al. (2003, p. 113) define entrepreneurial alertness as *"a propensity to notice and be sensitive to information about objects, incidents, and patterns of behavior in the environment, with special sensitivity to maker and user problems, unmet needs and interests, and novel combinations of resources."* They argue that opportunities are identified by some individuals and not by others because of personality differences related to optimism, self-efficacy, and creativity, and because of differences in background and experience, and the amount and type of information they possess about a particular opportunity. Each person's idiosyncratic prior knowledge of markets, of the marketing process, and of customer problems creates a *knowledge corridor* that allows her or him to recognize certain opportunities. According to Ardichvili et al., entrepreneurial knowledge can be divided into two domains: knowledge related to special interests, fascinations, and sense of fun; and knowledge accumulated from work experience. They also highlight the importance of social networks arguing that entrepreneurs who have extended networks identify significantly more opportunities than solo entrepreneurs.

Effectuation

Sarasvathy's (2001) effectuation process perspective on entrepreneurial behavior is of interest for our study on internationalization as a by-product of a firm's efforts to improve its position in its network or networks. While Sarasvathy focuses on the decision-making processes of entrepreneurs during the creation of new firms, she also implies that the general theory of effectuation can be applied to entrepreneurs and entrepreneurial managers working to improve operations, whether through growth or greater efficiency. Sarasvathy notes that the economics and management literature sees processes related to business ventures as causation processes, where a particular effect is taken as a given and the focus is on selecting among various means that will bring about that effect. We see the same emphasis on causation in the entrepreneurship and internationalization literature. As Sarasvathy convincingly argues, this is a picture that is far from the real experience of entrepreneurs. She therefore proposes a shift from causation to effectuation, that is, a shift from economic inevitability to entrepreneurial contingency. Sarasvathy (ibid., p. 245) states: "*Effectuation processes take a set of means as given and focus on selecting between possible effects that can be created with that set of means.*" In other words, the logic behind effectuation is that if you can control the future, you do not need to predict it (Dew and Sarasvathy 2002). Effectuation rationality lies in exercising control over what *can* be done with available resources, rather than optimizing decisions about what *ought* to be done given a set of predictions about what will happen next.

Dew and Sarasvathy (2002) advance at least three reasons why effectuation converts uncertainty into opportunity. First, the decision maker focuses on affordable loss, rather than on expected return. This makes uncertainty irrelevant as the decision maker need focus only on controlling downside scenarios. Second, rather than attempting to guess the nature of a future business venture using predictive, competitive analyses of pre-commitments to potential partners (e.g., venture capitalists, suppliers, research units, governmental agencies, or customers), entrepreneurs and managers use selected images of their partners in order to create or develop a business venture. Finally, with only a very vague idea of the desired goals, the decision maker can leverage uncertainty by treating the arrival of contingencies as an opportunity to exercise control over any emerging situation. They then can use contingent information incrementally as a resource for constructing goals, in other words, they swim with the tide (ibid). In short, uncertainty becomes an advantage rather than an obstacle when creating or developing business ventures.

Sarasvathy (2001) does not posit effectuation processes as *better* or *more efficient* than causation processes. The use of any process is very much dependent on the particular situation. According to Dew and Sarasvathy (2002), effectuation is a method for solving problems in situations characterized by Knightian uncertainty (Knight 1921), Marchian goal ambiguity (March 1982), and Weickian enactment (Weick 1979). In such situations, decision makers do not have predictability, goals, or an independent environment. In our view, this process describes entrepreneurial actions taken to identify and develop business opportunities, as well as to internationalize. Dew and Sarasvathy (2002) also note that it is likely that effectuation is a less expensive way to bring products to market as unlike in the case of predictive rationality information produced by entrepreneurial action can be used to make decisions. As a consequence, entrepreneurs who fail when using effectuation processes, do so sooner and with fewer resources invested than those who use predictive rationality.

Like Ardichvili et al. (2003), Sarasvathy highlights the unique role of the decision maker in solving problems. Sarasvathy writes: *"Characteristics of decision makers, such as who they are, what they know, and whom they know, form the primary set of means that combine with contingencies to create an effect that is not preselected but that gets constructed as an integral part of the effectuation process"* (2001, p. 249). Dew and Sarasvathy (2002) state that these characteristics are the individual agent's identity, including value systems, beliefs, intentions, and aspirations, knowledge base, and social network. Hence, as they explain, an effectuation process is very actor-dependent since effectuation begins with an agent or decision maker. The individual agent negotiates with partners, while remaining open to contingencies, and possibilities. Every commitment both enables as well as restricts future actions. Thus, the key to understanding the effectuation decision process is in recognizing that entrepreneurs have resource dependencies, but that they are able to develop an understanding of opportunities that resource providers seek, especially, as Ventkatamaran (1997) observes, when information asymmetries exist.

Dynamic capabilities

The literature that uses dynamic capabilities to explain the internationalization of firms (e.g., Sapienza et al. 2006) is also relevant to this study. Eisenhardt and Martin (2000) define dynamic capabilities as firm strategic and organizational processes that create value within dynamic markets by manipulating resources into new value-creating strategies. Sapienza et al. (2006) write that dynamic capabilities reflect a firm's capacity to reconfigure its innate capabilities in order to adapt to its environment. Dynamic capabilities reveal how the constraints that entrepreneurs face and the possibilities that they perceive for possible effects result in dramatic changes in their attempts to exploit an opportunity. More recent literature also suggests that dynamic capabilities are organizational processes and mechanisms that integrate, build, and reconfigure critical resources and capabilities, enabling the firm to adapt to its changing strategic needs (Festing and Eidems 2007). For example, Saad (2007) argues that to study the internationalization process without considering organizational processes and routines is an overly simplistic exercise since the creation and coordination of new knowledge, routines and resources, and decision-making processes inside the organization are crucial to its internationalization process. Moreover, the dynamic capability perspective, which has evolved from the static resource-based view of competitive strategy (Priem and Butler 2001), helps to explain how firms modify and adapt resources to internationalize (Saad 2007).

Using Saad's (2007) discussion as inspiration, we argue that a dynamic capability perspective adds a new dimension to the internationalization literature. For example, firms may not follow a certain internationalization pattern because of sticky resources. Conversely, internationalization may occur precisely because of sticky resources and/or the lack of dynamic capabilities. Furthermore, the dynamic capability perspective enriches the internationalization literature with its focus on the internal processes of the organization and its consideration of the interplay between organizational processes and the resources created by a firm's network and the entrepreneur or entrepreneurial manager.

Methodology

We employ in this study the kind of abductive approach that Denzin (1978, p. 110) describes as one that *"combines the deductive and inductive models of proposition development and theory construction."* The final model that we propose is the result of successive interaction between relevant theoretical frameworks and the empirical evidence of our case study which, using Stake's terminology (1994), is an instrumental case study that provides insight into an issue and helps refine a theory. The resultant model may be tested with measurable constructs and falsifiable propositions. Thus, the model that we propose offers a good platform for further research (cf. Dubois and Gadde 2002).

As we wrote previously, we began our abductive journey with the business network internationalization process model proposed by Johanson and Vahlne (2009). Our next step was to identify an instrumental case study. We chose Abigo Medical AB (Abigo) using convenience sampling (Merriam 1998). We note that we had had prior contact with Jan Smith, the Chairman of the Board of Abigo. Once we had decided on Abigo, we decided that our special focus would be the Biosurface story using theoretical sampling (ibid.).

We began our data collection by interviewing Jan Smith. We specifically asked him to share his experiences with internationalizing his companies. We recorded the interview and later transcribed it. Smith's story of the Biosurface Company is of particular interest as in some respects it coincided with our initial understanding of firm internationalization based on the model of Johanson and Vahlne (2009). However, what we learned about the acquisition and subsequent sale of Biosurface also raised many questions. In our second interview with Smith, which we also recorded and then transcribed, we went still further into the Biosurface story putting to Smith the questions that the first interview had raised. Combining the data from the two interviews with secondary data from public sources, we wrote an empirical case story on Biosurface.

Using abductive reasoning, we confronted the model of Johanson and Vahlne (2009) with the Biosurface story. While certain ideas expressed by the model were confirmed, others were challenged. Furthermore, we identified unexpected issues, which in turn lead us to an additional search for relevant studies (e.g., on effectuation, dynamic capabilities, and business identification and development). We proceeded with this iteration between the empirical data and applicable theory until we found a fit between the case story and what was to become our proposed model.

To maintain a high degree of research quality in our study, we followed Eisenhardt's prescription (1989, p. 548) that "[...] *a strong theory-building study yields good theory, which emerges at the end, not at the beginning, of the study."* Furthermore, we strove for *logical coherency* by thoroughly reporting our data, as well as by providing information on how we chose the case, and how we collected and analyzed the data, so that the research procedure and its results could be evaluated (cf. Eisenhardt 1989).

Following Merriam's (1998) advice, we enhanced the internal validity of our study by (1) triangulating to confirm the emerging findings; (2) returning repeatedly to our source Jan Smith with our data and tentative interpretations and by questioning others on the plausibility of the results; (3) discussing the emerging findings with our peers; and (4) refining the assumptions and theoretical orientation with which we began the study. We agree with Merriam (1998) who argues that reliability, a measure frequently used by others to assess research quality, is less applicable to qualitative research. The important question is not whether the results of research can be replicated, but whether such results are consistent with the data collected. With Merriam's statement on consistency as a guide, we worked toward consistency in our research by explaining (1) our study's assumptions and theory, (2) our position vis-à-vis the research object, (3) our reasons for the selection of the evidence we present, (4) the social context of our data, and (5) our use of multiple methods of data collection.

In the following section, we share the experience of Jan Smith, an entrepreneur, and the part owner and Chairman of the Board of a medium-sized Swedish pharmaceutical company, Abigo. Our study describes Smith's attempts to exploit a business opportunity he discovered and implemented, Biosurface/Decapinol, leading eventually and unexpectedly through the emergence of yet another opportunity, i.e., the sale to Sinclair Pharmaceuticals Ltd. (henceforth Sinclair), to the internationalization of the original project. Due to our aspiration for consistency, we deliberately have chosen to present a very broad and detailed case description, as well as to structure the case in a way that allows the reader to follow the process as described by how the entrepreneur experienced it. Whereas we are aware of the possibility that we might thereby challenge the reader's patience, the structure that we have chosen helps us to stress our view that internationalization should be viewed as an outcome of efforts undertaken by managers to improve their company's operations, investments, and network position. Therefore, we need a detailed portrayal of Jan Smith. Finally, an anonymous reviewer of an earlier version of this article pointed out, the case is about the acquisition of Biosurface and the eventual sale of Biosurface to a foreign firm, and that discarding a non-performing division to a firm located in another country is not an act of internationalization per se. Nonetheless, along with Johanson and Vahlne (2009), we see several facets of internationalization in this case, which of course is why we chose it. Obviously, Sinclair itself became internationalized when it acquired Biosurface and subsequently became increasingly involved in international markets. Furthermore, the deal resulted in access to a new international network for Abigo in that Abigo continued to conduct business activities with Sinclair after the sale of Biosurface, indeed Jan Smith became a member of the board of Sinclair.

The case study

In line with the discussion above, we begin with a description of Jan Smith, the Chairman of the Board of Abigo, and the firm Abigo. We continue with a description of Biosurface, originally a wholly owned subsidiary of Pharmacia Biotech (Pharmacia), then Decapinol which is a product for the treatment of gingivitis, and Abigo's acquisition of Biosurface in 1996. We tell the story of Biosurface from 1996 to 2002, concluding with Abigo's sale of Biosurface to Sinclair.

Jan Smith

Jan Smith, a Swede, worked in international sales for DuPont in Canada for 10 years. His brother, Leif Smith, worked in the financial industry in the US. The death of a near relative brought the two brothers back to Sweden where both of them began to work for Volvo AB (Volvo) in Gothenburg, Sweden. Jan Smith's position was in international business and Leif Smith's in finance. Despite some initial doubts about working for another large, multinational company, Jan Smith enjoyed what he was doing at Volvo, a company well-known for a high degree of decentralization. An acquaintance of the Smiths who is a physician who had worked with Hässle, a Swedish pharmaceutical company, encouraged the Smith brothers to found their own pharmaceutical company. They did so, devoting their spare time to running it. Jan Smith describes the early days: *"We did not know so much about pharmaceuticals, but the substance in the area of nutrition that Hässle had looked at and rejected was promising and so we became interested. Eventually, we decided to go for it. We then asked a company in Gothenburg if they could develop a formulation from the substance. They could, and we let them manufacture the product. Thereafter, we contacted a company that worked with marketing and sales in the pharmaceutical industry. We were pioneers in this business and we were lucky to get a positive article in the local newspaper. Then, almost overnight, sales exploded."* Eventually, both brothers left Volvo in order to work full-time on their pharmaceutical company, developing more and more advanced formulations in the company's own laboratory. At its peak, they employed 38 people. In 1989, the Smiths sold the company to the Wallenberg Group. Shortly afterward, the brothers founded Abigo.

In 1987, Jan Smith and others founded a trade association (acronym IML) for small and medium-sized pharmaceutical companies active in R&D. Smith was the first IML Chairman of the Board. The aims of the association are (1) to ensure that small and medium-sized pharmaceutical companies have an optimal environment in which to grow; (2) to stimulate cooperation between member companies; and (3) to offer member companies good information and service. Smith also joined the board of the trade association for the Swedish pharmaceutical industry (acronym LIF) where he served alongside individuals from large and powerful Swedish pharmaceutical companies such as Pharmacia and Astra.

In general, Smith believes in the value of networks in finding business opportunities and in conducting business. However, he argues: *"Once the opportunity appears, you need to take it. You need to have the right feeling and you need to be able to act quickly and resolutely."* In fact, Smith actively works at creating networks. He recognized while in talks with Sinclair about the acquisition of Bioscope (see below), that it would be beneficial if he were to become a Sinclair board member because that would give him *"a platform to make new contacts."* While he believes that everything is built on relationships in business, he maintains that relationships and a good network are not enough: *"There are people who have no vision at all. Some people with a good network—they just talk and talk. There could be the best possible business opportunities right in front of their noses, but they just don't see them. It is very important to have a certain degree of fantasy and creativity, and maybe also experience, of course, in order to see opportunities. You also need to be generous and to return a favor when required. We are always very generous and tell our business partners that we will remember them. They know that we will be there for them, and of course we expect them to do the same for us. I really can't work with people who just want more and more."* Smith also strongly believes that it takes time to build a successful and long-term business relationship and that for a business deal to work, everyone's interests must be satisfied. As he puts it: "*Win-win in a business deal is so damned important. It is the same when you negotiate the terms of a contract. I get so tired of people who are just looking out for themselves and their own gain. You never succeed in negotiating with such people. You need to be open and to give and take. It is important to be able to picture yourself in others' situations. You can't just blindly stare at your own situation ... It is crucial that you have respect for others."*

In addition to the networks that Smith built through LIF, IML, and other company boards, he is very active in the European association for small and medium-sized pharmaceutical companies (acronym Europharm SMC) that attempts to foster new business relationships and opportunities. The association regularly disseminates specialized information and attempts to match persons who have promising new ideas and pending business proposals with others who are in a position to develop businesses. It also organizes and facilitates business partnering sessions at its annual meeting that give members a chance to explore ideas one-on-one. Smith served as the Chairman of the Board for 2 years and then became its Vice President. Some of Abigo's various business initiatives originated because of his connection with this association. Smith's involvement in such organizations seems set to continue. As late as the autumn of 2008, he took on the presidency of the European Confederation of Pharmaceutical Entrepreneurs (acronym AISBL).

Trust developed through personal relationships is essential for Smith. He argues that personal chemistry between human beings is of the utmost importance in both business and life in general. He elaborates on the human element in saying: *"You also try to get a feeling for what type of people the potential business partners are. This is important. You need to have good intuition and good knowledge of human nature. You need to know the people you do business with. You immediately feel that you cannot do business with some people. All business is indeed personal."* He also emphasizes the importance of being aware of cultural differences in international business as such differences may lead to mistrust. He believes, in this respect, that his multi-cultural and multi-national work experience in Canada has given him a significant business advantage.

Moreover, Smith believes success in business depends on persistence and confidence. He expresses his sentiments on the topic by saying: "*It is important that you work with a long-term perspective. You should not accept only the obvious, easy solution, which I would say is usually money. In general, one should be suspicious of people who are looking for easy money. It is important to be persistent and to have long-term objectives."* Furthermore, as he argues: *"You need to believe you are capable of solving problems. First, you need to decide 'Yes, I can do this,' and then you need to find solutions for the inevitable problems. You cannot walk around muttering 'No, this will not work.' You need to trust that you can find solutions ... Of course, you need to make judicious decisions; you can't act naively. However, it is essential to believe in your idea."*

Smith summarizes his business outlook as being strongly based on personal relationships and networks, complemented by a willingness to take reasonable risks and a readiness to make disciplined decisions. He concludes: *"I have the ability to see opportunities. It is important to be a visionary and to be unafraid to grasp opportunities. It is very easy to see what you can't do. However, it is more important to focus on what you can do."* He recognizes that there will be setbacks in saying: "*In order to find gold, you must find a lot of sand first."*

Abigo Medical AB

Abigo, a rapidly growing, speciality pharmaceutical company, was founded in Gothenburg Sweden in 1989 by brothers Jan and Lief Smith. It remains today a family-owned business. Its subsidiaries now include Abigo AS, DHE, and Sylak (a wholly owned subsidiary dealing in licensed dermatology products). At its founding, the Smith brothers saw that the growth strategy of mergers and acquisitions in large pharmaceutical companies created space and opportunity for smaller, more specialized companies in niche markets within the industry. Abigo's success is in large part attributable to the exploitation of such a niche.

One Abigo competitive advantage is the ability of the Smiths to recognize areas of particular potential, whatever the medical field, so long as it provides solutions to human health problems. A second advantage is the company's extensive international network in the medical field. In addition to Jan Smith's involvement in national and international pharmaceutical industry organizations, Abigo works closely with various research institutes and independent researchers around the world.

According to an Abigo brochure, the company objectives include maintaining its current entrepreneurial structure and its network of research organizations and academic partnerships:

> *"Through good contacts and by listening carefully to the market, we receive continual information on interesting R&D projects. As a small company, with a flat structure and quick decision-making, we can identify emerging opportunities at an early stage and help develop them further."* Furthermore, "*entrepreneurship breeds creativity and the ability to see opportunities where other people see problems … For Abigo this means that we can take advantage of the flexibility that comes from our size and also work together with other companies … Our enthusiasm and commitment allow us to establish partnerships without creating a totality and dominance that suffocates the vitality and ambition of our partners... Our extensive, worldwide network of contacts both inspires us in our research and connects us to much-needed capacity for the continued research and development of products*."

Abigo has the following prescription products in its portfolio: Fluress (simultaneously an anesthesia and medical contrast medium used in applanation tonometry); Idotrim (an antibacterial agent for the treatment of urinary tract infection); Tiotil (used in the treatment of thyreotoxicosis); and Valerecen (a mild sedative/tranquilizer). Abigo also makes many over-the-counter drugs, including: Kalcidon (for osteoporosis); Relaxit (for temporary constipation); Sorbact (for unclean, contaminated, and infected wounds); and Mezinc (a zinc-medicated dressing). The over-the-counter drugs also include a wide range of vitamin supplements for both adults and children. Abigo also sells Otovent (medical balloons for the treatment of negative pressure in the middle ear) in more than 20 countries. Except for Sorbact (a medical device), all of the products that are available only by subscription are registered and available only at pharmacies. Whereas some of Abigo's products (e.g., Sorbact) are produced in-house, others are produced under contract. Since its founding, Abigo has shown an impressive average yearly growth rate of 25%, although the growth rate was lower when Abigo owned Biosurface. The growth rate for 2006 was 45% with sales of around 60-70 million Swedish crowns (SEK; roughly 8.5-9.5 million US dollars; USD).

History of Biosurface and Decapinol

The active molecule in Decapinol was developed by researchers at the Institution for Odontology at Malmö University working along with researchers at Ferrosan, a Scandinavian-based international pharmaceutical company. LEO Pharma AB, a Swedish pharmaceutical company with roots in Denmark, worked with that molecule and came up with the product Decapinol for the treatment of gingivitis. Pharmacia, another Swedish pharmaceutical company, acquired LEO in 1986, and formed in 1987 Biosurface to continue work on Decapinol.

Pharmacia believed that Decapinol, which is specifically active against pathogenic bacteria, could have medical advantages in the treatment of dental bacteria that its competitor product, Klorhexidin, lacked. Decapinol works at the interface between dental plaque bacteria and the surface of the teeth and gums, reducing the adherence of bacterial plaque to oral surfaces and also of bacteria to each other. With no other competitive product in a market where 10% of adults are likely to require treatment for gingivitis, Decapinol appeared to have considerable market potential. Furthermore, Decapinol was protected by several patents. However, despite its market potential and the support of Pharmacia's CEO, Decapinol did not fit into Pharmacia Upjohn's products portfolio after the 1995 Pharmacia-Upjohn merger, and the decision was made to sell Biosurface. According to Jan Smith, risk-averse staff at the larger pharmaceutical companies lacked the vision to see Decapinol's potential.

Early efforts by Merrill Lynch to find a buyer for Biosurface were not successful. Abigo and a group of investors acquired the company in 1996 when the Decapinol project was in a late clinical testing stage. The purchase price was significantly lower than Merrill Lynch had been asking. Abigo and its partners agreed to make future payments to Pharmacia Upjohn if Decapinol achieved certain predetermined targets, for example, registration and specific sales figures.

The acquisition of Biosurface

Jan Smith learned that Pharmacia Upjohn was looking for a buyer for Biosurface through a combination of his LIF Board contacts and his many diverse networks. Even a Pharmacia Upjohn vice president whom he knew suggested that Decapinol would be an interesting product for Abigo. As that Pharmacia Upjohn contact reportedly said, *if someone can succeed, then it is Abigo*. This assessment on the part of a personal acquaintance increased Smith's interest in Decapinol and eventually led to his decision to buy Biosurface from Pharmacia Upjohn. As Smith explains: *"The product obviously had an exciting international market potential. It was new and had a relatively unthreatened position. Indeed, despite the fact that the product has now existed for almost 30 years, no new molecule with similar abilities to treat gingivitis has been found. It was a unique opportunity to acquire a completely new pharmaceutical molecule. We could never have been able to develop such a molecule ourselves. Remember, Pharmacia had invested 600-700 million SEK (83.5-97.5 million USD). I felt that the whole thing was damned interesting; however, I knew also that it would be difficult. Then again, I did not foresee that it would be such a difficult journey as it turned out to be. I have to admit this. However, you* *need to believe in what you are doing, and you need to be tough and stubborn and not give up."* With Decapinol, Abigo would acquire its first unregistered molecule product. Abigo had little experience in conducting and managing major clinical tests, but Smith was undeterred. He recalls: *"This did not frighten me as there is so much good competence out there."*

Pharmacia Upjohn was clear about its intention to sell the entire Biosurface Company, not merely to sell or license the rights and patents for Decapinol. This was understandable because other than the Decapinol project Biosurface was engaged in only small and preliminary research projects. Moreover, the sale of Biosurface would be fairly uncomplicated, not requiring a thorough due diligence, since Biosurface was a wholly owned research unit of Pharmacia Upjohn. The personnel and specialized facilities would remain with Pharmacia Upjohn.

An important issue, of course, was financing. As Abigo lacked the financial resources to acquire Biosurface alone, it looked for partners. According to Smith, finding seed money and venture capital in Sweden is difficult. There is little venture capital available and potential investors are often almost indifferent to investment propositions. Nonetheless, Abigo found two partners willing to invest in Biosurface; TUAB, a venture capital unit in the ATLE group that specializes in IT and technology investments, and Startinvest, an investment unit owned by ALMI. Nevertheless, despite sharing the risk, the Biosurface acquisition was still a huge and very bold investment for a company of Abigo's size. Smith summarizes his attitude on taking risks with the adage, *Scared boys never kiss pretty girls!* In the spring of 1996, Abigo and the other investors acquired the Biosurface name and the patents and other rights for Decapinol. In addition, they purchased Pharmacia Upjohn laboratory equipment and hired its R&D manager whom Smith had met during purchase discussions and with whom he had spoken about Decapinol's potential side effects and other issues.

Biosurface from 1996 to 2002

By the time the acquisition was finalized in September 1996, the clinical tests for Decapinol had been concluded. The product still had to be approved by the Swedish Medical Products Agency, a time-consuming, complicated, and delicate task, not least because the slightest potential problem may cause the Agency to reject the application. At that time, Abigo had little experience in registering a novel pharmaceutical product. Abigo gave the task to the newly hired R&D manager and a dentist who had previously been an IT consultant at Abigo. Abigo believed that it had the necessary human resources needed to prepare and file its application, although additional consultants were hired later.

The final application for the approval of Decapinol, consisting of some 26,000 pages, was submitted to the Swedish Medical Products Agency in 2000. It was rejected. The Agency had questions that required still more data. Biosurface withdrew the application and returned to the clinical trial stage.

Following that setback, Biosurface needed more financial resources and so began talks with both the original outside investors and with potential new investors. Again, there was little response. Much to the disappointment of Smith, one of the two original investors, TUAB, decided against adding to what it had already put into the project. However, after some relatively stormy discussions, Abigo did get additional support from Startinvest. Startinvest loaned Biosurface an additional 1.5 million SEK (about 200,000 USD). New investors were also found. For example, Stena Sessan, the Swedish firm that is the main owner of the Meda pharmaceutical company provided funding. Abigo itself invested a considerable amount of additional money. However, as Smith remembers: *"We needed to be very careful since we could not, of course, completely ignore other projects and activities at Abigo."*

Once Biosurface had secured sufficient financial resources, it started to collect the data to answer the questions raised by the Swedish Medical Products Agency. By the beginning of 2002, Biosurface was ready to file a new application. A new injection of cash of at least 17 million SEK (roughly 2.5 million USD) was needed. Abigo had itself already invested around 30-40 million SEK (some 4-5.5 million USD) in Biosurface and the feeling was that to invest more might seriously jeopardize other activities. As Smith confides: *"I was seriously tired of going back to investors to ask for new money."* It was at this critical juncture that Sinclair, an English pharmaceutical company, approached Biosurface.

It is important to note that in addition to its main focus on Decapinol, since its acquisition in 1996, Biosurface had taken on, or was considering, other strategic options. For example, in 2001, Biosurface acquired Salinum, a saliva substitute designed to relieve the symptoms of dry mouth, a product that would complement Decapinol as there were similarities between users and so the potential for shared marketing costs. Biosurface negotiated with Athena Nordic, a company with an efficient sales system targeting clinics and hospitals, to secure future distribution rights for both products. Moreover, following the Biosurface acquisition, Pharmacia Upjohn offered to sell Abigo another product in the same therapeutic area as Decapinol. The product was already on the market and had annual sales of 7-8 million SEK (in the neighborhood of 1 million USD). It was, as Smith put it, a *"cash cow."* Unfortunately, to Smith's great disappointment, Biosurface was outbid. Biosurface had already made preliminary sales and distribution plans for the Swedish market and was looking beyond to the broader Nordic market and to selling licensing rights in other geographic areas. Furthermore, Biosurface had begun negotiations with several US companies to introduce Decapinol there as a tablet or as chewing gum. However, these negotiations stalled.

Biosurface's 2001 income statement showed operating costs of 3,990,000 SEK (about 550,000 USD), of which almost half were personnel related costs, no operating sales revenue, and a net loss of 2,000,029 SEK (roughly 275,000 USD). It was clear that, with no income stream as yet, Biosurface would need additional financial resources to move forward on the application and into production. Given these circumstances, the Biosurface Board seriously considered taking the company public. In fact, all the necessary preparations for an initial public offering had been made when discussions with Sinclair were initiated. Indeed, the number of shareholders stood at 100, including the Delphi Private Placement Group AB; Affärsstrategerna; Stena Sessan; and the Swedish Dental Association. Still, when Smith is asked about the eventual sale of Biosurface to Sinclair, he declares: "*With the benefit of hindsight, I am glad that we went for the Sinclair solution. It was a much more intelligent way out.*"

Sinclair's acquisition of Biosurface

Sinclair Pharmaceuticals, Ltd. was founded in 1971, with headquarters in Godalming, UK. It originally focused on the sale and marketing of generic and branded pharmaceutical products in the UK. The company was acquired in 2000 by a management team led by, among others, Dr. Michael Flynn, who became its CEO. Sinclair began to acquire products that were well into the clinical testing phase or in the early marketing phase and then to license them to strong foreign partners. In 2001, Sinclair acquired Swedish, Salix Pharma AB, makers of saliva stimulating SST, and also Italian, Propharma, before acquiring Biosurface. Sinclair was clearly interested in adding to its portfolio new products that focused on oral health, oncology support, or dermatology. It had also expanded its sales and marketing reach considerably and had a global network of marketing partners that included 76 companies in 60 countries. Sinclair worked closely with its partners, beginning with the early stage of a product, in order to ensure that each partner was well prepared for its product launch.

Sinclair's Board Chairman, Steve Harris, learned about Decapinol from his counterpart at Biosurface, Bert Ringholm, whom he knew well. Harris had worked in the pharmaceutical business for a long time, and immediately felt that Decapinol would fit well into his company's expanding portfolio. Consistent with Sinclair's business strategy, Harris wanted to license Decapinol and market it in several countries.

By the time Sinclair appeared as a possible buyer, Biosurface had received preliminary results from the laboratory with which it had contracted to carry out additional testing for a second application to the Swedish Medical Products Agency for approval of Decapinol. Final results were expected in December of 2002. Biosurface was confident that the results would satisfy the Agency and was determined to resubmit the application during the first half of 2003.

Jan Smith and a new member of the Biosurface Board met Sinclair representatives, including Dr. Michael Flynn. Smith recalls: *"I liked him; he was alert and had ambitions. He was an entrepreneur with a very strong personality, which is something that I like a lot."* Smith knew that Sinclair had worked previously with some Swedish researchers, and that it had acquired Salix Pharma AB, a Swedish company. He felt that Sinclair knew Sweden well.

Smith felt that there was no clear business logic behind Sinclair's initial offer to obtain the marketing rights for Decapinol for several countries. He did not believe that Sinclair had the necessary sales and marketing organization for the distribution of Decapinol, so the idea of Sinclair buying the rights to market Decapinol in a variety of countries and then licensing the rights to other companies with more suitable distribution organizations made no sense. Abigo could do the same itself. Smith made it clear from the beginning that he had no intention of licensing the marketing rights of Decapinol as Sinclair wanted. Instead, he made a dramatic new offer at the first meeting, Sinclair could buy Biosurface.

Smith admits that no profound decision making went into his offer to sell Biosurface to Sinclair. He recalls: *"It was simply a feeling. We were trying to attract even more money since we planned to go in with a new application, and to be honest I was terribly sick of that. I simply felt that the solution with Sinclair was the better* *one."* The way that he saw it, it made strategic sense for Sinclair to acquire Biosurface. Biosurface's two products, Salinum and Decapinol, fit Sinclair's portfolio well. Synergies clearly existed. Furthermore, Sinclair planned to expand its sales and marketing organization, a plan that required a well-balanced product portfolio. Salinum and eventually Decapinol would help achieve that balance. Moreover, Smith recognized that Sinclair was an entrepreneurial, fast growing, dynamic, and ambitious company that would "*take good care of Biosurface."* He adds: *"Personal chemistry should not be ignored. I think this played an important part in the decision-making. I believe, on this level, personal relations are very critical. I had confidence in Michael. I trusted him. We understood each other."*

After just a 2-h meeting, Sinclair decided to acquire Biosurface. A half-year due-diligence period followed during which Sinclair experts from a variety of areas examined the forthcoming re-application data and patents in order to get a clear understanding of the implications of the purchase decision. Then work on the formulation of the contract began. The process took some time given the complexities of Anglo-Saxon law and the many contingencies to be considered. Looking back, Smith says about the process: *"I often doubted if all this really was necessary. For me, business is always a question of goodwill. It is a deal between persons. Of course, we need contracts as some sort of a back-up. However, we should never rely on contracts in order to be able to solve potential future problems. If problems emerge, people should be able to talk and to discuss them. Then again, when working with contracts, one is forced to think about aspects that you would have ignored otherwise, and this maybe is an advantage."*

During final negotiations in Godalming, the process temporarily came to a halt when the parties were unable to agree on the cost of Biosurface and the number of Sinclair shares Biosurface owners would receive. Each side waited for the other. Suddenly Flynn made a surprising proposal; he suggested a walk around the block, just Smith and him. Smith picks up the story saying: *"So we took a walk around the block and when we came back we had solved all the tricky issues. We had settled the deal and had agreed on the price to be paid and the number of shares that we were going to get. We had no people around us so we could talk freely, could sniff at each other, and understand where we had each other. This is of utmost importance. This would not have been possible in a room with many others who would carefully look at what card the other was playing."*

Sinclair was to assume all of Biosurface's Pharmacia Upjohn liabilities. Sinclair would acquire all the Biosurface shares, and in return Biosurface's shareholders would get up to a maximum of 20% of Sinclair's shares. Biosurface shareholders would get newly issued Sinclair shares worth £5 each. Sinclair would issue only a portion of the agreed-upon shares when the purchase contract was signed, the additional shares would be issued when certain Decapinol goals were met, such as when the approval application was actually resubmitted and when the application was actually approved.

Biosurface's Ringholm recommended acceptance of the offer because he thought that with Sinclair's well-documented competence in international negotiations, the acquisition would accelerate the development and internationalization of Biosurface's products. The positive response of Biosurface shareholders was immediate, 98.4% of them accepting the deal. Following the acquisition, Jan Smith took a seat on Sinclair's Board as the representative of the former Biosurface shareholders.

Today, Sinclair is listed on the London Stock Exchange. The shares that Abigo and its partners, such as Startinvest, received in exchange for their Biosurface shares have proven to be an excellent investment. Jan Smith points out: *"This is important for me. I always feel a high degree of responsibility for others' money."* Decapinol is now on the market both in Europe and in the US, and is considered by analysts to be one of Sinclair's most valuable assets. Sinclair has developed Decapinol into a variety of new products and has also found new applications for it. Abigo continues to do business with Sinclair.

Reflections on the case study

In this section, we attempt to structure and present the thoughts we had during the various abductive iterations of the case. Whereas some reflections are in line with the thoughts of Johanson and Vahlne (2009), others focus on entrepreneurial aspects, e.g., risk taking, entrepreneurial capabilities, opportunity identification and development, as well as the context faced by the decision maker. These reflections are then used as building blocks to further develop Johanson and Vahlne's (2009) business network internationalization process model and to highlight its entrepreneurial nature.

Networks and relations

It is obvious that Jan Smith operates in a world characterized by networking where *what happens, happens in relationships*. He describes the pharmaceutical industry as a small world, where people know each other and know what is going on. Still, it is clear that though within the industry some information is more or less public knowledge, some of it is held by actors in close-knit relationships. More formal industry relationships are national and international in nature. Smith has served on the board of the Swedish pharmaceutical association with colleagues from Pharmacia and Astra, two highly internationalized pharmaceutical companies, and he is board chairman of an association for small and medium-sized European pharmaceutical companies that foster cooperation in identifying and exploiting business opportunities. The different roles that Smith has played in these organizations illustrate the borderlessness of some connections (Johanson and Vahlne 2009). Thus, the distinction between domestic market entry and subsequent expansion into foreign markets is blurred in the context of networks. Some of Smith's entrepreneurial activities are domestically oriented, while others have an international dimension. The sale of Biosurface is an example of the international dimension, although to some degree, internationalization can be seen as a by-product of the sale. If Sweden were a larger country, or had Sinclair been a domestic company, there would have been no internationalization dimension. Furthermore, given his international experience, Smith was already comfortable dealing with foreign partners.

What happened with Decapinol exemplifies Ardichvili et al.'s (2003) statement that entrepreneurs who have extended networks identify more opportunities than solo entrepreneurs who must find new business opportunities by themselves. Jan Smith is a believer in networks. He does not think of building relationships as time-consuming or difficult, rather he actively creates and maintains them, reveling in their mutuality—their give and take. The value Smith attaches to networks is reflected in Abigo's business identity and strategy. Johanson and Vahlne (2003) see mutuality as a basic feature of business relationships in which partners in close relationships as well as those in wider business networks must consider each other's interests. If they do not, no learning or opportunity creation can occur. Smith emphasizes, in words and behavior, the importance of creating trust in business relationships, not least through long-term commitments and mutual respect. According to Johanson and Vahlne (2006), it is such slowly increasing commitment and interaction that eventually results in a gradual concretization of the relationship and eventually the realization of an opportunity. However, as Smith admits, and the case illustrates, a good network alone is insufficient. Success in business also demands that entrepreneurs and entrepreneurial managers be ever alert to new opportunities and that they exercise imagination and creativity when opportunities come along.

Entrepreneurial capabilities

The entrepreneurs behind Abigo, Jan and Leif Smith, have good complementary business skills. We know quite a lot about Jan Smith. He worked for many years for large corporations in Canada and in Sweden, yet he retained his entrepreneurial spirit. It is he who takes the primary role in identifying and exploiting opportunities that involve outside parties. Because the Biosurface story is narrated by Jan Smith, we know less about his brother Leif, but it is Leif who is largely responsible for Abigo's day-to-day operations. In the Smith brothers' first entrepreneurial venture, even though they had no experience in the pharmaceutical industry, they started and then sold a company in a way that perfectly reflects the opportunity development process described by Ardichvili et al. (2003): perception, discovery, and creation. They seized on an unexpected opportunity to create a business in the nutrition industry by acquiring a project that had previously been rejected by established pharmaceutical companies. A serendipitous discovery and the brothers' entrepreneurial alertness combined with Jan Smith's personality, not least his self-efficacy and ability to recognize a fit between market needs and needed resources, led to success. They took advantage of their existing resources by contracting with a local company to produce a formulation for the substance and with a sales and marketing firm to promote the new product. Eventually, the Smith brothers developed this initial opportunity by introducing more and more advanced formulations. Their decision to sell the company shows they were able and willing and knew when to exit a going venture. According to Jan Smith, persistence in business is essential, but knowing when to end a project or venture is equally important.

Abigo was founded on two important premises, one about the pharmaceutical industry and the other about the Smiths themselves. First, the industry has a number of niches that large pharmaceutical companies cannot, or will not, fill. Thus, there is an opening for a small and flexible company to exploit opportunities. Second, the

Smiths have an ability to identify medical areas where there is a potential for alleviating health problems. Putting the two together, Abigo's business plan is to identify and develop opportunities, that is, to find new fits between resources and market needs. Abigo's product portfolio reflects a belief in the power of differentiation even though it has been deliberately kept a small company.

Jan Smith brought his international experience and a sense of ease with culturally diverse work environments to Abigo. His ability to build and sustain both work and personal relationships is a valuable entrepreneurial asset that has proven quite valuable to Abigo. Certainly Abigo has benefited from his active involvement in formal networks. Even when Smith is not actively pursuing new opportunities, he discovers them, almost fortuitously, through his myriad contacts and then develops them. The Biosurface opportunity is a good example as Smith came upon it in doing routine, daily business activities. Thus the Biosurface story shows the importance of access to well-developed networks in identifying business opportunities. It also shows the importance of being well informed and ready to make decisions when opportunity knocks.

Jan Smith says that he is open-minded and curious, has drive, creativity, perseverance, and self-confidence, and is able to take a long-term perspective. He also is an optimist who has an ability to imagine the needs of his partners and the willingness to create win-win situations. While, as we have said, he is constantly alert to the possibility of opportunities, he cautions against pursuing every opportunity that comes along. Although Smith's self-evaluation is in large part the source for what we write above, nothing else we have uncovered from other sources contradicts what he says. The Biosurface story reveals his self-confidence, his readiness to carryout detailed evaluations, and his ability to make judicious decisions. Smith's personal characteristics confirm Ardichvili et al.'s view (2003) that optimism about one's ability to achieve difficult goals is unrelated to the optimism associated with risk taking. Rather, the optimism needed to undertake challenging tasks stems from a realistic self-evaluation of abilities and knowledge.

Risk taking

The acquisition of Biosurface represented a very large commitment vis-à-vis the stakeholders of Abigo, particularly on the part of its owners, Jan and Leif Smith. Jan Smith claims he is willing to take risks so long as they are not too great. The Biosurface acquisition is evidence of his risk-taking strategy. Biosurface represented a chance to acquire a project in which large resources had already been invested. Yet, because of rumored problems with Biosurface, other pharmaceutical companies were unwilling to purchase it. Smith discounted the rumors. Additionally, as pointed out by Smith, the large pharmaceutical companies did not recognize Biosurface's potential as the developer of Decapinol. According to Smith: *"In those companies such investment decisions are made by clerks who lack vision and who are trying to protect their own positions by not risking anything."* In acquiring Biosurface, Abigo and its partner venture capitalists created a fit between separate needs and resources; in short, they created an opportunity. Although Abigo and its partners initially paid a discounted price for Biosurface, the sale agreement specified that further payments would come due if and when Decapinol reached certain pre-defined stages such as approval by the Swedish Medical Products Agency and specific sales levels. We conclude that the development of an opportunity (e.g., how resources are attracted and mixed) is as important to success as its identification.

Jan Smith realized from his first venture in the pharmaceutical/nutrition industry that it would be difficult to develop Decopinol. Abigo would need knowledge beyond its own expertise, but Smith knew that external resources and competences existed that he could use. Yet, even with specialist expertise, the first attempt to get Decapinol approved failed. Abigo had not been able to reconfigure its capabilities to adapt to a new situation because it lacked the necessary dynamic capability (cf. Sapienza et al. 2006). Still, Smith continued with characteristic courage and self-efficacy.

Opportunity identification, development, and exploitation

Smith saw an opportunity when an acquaintance in his vast network expressed an interest in Biosurface, but the opening was limited in scope: Flynn's idea was that Sinclair would handle Biosurface only in some markets. Sinclair acquired products that were in their late clinical testing phase and/or early marketing phase, and then licensed them to strong foreign partners. In other words, Sinclair had the kind of established network that Biosurface needed but lacked. With his skill in handling contingencies, Smith saw a chance to spare Abigo and himself the increasingly burdensome task of funding Biosurface. Seizing the occasion, Smith proposed the sale of Biosurface to Sinclair. Sinclair was comfortable working with Swedish companies and Decapinol in particular fit well into its portfolio. Undeniably, the personal relationship between Smith and Flynn that had developed was also a factor leading to the successful completion of the sale.

Jan Smith was finding arranging the necessary financing to see Decapinol through to the market increasingly burdensome. The Biosurface story shows clearly how he used, perhaps felt forced to use, contingent knowledge rather than existing information. He used contingencies as opportunities to exercise control of the emerging situation. His decision to sell Biosurface showed his ability, to borrow a metaphor from Dew and Sarasvathy (2002), to swim with the tide. Smith made up his mind during a meeting with Flynn when the topic for discussion was the marketing rights for Decapinol in certain countries. His unexpected proposal reflects the kind of flexible, entrepreneurial contingency thinking described by Dew and Sarasvathy (2002).

Uncertainty

What Jan Smith acquired through the purchase of Biosurface was the rights to Decapinol, but there was no product and no market, a situation characterized by Marchian ambiguity (March 1982). Future applications for the molecule, perhaps a viable pharmaceutical product, was as yet undefined. That uncertainty was a problem for Smith as he tried to find major backing from potential partners in various fields. The situation is also characterized by Knightian uncertainty (Knight 1921): by its very nature, the risk associated with the Decapinol project could not be measured. As a result, and consistent with Sarasvathy and her colleagues

(Sarasvathy 2001; Dew and Sarasvathy 2002), Smith behaved as a decision maker employing effectuation rationality. Instead of trying to predict the future of the project, clearly an impossibility, Smith tried to control it. Instead of focusing on optimizing decisions about what had to be done to guide the molecule through the application and onto the market (a still undefined one at best), Smith attempted to exercise control over what could be done with the resources available. Ultimately, Abigo lacked the requisite knowledge, resources, and capabilities for the task, and thus failed to get approval for the product the first time around. At that point, Smith used his main competence, an ability to move within, and capitalize on, his networks, to seek new partners. Consistent with the principles set out by Dew and Sarasvathy (2002), Smith converted, or tried to convert, uncertainty into opportunity.

Affordable loss

According to Dew and Sarasvathy (2002), entrepreneurs do what they do primarily because they are interested in a concept or product. While financial gain is usually of secondary importance, entrepreneurs still keep their eye on what they can afford to lose. Jan Smith was guided less by what he saw as Biosurface's expected returns than by its affordable losses. The Biosurface story illustrates the Dew and Sarasvathy (2002) argument that in following an effectuation approach, the risk of actually losing money is relatively low since decisions are constantly made based on the current situation. Smith reached his limit when the difficulty he was having in funding Biosurface put at risk Abigo's other business activities, Moreover, the waning interest of the venture capitalists involved in the project illustrates Dew and Sarasvathy's (2002) point that the decision-making process may be affected by relatively critical views of a project.

Trust

The Biosurface case illustrates as well the importance of personal chemistry between individuals. From the beginning, Jan Smith liked Michael Flynn and felt that he could trust him. It seems as if the two men were similar in many ways and that made negotiating easier even though there was undoubtedly pressure to strike a deal. The ability of the two men to work well together is clear in that Abigo and Sinclair continued to do business after the Biosurface sale was finalized. Thus, the Biosurface case shows how personal relationships where there is trust and commitment may result in new business opportunities.

One further point is illustrated by the Biosurface case. Learning, creation and trust building are continuous activities. For example, during negotiations, Michael Flynn learned more about Decapinol and Smith, which lead him to be receptive to the idea of an alternative proposed to him—the acquisition of Biosurface. We repeat: *what happens, happens in relationships*. The result is mutuality: sub-processes that exist at each end of dyadic relationships. Perhaps the sub-activity of creation approximates Sarasvathy's sub-activity of *exploiting contingencies* (Sarasvathy 2001). Creation is an intellectual process that includes the social construction that Berger and Luckman (1967) refer to, while *exploiting contingencies* consists of both intellectual and implementation sub-processes.

An entrepreneurial model of the internationalization process

We present in this section the final outcome of our abductive journey. We base our reflections on our understanding of Johanson and Vahlne's (2009) model and our empirical analysis of it using the Biosurface case. This leads us to further develop that model here, with an emphasis on its entrepreneurial nature as reflected in entrepreneurial activities. By entrepreneurial activities, we mean the kinds of activities that launch a *born global* or an *international new venture*, as well as the decisions that set them in motion and the actions taken to develop an international firm. In essence, these are the entrepreneurial efforts aimed at improving a firm's effectiveness, making it grow, or both. Although Johanson and Vahlne (1977) proposed their original model as an explanation of the internationalization process, it can readily be understood as an explanation of the entrepreneurial process, especially when entrepreneurship theory is included. Indeed, the revised Johanson and Vahlne model may be so general that it makes more sense to see it as an explanation of entrepreneurial change. In that case, the change may or may not imply internationalization. Our proposed model of the entrepreneurial process builds on the revised Johanson and Vahlne model (2009). This model, depicted in Fig. 2, incorporates entrepreneurial capabilities as a state variable, and exploiting contingencies as a change variable.

We see the environment of the firm as dynamic, nonlinear, and laced with networks (Johanson and Vahlne 2009; Sarasvathy 2001). Our entrepreneurial model is also dynamic in the sense that the state variables (depicted in Fig. 2 as being on the left hand side) affect the change variables (on the right) and are themselves affected by the change variables. As we are interested in explaining the origins of firm internationalization and the (continued) internationalization of a firm, we claim that strategic decisions and activities lead firms into partially unknown territory where there is a high degree of Knightian uncertainty. Firms may proceed in small

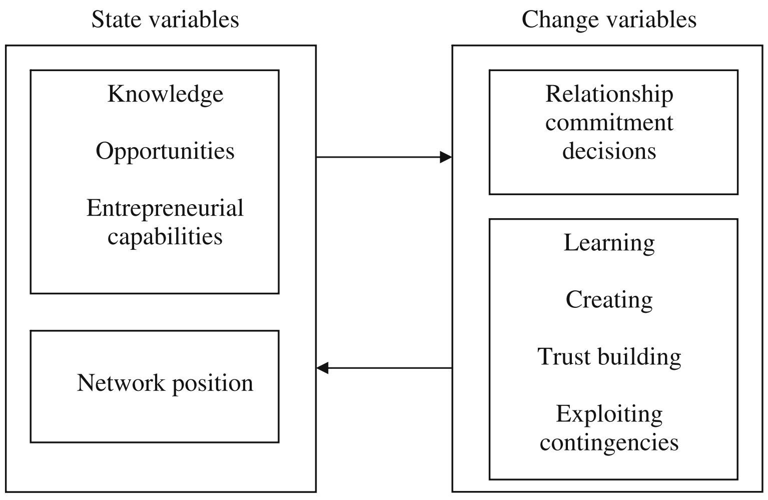

Fig. 2 Internationalization as an entrepreneurial process

steps and/or engage in mutually beneficial commitments with other firms in an attempt to cope with uncertainty in the expectation that the level of uncertainty will decrease. Radical environmental changes, the introduction of a new technology for instance, increase the level of uncertainty.

The exchange process between firms provides a basis for experiential learning about one's counterparts, for example, what resources the other firm may have, or how trustworthy it may be. This process may lead to the formation of trust, commitments, and joint expectations (Anderson and Weitz 1992; Dwyer et al. 1987; Morgan and Hunt 1994). Such positive attributes may develop further when the firms have opportunities to increase joint productivity or to expand their operations, for example, by internationalization. The parties, or partners, in such dyadic relationships may partly lose their independence through this mutual adjustment. Conversely, to some extent, they may also exert control over their partners. Particular relationships do not exist in isolation since the parties at either end of a dyadic relationship are likely to be involved in numerous relationships. Therefore, it makes sense to talk about the firm being enmeshed in a web of relationships, that is, in a network (Andersson 1997).

The parties to a relationships have privileged access to certain information and knowledge as such information and knowledge is transmitted via relationships, This means that network insiders can better identify and exploit opportunities than those on the outside (Shane 2000). In principle, networks are borderless. When they extend across national borders, identifying and exploiting opportunities may imply internationalization or increased internationalization. This may simply be increased involvement by the focal firm in activities outside its home market (Welch and Luostarinen 1988). It is worth noting that the network view differs from the formal relationships in which some firms are involved, i.e., joint ventures and alliances. Those relationships should be seen as a sub-set of the total number of relationships in which the focal firm is involved (Powell 1990).

The property of dynamism has several consequences. First, it implies that experiential learning is essential (Eisenhardt and Martin 2000; Johanson and Vahlne 1977; 2009), that proceeding in incremental steps, and learning-by-doing is advantageous. The entrepreneur with the emotional and intellectual ability to live with the uncertainty and ambiguity that experiential learning entails has an advantage (Sarasvathy 2001). Unclear objectives are one cause of entrepreneurial uncertainty, although such uncertainty allows the entrepreneur to more freely choose among objectives that only become visible during the process (March 1982; Sarasvathy 2001). On the other hand, the means that are available are a given: *"Entrepreneurs begin with three categories of ′means′: they know who they are, what they know—their own traits, tastes and abilities; the knowledge corridors they are in; and the social networks they are part of"* (Sarasvathy 2001, p. 250). Consequently, we add *entrepreneurial capability* as a state variable, to supplement *knowledge* and *opportunities*. This sort of capability includes characteristics we have seen in Jan Smith.

In Fig. 2, we show in the upper left the characteristics of the entrepreneur and the firm, which include attitudes and tangible and intangible resources, as state variables. Both the entrepreneur (Oviatt and McDougall 1994) and the organization (Johanson and Vahlne 2009) may have knowledge. Individuals learn, and some of what they learn is disseminated through the organization. In this way, dynamic capabilities evolve (Eisenhardt and Martin 2000; Nelson and Winter 1994; Sapienza et al. 2006; Teece et al. 1997). Resources also change in volume, kind, and quality. Sandén and Vahlne (1976) talk about an advantage cycle during which some resources are exploited and access is provided to others, resulting in an evolution of a package of advantages that increase or decrease in value as the mix changes. Organizational advantages, such as dynamic capabilities, are part of these available resources that can potentially create an advantage on which to base expansion into foreign markets (Dunning 1980; Hymer 1960/1976).

Knowledge is of the utmost importance, primarily knowledge of opportunities, as this is what drives the process of entrepreneurial activity (Johanson and Vahlne 2009). On the other hand, Sarasvathy (2001, p. 252) stresses the importance of *"excellence in exploiting contingencies"*, for example, in networks. We conclude that an essential dynamic capability of the entrepreneur is the ability to build and sustain important relationships (Johanson and Vahlne 2009) and to make use of the contingencies evolving in those relationships. In our model, we include such dynamic capabilities in the concept of entrepreneurial capability. An important part of that capability is learning and creating new knowledge, for example, of opportunities.

In the lower left box of Fig. 2, we show the second state variable, the network position that represents the status of the firm in the aggregate of its relationships in its network(s). Network position reflects the firm's trustworthiness and degree of commitment in its formal and informal relationships (Johanson and Vahlne 2009). A strong network position as a basis for the successful development of the firm's business has, for example, been shown to lead to successful internationalization, affecting both the choice of country market and the mode of operation in that market (Coviello and Munro 1995, 1997; Johanson and Vahlne 2009). Based on our discussion of networks, we agree that *what happens, happens in relationships*. Entrepreneurs and managers mainly act within internal and external relationships as opposed to alone.

The first change variable, which we show in Fig. 2 in the upper right box, reflects decisions to increase or decrease the level of commitment to a party at the other end of a (potential) relationship. The decisions may be related to growing adjustment and specialization between two parties. They may also be independently made, as in the case of a change of attitude vis-à-vis a partner. Such a decision requires nonetheless an awareness of its potential effect on partners (Johanson and Vahlne 2009).

We depict in the lower right box of Fig. 2 the second change variables, learning, creating, trust-building, and exploiting contingencies. Of course these variables depend on the state variable shown in the upper left box. They affect the stock of knowledge, the amount and mix of resources owned by the focal firm, and the amount, mix, and quality of its entrepreneurial capabilities (Jones and Coviello 2005). They also affect the parties at the other end of the firm's relationships, and primarily through commitment decisions, the position in the network(s) of the focal firm and its degree of internationalization.

We believe that our model presents a necessary albeit incomplete conceptualization of the role of entrepreneurship in the internationalization of firms. It explains why an entrepreneurial act is undertaken, but it does not explain why that act must necessarily imply internationalization. If internationalization occurs, it is because of relevant contextual factors, such as whether a partner, actual or potential, is located across a national border. This is more likely to occur in smaller countries. It is also more frequent in industries characterized by advanced technology. Such industries are closely networked global communities. Thus, context is important, especially to explain the details of an internationalization, such as choice of country market and mode of market entry. However, in most instances, the firm's choice of country and mode of market entry are secondary when compared to a firm's basic entrepreneurial objectives.

We also believe that the processes described in this paper are effectuation processes. In employing an effectuation perspective, we distance ourselves from the prevailing literature on internationalization, as well as from mainstream research on entrepreneurship, which we see as very much dominated by a predictive rationality view. In other words, we agree with Sarasvathy (2001) who points out that, in general, the literature describes and understands business ventures as causation processes that every now and then result in an increasing involvement in international operations, that is, internationalization (Welch and Luostarinen 1988). In contrast, we concur with Dew and Sarasvathy (2002) that entrepreneurs attempt to exercise control over what can be done with available resources (effectuation rationality) rather than decide what ought to be done given a set of predictions about what happens next (predictive rational view). Such a view of rationality corresponds better with the often unintentional internationalization of a company as the result of managerial or entrepreneurial efforts—the view taken in this paper. Following Dew and Sarasvathy (2002), we claim that the contexts in which entrepreneurs, managers, or other decision makers operate are better described as situations where there is no predictability, possibility of setting goals, or independent environment. In short, as pointed out by Dew and Sarasvathy (2002), such decision makers face Knightian uncertainty (Knight 1921), Marchian goal ambiguity (March 1982), and Weickian enactment (Weick 1979). Situations where risk cannot be calculated (Knightian uncertainty) are more common than suggested in the literature. Knightian uncertainty is typical in situations where an entrepreneur or an entrepreneurial manager is attempting to improve the firm's position within an existing network, and even more so in entering a new network (an action that may or may not lead to internationalization). We concur with Sarasvathy (2001) that the focus on causation in the current literature has hindered researchers in their quest to understand why some entrepreneurs are more successful than others. An effectuation process view, with its stress on the exploitation of contingencies, can strongly contribute to our understanding of the internationalization of firms as a by-product of efforts to improve the position of the firm in its network(s).

Final comments

Johanson and Vahlne (2009) argue that it is the liability of outsidership rather than the liability of foreignness that gives rise to internationalization difficulties. Outsidership implies that the firm is not a member of relevant networks. Internationalization can be seen then as taking steps to become an insider in relevant networks in the focal foreign market. Thereby, Johanson and Vahlne (2009) have moved towards seeing internationalization as a by-product of efforts to establish or improve on a position in a foreign network. The purpose of this paper has been to empirically confront Johanson and Vahlne's (2009) business network internationalization process model. Our abductive research approach has confirmed many of the thoughts of Johanson and Vahlne (2009). At the same time, our study also emphasizes the entrepreneurial facets of a firm's internationalization process, which we propose as an adjustment to the above mentioned model. Thereby, this paper contributes to the transition to perceiving internationalization not as an outcome of deliberate efforts to expand internationally, but as a by-product to some other action, here entrepreneurial action. However, to build and exploit relationships at an international scale is not easy. Psychic distance (Johanson and Vahlne 1977), including cultural differences, has repeatedly been show to make it more difficult to operate internationally than domestically. Just because it so happens that the entrepreneur who is at the center of our case is used to working internationally should not obscure the fact that working outside of one's national or regional comfort zone is in many cases an issue of considerable importance. In most cases, it takes time and effort to build international networks.

References

Anderson E, Weitz B (1992) The use of pledges to build and sustain commitment in distribution channels. J Mark Res 29:18–34

Andersson U (1997) Subsidiary network embeddedness: integration, control and influence. Thesis, Department of Business Administration, Uppsala University

Ardichvili A, Cardozo R, Souray R (2003) A theory of entrepreneurial opportunity identification and development. J Bus Venturing 18:105–123

Berger PL, Luckman T (1967) The social construction of reality. Doubleday, New York

Coviello NE, Munro H (1995) Growing the entrepreneurial firm: networking for international market development. Eur J Mark 29(7):49–61

Coviello NE, Munro H (1997) Network relationships and the internationalization of small software firms. Int Bus Rev 6(4):361–386

Cyert RD, March JG (1963) A behavioral theory of the firm. Prentice Hall, USA

Denzin NK (1978) The logic of naturalistic inquiry. In: Denzin NK (ed) Sociological methods—a source book. McGraw-Hill, New York, pp 54–73

Dew N, Sarasvathy SD (2002) What effectuation is not: further development of an alternative to rational choice. Paper presented at Academy of Management Conference, Denver

Dubois A (1994) Organizing industrial activities—an analytical framework. Doctoral Dissertation at the Department of Industrial Marketing, Chalmers University of Technology, Gothenburg

Dubois A, Gadde LE (2002) Systematic combining: an abductive approach to case research. J Bus Res 55:553–560

Dunning JH (1980) Toward an eclectic theory of international production. J Int Bus Stud 11(1):9–31

Dwyer FR, Schurr PH, Oh S (1987) Developing buyer-seller relationships. J Mark 51:11–27

Eisenhardt K (1989) Building theories from case study research. Acad Manage Rev 14(4):532–550

Eisenhardt K, Martin J (2000) Dynamic capabilities: what are they? Strat Manag J 21:1105–1121

Festing M, Eidems J (2007) transnational perspectives on HRM systems—a dynamic capability-based analysis of the balance between global standardization and local adaptation. Paper presented at the 9th Conference on International Human Resource Management, Tallinn

Hymer S H (1960/1976) the international operations of national firms: a study of foreign direct investment. MIT monographs in Economics; 14

Håkansson H (1982) International marketing and purchasing of industrial goods—an interaction approach. Wiley, Chichester

Hägg I, Johanson J (eds) (1982) Företag i nätverk—Ny syn på konkurrenskraft (companies in networks–new view on competitiveness). SNS

Johanson J, Vahlne J-E (1977) The internationalization process of the firm: a model of knowledge development and increasing foreign commitments. J Int Bus Stud 8:23–32

Johanson J, Vahlne J-E (2003) Business relationship commitment and learning in the internationalization process. J Int Entrep 1(1):83–101

Johanson J, Vahlne J-E (2006) Commitment and opportunity development in the internationalization process: a note on the Uppsala internationalization process model. Manag Int Rev 46(2):1–14

Johanson J, Vahlne J-E (2009) The Uppsala internationalization process model revisited—from liability of foreignness to liability of "Outsidership". J Int Bus Stud 40(9):1411–1431

Jones MV, Coviello NE (2005) Internationalization: conceptualizing an entrepreneurial process of behaviour in time. J Int Bus Stud 36(3):284–303

Kirzner IM (1973) Competition and entrepreneurship. Chicago University Press, Chicago

Knight F (1921) Risk, uncertainty and profit. Houghton Mifflin, New York

Koller RH (1988) On the source of entrepreneurial ideas. Frontier of Entrepreneurship Research Babson College, Wellesley, pp 78–85

March JG (1982) The technology of foolishness. In: March JG, Olsen JP (eds) Ambiguity and choice in organizations. Universitetsforlaget, Bergen

Merriam SB (1998) Qualitative research and case study applications in education. Jossey-Bass Publishers, San Francisco

Morgan RM, Hunt SD (1994) The commitment-trust theory of relationship marketing. J Mark 58(3):20–38

Nelson RR, Winter SG (1994) An evolutionary theory of economic change. Belknap Press

Oviatt BM, McDougall P (1994) Toward a theory of international new ventures. J Int Bus Stud 25(1):45–64

Powell WW (1990) Neither market nor hierarchy. Res Organ Behav 12:295–336

Priem RL, Butler JE (2001) Is the resource-based view a useful perspective for strategic management? Acad Manag Rev 26(1):22–40

Saad M (2007) The enablers of internationalization. Unpublished seminar paper presented 2007-05-24, School of Business, Economics and Law, Göteborg University

Sapienza HJ, Autio E, George G, Zahra SA (2006) A capabilities perspective on the effects internationalization on firm survival and growth. Acad Manage Rev 31(4):914–933

Sandén P, Vahlne J-E (1976) The advantage cycle. Unpublished Research Paper, Department of Business Administration, Uppsala University

Sarasvathy SD (2001) Causation and effectuation: toward a theoretical shift from economic inevitability to entrepreneurial contingency. Acad Manage Rev 26(2):243–288

Schumpeter JA (1942) Capitalism, socialism, and democracy. Harper and Brothers, New York, edition, 1976

Schweizer R (2005) An arranged marriage under institutional duality—the local integration process between two globally merging MNCs' subsidiaries. BAS Publishing, Göteborg

Scott WR (1993) Recent developments in organizational sociology. Acta Sociologica 36:63–68

Shane S (2000) Prior knowledge and the discovery of entrepreneurial opportunities. Organ Sc 11(4):448–469

Stake RE (1994) Case studies. In: Denzin NK, Lincoln YS (eds) Handbook of qualitative research. Sage Publications, Thousand Oaks, pp 236–247

Teece DJ, Pisano G, Shuen A (1997) Dynamic capabilities and strategic management. Strat Manag J 18:509–533

Ventkatamaran S (1997) The distinctive domain of entrepreneurship research. In Advances in Entrepreneurship, Firm Emergence and Growth 3:119-138 JAI Press

Weick K (1979) The social psychology of organizing. McGraw Hill, New York

Welch LS, Luostarinen R (1988) Internationalization: evolution of a concept. J Gen Manage 17(3):333–334

Yin R (1994) Case study research—design and methods. Sage Publications, Thousand Oaks